DOCKET

SUPREME COURT
OF THE UNITED STATES

No. 12-1272 Vide 12-1146, 12-1248, 12-1254, 12-1268, 12-1269	
Title:	Chamber of Commerce of the United States, et al., Petitioners v. Environmental Protection Agency, et al.
Docketed:	April 24, 2013
Linked with 12A871	
Lower Ct:	United States Court of Appeals for the District of Columbia Circuit
Case Nos.:	(09-1322, et al.)
Decision Date:	June 26, 2012
Rehearing Denied:	December 20, 2012
Questions Presented	

~~Date~~~	~~~~~~~Proceedings and Orders~~~~~~~~~~~~~~~~~~~~~
Mar 5 2013	Application (12A871) to extend the time to file a petition for a writ of certiorari from March 20, 2013 to April 19, 2013, submitted to The Chief Justice.
Mar 7 2013	Application (12A871) granted by The Chief Justice extending the time to file until April 19, 2013.
Mar 14 2013	Application (12A909) to extend the time to file a petition for a writ of certiorari from March 20, 2013 to April 19, 2013, submitted to The Chief Justice.
Mar 18 2013	Application (12A920) to extend the time to file a petition for a writ of certiorari from March 20, 2013 to April 19, 2013, submitted to The Chief Justice.
Mar 20 2013	Application (12A909) granted by The Chief Justice extending the time to file until April 19, 2013.
Mar 25 2013	Application (12A920) granted by The Chief Justice extending the time to file until April 19, 2013.
Apr 19 2013	Petition for a writ of certiorari filed. (Response due May 24, 2013)
Apr 19 2013	Appendix of Chamber of Commerce of the United States, et al. filed. (Volumes I-V)
May 8 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for Texas, and eight other states.
May 9 2013	Response in support of the petition for writ of certiorari from respondent Peabody Energy Corporation filed.
May 13 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for Southeastern Legal Foundation, Inc., et al.

May 14 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the Federal Respondent.
May 14 2013	Letter of respondent National Environmental Development Association's Clean Air Project in support of petition
May 16 2013	Order extending time to file response to petition to and including June 21, 2013, for all respondents.
May 17 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the State of Indiana.
May 21 2013	Waiver of right of respondent Pamela Jo Bondi, Attorney General of Florida to respond filed.
May 23 2013	Brief amici curiae of Scientists filed. VIDED.
May 24 2013	Brief amicus curiae of Institute for Trade, Standards and Sustainable Development filed.
May 24 2013	Brief amicus curiae of Mountain States Legal Foundation filed.
May 24 2013	Brief amici curiae of Economists Thomas C. Schelling, Vernon L. Smith, and Robert W. Hahn filed.
May 24 2013	Brief amici curiae of Administrative Law Professors, and The Judicial Education Project filed.
Jun 6 2013	Order further extending time to file response to petition to and including July 22, 2013, for all respondents.
Jun 7 2013	Application (12A1181) to file consolidated brief in opposition in excess of word limits, submitted to The Chief Justice.
Jun 7 2013	Application (12A1181) to file consolidated brief in opposition in excess of word limits granted by The Chief Justice. The consolidated brief in opposition may not exceed 12,000 words.
Jul 1 2013	Application (13A35) to file consolidated brief in opposition in excess of word limits, submitted to The Chief Justice.
Jul 8 2013	Application (13A35) to file consolidated brief in opposition in excess of word limits granted by The Chief Justice. The consolidated brief in opposition may not exceed 11,000 words.
Jul 22 2013	Brief of respondents Environmental Protection Agency, et al. in opposition filed. VIDED.
Jul 22 2013	Brief of Environmental Organization respondents in opposition filed. VIDED.
Jul 22 2013	Brief of respondents New York, et al. in opposition filed. VIDED.
Aug 6 2013	Reply of petitioners Chamber of Commerce of the United States, et al. filed.
Aug 7 2013	DISTRIBUTED for Conference of September 30, 2013.
Oct 7 2013	DISTRIBUTED for Conference of October 11, 2013.
Oct 15 2013	Petition GRANTED limited to the following Question: Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases. The cases are consolidated and a total of one hour is allotted for oral argument. VIDED.
Oct 22 2013	Briefing proposal of the parties. VIDED
Oct 24 2013	Letter from Coalition for Responsible Regulation, Inc., et al. regarding briefing proposal. VIDED.
Oct 29 2013	Upon consideration of the letter of October 22, 2013, from counsel for petitioners in No. 12-1248 on behalf of the parties, the briefing proposal set out

	in the letter is adopted with the exception that the briefs of petitioners shall not exceed 45,000 words in aggregate. The briefs of respondents in support of petitioners shall not exceed 6,000 words each. The brief of the Solicitor General shall not exceed 15,000 words. The briefs of other respondents shall not exceed 10,000 words each. Reply briefs shall not exceed 18,000 words in aggregate. VIDED
Nov 1 2013	Consent from petitioner Utility Air Regulatory Group to the filing of amicus curiae briefs in support of either party or neither party. VIDED.
Nov 1 2013	The time to file joint appendix, petitioners' briefs on the merits, and briefs of respondents in support of petitioners is extended to and including December 9, 2013. VIDED
Nov 1 2013	The time to file respondents' briefs on the merits is extended to and including January 21, 2014. VIDED
Nov 1 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the United States Federal Environmental Protection Agency, et al. VIDED.
Nov 7 2013	Consent to the filing of amicus curiae briefs, in support of either party, or of neither party, received from counsel for Texas, et al. VIDED.
Nov 8 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for Southeastern Legal Foundation, Inc., et al. VIDED.
Nov 8 2013	Consent to the filing of amicus curiae briefs, in support of either party or of niether party, received from counsel for Coalition for Responsible Regulation, Inc., et al. VIDED.11082013
Nov 12 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for American Chemistry Council, et al. VIDED.
Nov 12 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for New York, California, et al. VIDED.
Nov 12 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for Environmental Organizations, Center for Biological Diversity, et al. VIDED.
Nov 12 2013	Letter received from counsel for the Automobile Respondents. VIDED.
Nov 19 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for Energy-Intensive Manufacturers Working Group on Greenhouse Gas Regulation, et al. VIDED.
Nov 21 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, recieved from counsel for The Chamber of Commerce of the United States of America, et al. VIDED.
Nov 25 2013	SET FOR ARGUMENT ON Monday, February 24, 2014
Dec 9 2013	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the National Mining Association. VIDED.
Dec 9 2013	Brief of respondents Coalition for Responsible Regulation, Inc., et al. in support of petitioners filed. VIDED.
Dec 9 2013	Brief of petitioners American Chemistry Council, et al. filed. VIDED.
Dec 9 2013	Brief of petitioners Chamber of Commerce of the United States of America, et al. filed. VIDED.

Dec 9 2013	Brief of petitioners Southeastern Legal Foundation, Inc., et al. filed. VIDED.
Dec 9 2013	Brief of petitioner Energy-Intensive Manufacturers Working Group on Greenhouse Gas Regulation, et al. filed. VIDED.
Dec 9 2013	Brief of petitioners Texas, et al. filed. VIDED.
Dec 9 2013	Joint appendix filed (5 volumes). (Statement of costs filed.) VIDED.
Dec 9 2013	Brief of petitioner Utility Air Regulatory Group filed. VIDED.
Dec 12 2013	Brief amici curiae of Pacific Legal Foundation, et al. filed. VIDED.
Dec 13 2013	Record received from U.S.C.A. DC Circuit. The record is electronic.
Dec 16 2013	Brief amici curiae of States of Kansas, et al. filed. VIDED.
Dec 16 2013	Brief amicus curiae of Peabody Energy Corporation filed. VIDED.
Dec 16 2013	Brief amici curiae of Political Economists Henry N. Butler, et al. filed. VIDED.
Dec 16 2013	Brief amici curiae of Economists Thomas C. Schelling, et al. filed. VIDED.
Dec 16 2013	Brief amicus curiae of Committee for a Constructive Tomorrow filed. VIDED.
Dec 16 2013	Brief amicus curiae of American Civil Rights Union filed. VIDED.
Dec 16 2013	Brief amici curiae of Texas Oil & Gas Association, et al. filed. VIDED.
Dec 16 2013	Brief amicus curiae of Senator Mitch McConnell and Other Members of the United States Congress filed. VIDED.
Dec 16 2013	Brief amicus curiae of Mountain States Legal Foundation filed. VIDED.
Dec 16 2013	Brief amici curiae of Five U.S. Senators filed. VIDED.
Dec 16 2013	Brief amicus curiae of Center for Constitutional Jurisprudence filed. VIDED.
Dec 16 2013	Brief amici curiae of State and Local Chambers of Commerce, and Other Business Associations. filed. VIDED.
Dec 16 2013	Brief amici curiae of Administrative Law Professors, et al. filed. VIDED. (Distributed)
Dec 16 2013	Brief amicus curiae of American Road & Transportation Builders Association in support of neither party filed. VIDED. (Distributed)
Dec 16 2013	Brief amici curiae of Scientists and Economists filed. VIDED. (Distributed)
Dec 20 2013	CIRCULATED.
Jan 6 2014	Motion for divided argument and enlargement of time for oral argument filed by petitioners. VIDED.
Jan 21 2014	Brief of respondent Environmental Protection Agency filed. VIDED. (Distributed)
Jan 21 2014	Brief of respondents Environmental Organization respondents filed. VIDED. (Distributed)
Jan 21 2014	Brief of respondents New York, et al. filed. VIDED. (Distributed)
Jan 27 2014	Motion for divided argument filed by petitioners GRANTED. and the time is divided as follows: 30 minutes for private party petitioners, 15 minutes for state petitioners, and 45 minutes for respondents.
Jan 27 2014	Brief amici curiae of South Coast Air Quality Management District, et al. filed. VIDED. (Distributed)
Jan 27 2014	Brief amicus curiae of Institute for Policy Integrity at New York University School of Law filed. VIDED. (Distributed)
Jan 28 2014	Brief amicus curiae of Calpine Corporation filed. VIDED. (Distributed)
Jan 28 2014	Brief amicus curiae of American Thoracic Society filed. VIDED. (Distributed)
Jan 28 2014	Brief amicus curiae of Constitutional Accountability Center filed. VIDED.

	(Distributed)
Feb 13 2014	Reply of respondents Coalition for Responsible Regulation, Inc., et al. in support of petitioners filed. VIDED. (Distributed)
Feb 14 2014	Reply of petitioners in Nos. 12-1248, 12-1254, 12-1268, and 12-1272 filed. VIDED. (Distributed)
Feb 14 2014	Reply of petitioners Texas, et al. filed. VIDED. (Distributed)
Feb 14 2014	Reply of petitioner Utility Air Regulatory Group filed. VIDED. (Distributed)
Feb 24 2014	Argued. For private petitioners: Peter Keisler, Washington, D. C. For state petitioners: Jonathan F. Mitchell, Solicitor General, Austin, Tex. For respondents: Donald B. Verrilli, Jr., Solicitor General, Department of Justice, Washington, D. C.

PETITION FOR WRIT OF CERTIORARI

RECORD
AND
BRIEFS

12-1272

Supreme Court, U.S.
FILED
APR 19 2013
OFFICE OF THE CLERK

No. ______

In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

*ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT*

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED

The Environmental Protection Agency ("EPA") promulgated a series of four broad-ranging and interconnected rules to control emissions of greenhouse gases. In proposing the last rule in the sequence, EPA acknowledged that it would create a result "so contrary to what Congress had in mind — and that in fact so undermines what Congress attempted to accomplish with the [statute's] requirements — that it should be avoided under the 'absurd results' doctrine." App. 1837a. EPA nonetheless finalized the rule and then, in an attempt to cure the absurdity, rewrote codified limitations in the Clean Air Act.

The questions presented are:

1. Whether, once an agency has identified absurd results produced by its construction of a complex statutory scheme as a whole, the agency may deem the identified absurdity irrelevant to the construction of some individual provisions within the scheme and a justification for rewriting others.

2. Whether EPA's determination that greenhouse gases "may reasonably be anticipated to endanger public health or welfare" and otherwise are regulable under section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1), was "not in accordance with law" or was "arbitrary, capricious, [and] an abuse of discretion," § 7607(d)(9)(A).

3. Whether EPA incorrectly determined that all "air pollutants" regulated by the agency under the Clean Air Act's motor vehicle emissions provision, 42 U.S.C. § 7421(a)(1), must also be regulated under the Act's Prevention of Significant Deterioration of Air Quality and Title V programs when emitted from stationary sources.

RULE 14.1(b) STATEMENT

Petitioners are the Chamber of Commerce of the United States of America, State of Alaska, and American Farm Bureau Federation. The Chamber of Commerce of the United States of America was petitioner or petitioner-intervenor as to all of the challenged agency actions addressed by the consolidated judgment below. The State of Alaska and the American Farm Bureau Federation were petitioners and/or petitioner-intervenors in cases addressed by the consolidated judgment below.

Respondents herein, who were also respondents in the cases below, are the Environmental Protection Agency and the Administrator of the Environmental Protection Agency. Lisa P. Jackson held the office of Administrator until February 15, 2013, and Robert Perciasepe currently holds that office in an acting capacity.

Other parties who were petitioners in the cases addressed by the consolidated judgment below are the following: American Chemistry Council; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Iron and Steel Institute; American Petroleum Institute; Brick Industry Association; Clean Air Implementation Project; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; The National Association of Manufacturers; National Federation of Independent Business; National Oilseed Processors Association; North American Die Casting Association; Portland Cement Association;

Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers and Commerce; Greg Abbott, Attorney General of Texas; Alpha Natural Resources, Inc.; Michele Bachmann, U.S. Representative, Minnesota 6th District; Haley Barbour, Governor of the State of Mississippi; Marsha Blackburn, U.S. Representative, Tennessee 7th District; Kevin Brady, U.S. Representative, Texas 8th District; Paul Broun, U.S. Representative, 10th District; Dan Burton, U.S. Representative, Indiana 5th District; Glass Packaging Institute; Coalition for Responsible Regulation, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Commonwealth of Virginia; Competitive Enterprise Institute; Nathan Deal, U.S. Representative, Georgia 9th District; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; FreedomWorks; the Science and Environmental Policy Project; Georgia Agribusiness Council, Inc.; Georgia Coalition for Sound Environmental Policy, Inc.; Georgia Motor Trucking Association, Inc.; Gerdau Ameristeel US Inc.; Phil Gingrey, U.S. Representative, Georgia 11th District; Great Northern Project Development, L.P.; Industrial Minerals Association—North America; J&M Tank Lines, Inc.; Kennesaw Transportation, Inc.; Steve King, U.S. Representative, Iowa 5th District; Jack Kingston, U.S. Representative, Georgia 1st District; Landmark Legal Foundation; Langboard, Inc.–MDF; Langboard, Inc.–OSB; Langdale Chevrolet-Pontiac, Inc.; The Langdale Company; Langdale Farms, LLC; Langdale Ford Company; Langdale Forest Products Company; Langdale Fuel Company; Mark R. Levin; John Linder, U.S. Representative, Georgia 7th District; Louisiana Department of Environmental Quality; Missouri Joint Municipal Electric Utility Commission; National Cattlemen's Beef Association; National Environmental Development Association's Clean Air Project; National Mining Association; Ohio Coal Association; Pacific Legal Foundation; Peabody Energy Company; Rick Perry, Governor of Texas; Tom Price, U.S. Representative, Georgia 6th District; Dana Rohrabacher, U.S. Representative, California 46th District; Rosebud Mining Co.; John Shadegg, U.S. Representative, Arizona 3rd District; John Shimkus, U.S. Representative, Illinois 19th District; South Carolina Public Service Authority; Southeast Trailer Mart, Inc.; Southeastern Legal Foundation, Inc.; State of Alabama; State of Nebraska; State of North Dakota; State of South Carolina; State of South Dakota; State of Texas; Texas Agriculture Commission; Texas Commission on Environmental Quality; Texas General Land Office; Texas Public Utilities Commission; Texas Railroad Commission; Utility Air Regulatory Group; and Lynn Westmoreland, U.S. Representative, Georgia 3rd District.

Intervenors for petitioners in cases addressed by the consolidated judgment below—other than petitioners herein—include Alpha Natural Resources, Inc.; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Petroleum Institute; Arkansas State Chamber of Commerce; Associated Industries of Arkansas; Brick Industry Association; Coalition for Responsible Regulation, Inc.; Colorado Association of Commerce & Industry; Commonwealth of Kentucky; Corn Refiners Association; Glass Association of North America; Glass Packaging Institute; Governor of Mississippi Haley Barbour; Great Northern Project Development, L.P.; Idaho Association of Commerce and Industry; Independent Petroleum Association of America; Indiana Cast Metals Association; Industrial Minerals Association North America; Kansas Chamber of Commerce and Industry; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc; Langdale Ford Company; Langboard, Inc.–MDF; Langboard, Inc.–OSB; Louisiana Department of Environmental Quality; Louisiana Oil and Gas Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Manufacturers; National Association of Home Builders; National Cattlemen's Beef Association; National Electrical Manufacturers Association; National Environmental Development Association's Clean Air Project; National Federation of Independent Business; National Mining Association; National Oilseed Processors Association; Nebraska Chamber of Commerce and Industry; North American Die Casting Association; Ohio Coal Association; Ohio Manufacturers Association; Peabody Energy Company; Pennsylvania Manufacturers Association; Portland Cement Association; Rosebud Mining Company; South Coast Air Quality Management District; Specialty Steel Industry of North America; State of Florida; State of Georgia; State of Indiana; State of Louisiana; State of Michigan; State of Nebraska; State of North Dakota; State of Oklahoma; State of South Carolina; State of South Dakota; State of Utah; Steel Manufacturers Association; Tennessee Chamber of Commerce and Industry; Utility Air Regulatory Group; Virginia Manufacturers Association; Western States Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers & Commerce.

Intervenors for respondents in cases addressed by the consolidated judgment below include Alliance of

Automobile Manufacturers; Association of Global Automakers; Center for Biological Diversity; City of New York; Commonwealth of Massachusetts; Conservation Law Foundation; Environmental Defense Fund; Georgia ForestWatch; Global Automakers; Indiana Wildlife Federation; Michigan Environmental Council; Natural Resources Council of Maine; Natural Resources Defense Council; National Wildlife Federation; Ohio Environmental Council; Pennsylvania Department of Environmental Protection; Sierra Club; South Coast Air Quality Management District; State of California; State of Connecticut; State of Delaware; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of Minnesota; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State of Rhode Island; State of Vermont; State of Washington; Wetlands Watch; and Wild Virginia.

RULE 29.6 STATEMENT

No petitioner has a parent company, and no publicly-held corporation has a 10% or greater ownership interest in any petitioner.

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PETITION FOR A WRIT OF CERTIORARI

Petitioners respectfully submit this petition for a writ of certiorari to review the judgment of the United States Court of Appeals for the District of Columbia Circuit.

OPINIONS BELOW

The statement of the panel on rehearing *en banc* is unpublished but electronically reported at 2012 WL 6621785. App. 99a. The panel opinion appears at 684 F.3d 102. App. 1a.

JURISDICTION

The panel rendered its decision on June 26, 2012. The court of appeals then denied petitioners' petition for panel rehearing and rehearing *en banc* on December 20, 2012. On March 7, 20, and 25, 2013, the Chief Justice extended petitioners' respective deadlines for filing a petition for certiorari to and including April 19, 2013. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Relevant provisions of the Clean Air Act ("CAA"), 42 U.S.C. § 7401 *et seq.*, are reproduced in the Appendix. App. 2097a-2129a.

STATEMENT

In the set of related rulemakings below, the Environmental Protection Agency ("EPA") sought to erect the costliest, farthest reaching, and most intrusive regulatory apparatus in the history of the American administrative state — regulations to govern emissions of greenhouse gases ("GHGs") that could eventually touch practically every aspect of every industry across the entire economy. If that were not enough to warrant the Court's review of the judgment below, the unprecedented interpretive paths taken by EPA surely are.

Starting from a premise that it should interpret individual statutory provisions in isolation, EPA reached an endpoint that, in its own words, is "so contrary to what Congress had in mind — and that in fact so undermines what Congress attempted to accomplish * * * — that it should be avoided under the 'absurd results' doctrine." App. 1837a. This absurdity was sufficiently stark that "stationary sources" regulated under the CAA's programs designed for utility and heavy industrial "sources" of air pollution would include vast swaths of the economy never intended to be within the Act's ambit, including for the first time thousands of multifamily dwellings and even large single family homes. See *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Proposed Rule*, 74 Fed. Reg. 55,292, 55,338 (Oct. 27, 2009); App. 1756a, 1960a.

When faced with the admittedly absurd results caused by its construction of some provisions of the statute, EPA rewrote other provisions of the statute rather than stopping to consider whether the absurdity meant its statutory construction was wrong from the outset. To address the fact that its construction of the statute would sweep sources as small as individual homes within the Clean Air Act's ambit (which Congress admittedly never intended), EPA "unilaterally" increased the statute's emissions thresholds for stationary pollution sources from "250 tons to 100,000 tons — a 400-fold increase." App. 137a (Kavanaugh, J., dissenting).

EPA took this path even though this Court's opinion in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007), nowhere compelled the interpretations made in the agency rulemakings. To the contrary, the Court's decision in *Massachusetts* envisioned that any EPA GHG regulations would not lead to "extreme measures," *id.* at 531, such as a wholesale, agency-crafted, revision of statutory thresholds, and that EPA would "ground its reasons for action or inaction in the statute," *id.* at 535.

As Judges Kavanaugh and Brown observed in separate dissents from the denial of rehearing *en banc*, "this is not the proper way to interpret a statute." App. 138a (Kavanaugh, J., dissenting); see App. 118a-119a (Brown, J., dissenting). The existence of an absurdity requires agencies and courts to interpret ambiguous provisions or to exercise delegated interpretive discretion to avoid the absurdity. Absurd consequences have never been thought to confer, until this case, a license for agencies (or courts) to rewrite plain statutory language as the agency (or court) sees fit. "Instead of 'reading new words into the statute' to avoid absurd results, * * * the statute should be interpreted so that 'no absurdity arises in the first place.'" App. 138a (Kavanaugh, J., dissenting) (quoting *Kloeckner* v. *Solis*, 133 S. Ct. 596, 607 (2012)). By allowing an agency to engage in a series of statutory interpretations that produce a concededly "absurd" version of the whole statute, and then allowing it to declare the absurdity its jumping off point for rewriting plain statutory text, the decision below poses profound risks to the Constitution's separation of powers.

In the wake of its recent GHG rulemakings, EPA enforces a Clean Air Act fundamentally different from the one Congress enacted. This Court's immediate review of the panel's error is necessary and appropriate. No other court of appeals can consider these EPA regulations because the D.C. Circuit has exclusive review jurisdiction over these EPA rulemakings. See 42 U.S.C. § 7607(b)(1). It is simply not possible to await further developments in lower courts. The petition for a writ of certiorari should be granted.

A. Statutory and regulatory framework.

Distinct parts of the CAA authorize EPA to regulate emissions from motor vehicle engines and emissions from stationary sources. In *Massachusetts*, this Court interpreted the Act's definition of "air pollutant" for purposes of the motor-vehicle provision without analyzing other aspects of the Act's motor-vehicle provision and without mentioning the Act's stationary source provisions.

1. Under section 202(a)(1) of the CAA,

> The Administrator shall by regulation prescribe * * * standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1). Similar terminology appears throughout the CAA. See §§ 7521(a)(3)(D), (e); 7671n; 7547(a)(1), (4); 7411(b)(1)(A), (f)(2)(B), (g)(2); 7408(a)(1)(A); 7571(a)(2)(A); 7545(c)(1); 7422(a); 7415(a); 7511b(f)(1)(A); 7429(e).

2. Under the CAA's core program, EPA may set

standards for pollutants designated as national ambient air quality standards ("NAAQS") pollutants — requiring, for example, that the concentration of a given NAAQS pollutant may not exceed more than a certain number of parts per billion in the ambient air. See 42 U.S.C. § 7407. Thus far, EPA has designated six NAAQS pollutants, none of which is a GHG: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide.

Under the related "Prevention of Significant Deterioration of Air Quality" ("PSD") part of the CAA, EPA determines whether a region of the country is in "attainment" or "nonattainment" for each designated NAAQS pollutant, or, alternatively, whether a region is "unclassifiable" for that pollutant. 42 U.S.C. § 7407(d)(1)(A). An area in attainment is "any area * * * that meets the * * * ambient air quality standard for the pollutant." § 7407(d)(1)(A)(ii). By contrast, an area in nonattainment is "any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national * * * ambient air quality standard for the pollutant." § 7407(d)(1)(A)(i). Finally, an unclassifiable area is any area that "cannot be classified on the basis of available information as meeting or not meeting the * * * ambient air quality standard for the pollutant." § 7407(d)(1)(A)(iii). The PSD program applies to those areas of the United States designated as in "attainment" or "unclassifiable," § 7471, and requires permits for major emitting facilities embarking on construction or modification projects in those regions, § 7475(a).

Section 165(a) of the CAA makes clear that the PSD program establishes permitting requirements solely for "major emitting facilities" located in attainment or unclassifiable regions. Under section 165(a), "[n]o major emitting facility * * * may be constructed in any area to which this part applies unless" the facility obtains a PSD permit. 42 U.S.C. § 7475(a). To obtain a PSD permit, a covered source must, among other things, install the "best available control technology [BACT] for each pollutant subject to regulation under [the CAA]." § 7475(a)(4).

Section 169(a) defines "major emitting facility," for the purposes of the PSD program, as a stationary source "which emit[s], or [has] the potential to emit" either 100 tons per year ("tpy") or 250 tpy of "any air pollutant." 42 U.S.C. § 7479(1). Certain categories of sources — for example, iron and steel mill plants — qualify as "major emitting facilit[ies]" if they have the potential to emit over 100 tpy of "any air pollutant." *Id.* All other stationary sources are "major emitting facilit[ies]" if they have the potential to emit over 250 tpy of "any air pollutant." *Id.* Similarly, under the Act's Title V, stationary sources must obtain state-issued operating permits to establish compliance with the PSD requirements, among others, if they have the potential to emit at least 100 tpy of "any air pollutant." § 7602(j). In 1978, EPA interpreted the Act to define "major emitting facility" as a source that emits major amounts of "any air pollutant regulated under the [CAA]." *Part 51-Requirements for Preparation, Adoption, and Submittal of Implementation Plans*, 43 Fed. Reg. 26,380, 26,382 (June 19, 1978).

3. In *Massachusetts*, the Court considered whether the term "any air pollutant" in the CAA's new motor vehicle provision, section 202(a)(1), included GHGs such as "[c]arbon dioxide, methane, nitrous oxide, and hydrofluorocarbons." 549 U.S. at 529; see 42 U.S.C. § 7602(g). After answering this question in the affirmative, the Court remanded to EPA, noting that it had not reached "whether on remand EPA must make an endangerment finding" of the type required to promulgate regulations under section 202(a)(1). 549 U.S. at 534-535. While the Court noted that in the event such a finding were made EPA would "no doubt" have "significant latitude as to the manner, timing, content, and coordination of its regulations with those of other agencies," it emphasized that it was not precluding EPA from denying the rulemaking petition altogether on grounds that other portions of the Act cabined EPA's regulatory authority: "[O]nce EPA has responded to a petition for rulemaking, its reasons for action or inaction must conform to the authorizing statute." *Id.* at 533. The final sentence of the Court's analysis underscored the point: "EPA must ground its reasons for action *or inaction* in the statute." *Id.* at 535 (emphasis added).

B. Proceedings below.

1. On remand from this Court's decision, EPA opened a single regulatory docket, and issued a unified Advance Notice of Proposed Rulemaking ("ANPR"), to address GHG emissions. App. 1126a. In the ANPR's preface, the EPA Administrator observed it had "become clear" that EPA's regulation of GHGs from motor vehicle emissions under section 202(a)(1) could "trigger[]" "regulation of smaller stationary sources that also emit GHGs — such as apartment buildings, large homes, schools, and hospitals," resulting in "an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land." App. 1130a-1131a. The Administrator explained that, in his view, the CAA was "ill-suited for the task of regulating global greenhouse

gases." App. 1131a.

Other agencies submitted letters included in the ANPR that expressed concern about regulating GHGs under the CAA. For example, the Department of Transportation expressed concern "that attempting to regulate [GHGs] under the [CAA] will harm the U.S. economy while failing to actually reduce global [GHG] emissions." App. 1140a. The Department of Energy expressed concern about "an enormously elaborate, complex, burdensome and expensive regulatory regime that would not be assured of significantly mitigating global atmospheric GHG concentrations and global climate change." App. 1157a. And the Department of Commerce expressed concern that such regulation "would impose significant costs on U.S. workers, consumers, and producers and harm U.S. competitiveness without necessarily producing meaningful reductions in global GHG emissions." App. 1182a.

EPA's ANPR proposed to conduct a single rulemaking comprehensively addressing the propriety of regulating GHGs under the CAA. But despite having initially opened a single regulatory docket, EPA later elected to proceed in piecemeal fashion (thus making subsequent review in the court of appeals more difficult). EPA recognized that an affirmative endangerment finding could make it impossible for it to abide by statutory commands within the CAA. App. 1756a, 1836a-1837a. Yet despite recognizing the interconnections between the provisions of the Act, EPA conducted its administrative process in a fashion that ensured each individual rulemaking construed the Act's individual provisions but none construed the Act as a whole. And despite the sweeping scope of the combined rulemakings, which authorize EPA to regulate the energy consumption of buildings everywhere in the United States, nowhere did EPA analyze the combined rules' total costs. Compare App 27a, 49a, with *Massachusetts*, 549 U.S. at 531 (remarking the EPA "would have to delay any action" to "'giv[e] appropriate consideration to the cost of compliance'") (quoting 42 U.S.C. § 7521(a)(2)); see also Executive Order 12,866 (Sept. 30, 1993) (requiring cost-benefit analysis).

2. EPA's rulemaking unfolded in a series of steps. EPA first issued a finding that GHGs were anticipated to endanger public health or welfare, which it then used as the predicate for promulgating emission standards for motor vehicles. EPA next determined that, having regulated motor vehicles, it was required also to regulate stationary sources. Finally, because the statutory thresholds for triggering regulation of stationary sources would require regulation of millions of sources never contemplated by Congress, EPA claimed authority to rewrite (and in fact rewrote) those regulation-triggering thresholds.

First, in the course of a rulemaking involving solely motor vehicles, EPA determined that a combination of six separate gases (including two not emitted by motor vehicles) defined as a single "air pollutant" were "reasonably [ ] anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). See *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009); App. 180a. EPA measured the impact of these gases — carbon dioxide, methane, nitrous oxide, hydroflourocarbons, perflourocarbons, and sulfur hexafluoride — on a "carbon dioxide equivalent basis" that reflects the "warming effect" of each "relative to carbon dioxide." App. 291a. EPA concluded that motor-vehicle emissions of these gases "contribute to the total greenhouse gas air pollution, and thus to the climate change problem, which is reasonably anticipated to endanger public health and welfare." App. 195a.

In making the Endangerment Finding, EPA relied on analysis involving many steps between the emitted GHGs and the anticipated endangerment. In addition, EPA adopted an analysis that was "largely qualitative in nature, and is not reducible to precise metrics or quantification" — without "establish[ing] a specific threshold metric for each category of risk and impacts" and without "necessarily placing the greatest weight on those risks and impacts which have been the subject of the most study or quantification." App. 311a-312a. This "qualitative" assessment covered a period of analysis spanning "from the current time to the next several decades, and in some cases to the end of this century." App. 313a.

EPA rejected the view that it could consider only "direct health effects such as respiratory or toxic effects associated with exposure to greenhouse gases." App. 314a. EPA determined that GHGs endangered public "welfare" based on multi-step causation chains leading to effects over the long term on (i) "food production and agriculture," (ii) "forestry," (iii) "water resources," (iv) "sea level rise and coastal areas," (v) "energy, infrastructure, and settlements," and (vi) "ecosystems and wildlife." App. 343a.

Second, as a consequence of its endangerment finding, and pursuant to the CAA's provision authorizing EPA to establish motor-vehicle emission standards for "any air pollutant * * * which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1), EPA issued a "Tailpipe Rule" setting emission standards for cars and light trucks. *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule*, 75 Fed. Reg. 25,324 (May 7, 2010).

Third, EPA determined that once the agency had triggered regulation of GHGs from motor vehicles, it was obliged automatically to regulate "stationary sources" of GHGs under the PSD and Title V programs. EPA understood in making this determination that regulating stationary-source emissions of carbon dioxide as a GHG means regulating the burning of fossil fuels, which in turn means regulating the production and consumption of energy throughout the economy. Nonetheless, EPA reasoned that, once the Tailpipe Rule set motor-vehicle emission standards for GHGs, those gases became regulated pollutants under the Act, requiring PSD regulation and Title V permitting as well. See *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 75 Fed. Reg. 31,514 (June 3, 2010); App. 690a.

In reaching this conclusion, EPA relied on its preexisting, pre-*Massachusetts* interpretation of the CAA, under which emissions regulations under other parts of the Act trigger regulation of stationary GHG emitters because "any air pollutant" means any air pollutant regulated under the CAA. See App. 871a-881a; see also *Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans*, 45 Fed. Reg. 52,676, 52,711 (Aug. 7, 1980).

Because GHGs, especially carbon dioxide, are emitted in far greater amounts and from many more sources (including people) than other "air pollutants," EPA recognized that extending its preexisting interpretation of the Act to GHGs would produce regulatory effects so severe as to be "absurd." App. 690a. EPA recognized in particular that the energy consumption practices of millions of industrial, residential, and commercial sources would newly become subject to EPA regulation because those facilities' GHG emissions would exceed the 100/250 tons-per-year emission thresholds provided for by statute. The number of facilities subject to PSD and Title V would thus jump 400-fold — from 15 thousand to 6.1 million. See App. 782a-798a, 813a & Table V-I. Its new rules taken together, EPA acknowledged, would require an expenditure of $22.5 billion in paperwork costs alone (compared to $74 million today, see *id.*) plus billions more in compliance costs (which EPA declined to estimate, App. 27a, 49a).

Having identified an absurdity inherent in its statutory construction, EPA addressed the situation by rewriting the statute, not revisiting the construction. Specifically, whereas Congress decided that the PSD and Title V programs would apply to facilities discharging more than either 100 or 250 tons per year of regulated pollutants, the agency reworked the statutory language and held henceforth the programs would apply only to sources emitting greenhouse gases in amounts more than 75,000 or 100,000 tons per year — two new, EPA-invented thresholds. App. 690a. EPA contended that it was forced to engage in this statutory rewriting because, after EPA had interpreted the CAA to require regulation of GHGs from stationary sources, the consequences of a straightforward application of the statutory thresholds were absurd:

> To apply the statutory PSD and title V applicability thresholds literally to sources of GHG emissions would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program. These extraordinary increases in the scope of the permitting programs would mean that the programs would become several hundred-fold larger than what Congress appeared to contemplate. Moreover, the great majority of additional sources brought into the PSD and title V programs would be small sources that Congress did not expect would need to undergo permitting and that, at the present time, in the absence of streamlined permit procedures, would face unduly high permitting costs.

App. 780a.

EPA asserted further authority to revise statutory thresholds on grounds that it claimed were both "intertwined" with and "independent" of the absurdity canon. App. 817a. Specifically, EPA relied on an "administrative necessity" doctrine, which it contended allows an agency to decline to "follow the literal requirements" of a statute that "is impossible for the agency to administer." App. 827a-828a. And EPA relied on a so-called "one-step-at-a-time" doctrine, which it contended allows agencies to "implement statutory mandates one step at a time." App. 830a. Having once rewritten statutory language on authority of the absurdity canon (and other doctrines), EPA then claimed further discretion to rewrite the same language by way of adjusting the invented thresholds over time and as it sees fit. App. 844a.

Fourth, in a separate "Timing Rule," EPA established January 2, 2011 as the date when major stationary emitters of GHGs would become subject to EPA regulation. See *Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs*, 75 Fed. Reg. 17,004 (Apr. 2, 2010); App. 598a.

3. A diverse coalition of more than seventy business groups, public policy groups, and States challenged EPA's GHG rules. In addition, several industry and public policy groups petitioned for review of EPA's interpretation of the PSD permitting triggers set forth in EPA's 1978, 1980, and 2002 rules. Because 42 U.S.C. § 7607(b)(1) permits parties to petition for review of final agency action "within sixty days" of any "grounds arising after" the expiration of the ordinary statutory review period, these petitioners explained that their challenges to the historical rules did not ripen until 2010, when EPA first elected to regulate GHGs under the CAA by promulgating the Tailpipe Rule.

In a *per curiam* opinion, a panel of the D.C. Circuit, composed of then-Chief Judge Sentelle and Judges Rogers and Tatel, dismissed the petitions for review as to the Timing and Tailoring Rules and denied the petitions for review as to the remainder of the rules. App. 98a.

As an initial matter, although *Massachusetts* had expressly declined to address whether EPA "must" make an endangerment finding, the panel assumed that the decision actually went farther. The panel construed *Massachusetts* as holding "that EPA had a 'statutory obligation' to regulate harmful greenhouse gases." App. 18a.

Starting from this premise, the panel addressed the heart of EPA's analysis — the Endangerment Finding. The panel held that the ultimate absurdity EPA had identified was "irrelevant" to the initial endangerment inquiry. App. 28a. It then concluded that the Endangerment Finding rested upon an "unambiguously correct" construction of the CAA and was not arbitrary and capricious, in part because the CAA "does not leave room for EPA to consider as part of the endangerment inquiry the stationary-source regulation triggered by an endangerment finding." App. 28a-29a.

The panel determined that the grounds-arising-after challenges to EPA's PSD permitting triggers were timely at least as to two industry petitioners. App. 50a-56a. The panel ruled, however, that no petitioner had standing to challenge the Timing and Tailoring Rules — the two rules acknowledging the absurdity and rewriting the statute in its wake — because those rules supposedly served to ease regulatory burdens that EPA had already set in motion via its other GHG rulemakings. App. 88a.

4. The panel denied rehearing, and the full D.C. Circuit denied rehearing *en banc*, with Judge Kavanaugh and Judge Brown dissenting separately. App. 99a.

Judge Kavanaugh opened his opinion by noting this case is "plainly one of exceptional importance." App. 133a (Kavanaugh, J., dissenting). Judge Kavanaugh reiterated the U.S. Chamber's statement that "the EPA regulations at issue here as 'the most burdensome, costly, far-reaching program ever adopted by a United States regulatory agency.'" *Id.* "By requiring a vastly increased number of facilities to obtain pre-construction permits," Judge Kavanaugh said, "EPA's interpretation will impose enormous costs on tens of thousands of American businesses, with corresponding effects on American jobs and workers; on many American homeowners who move into new homes or plan other home construction projects; and on the U.S. economy more generally." App. 142a.

Judge Kavanaugh noted that EPA had reserved unto itself a right to adjust its invented 75,000 and 100,000 ton-per-year thresholds over time, thus bringing more and more facilities into its program through its own "unilateral discretion." App. 137a n.1. Judge Kavanaugh observed that "EPA's assertion of such extraordinary discretionary power both exacerbates the separation of powers concerns in this case and underscores the implausibility of EPA's statutory interpretation." *Id.* According to Judge Kavanaugh, "[a]llowing agencies to exercise that kind of statutory re-writing authority could significantly enhance the Executive Branch's power at the expense of Congress's and thereby alter the relative balance of powers in the administrative process." App. 138a.

Judge Brown, in turn, emphasized that EPA had failed to properly interpret the "reasonably anticipated to endanger" language in section 202(a)(1): "In order to reasonably anticipate that a pollutant will contribute to air pollution that endangers public health or welfare, the Agency would have to conclude that pollution created by CO_2 or another GHG is a *reasonably direct cause* of the damage to public health and welfare." App. 116a (emphasis added).

According to Judge Brown, "[q]uestions of public health impacts from air pollution have consistently been based on the direct — that is, inhalational — effects of exposure to the pollutant," as opposed to the more indirect harms caused by climate change. App. 116a-117a; see also App. 118a ("If there can be this much logical daylight between the pollutant and the anticipated harm, there is nothing EPA is not authorized to do."). Judge Brown further observed that "Congress should not be presumed to have deferred to agencies on questions of great significance more properly resolved by the legislature." App. 122a (citing *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000)). Both Judge Brown and Judge Kavanaugh skeptically viewed EPA's invocation of the "absurd results" canon — as a kind of "abuse" used "to preempt legislative prerogatives." App. 121a (Brown, J., dissenting); see also App. 154a (Kavanaugh, J., dissenting). Far from minimizing the importance of this case, the members of the original panel responded with a joint statement acknowledging that "the underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance." App. 106a.

REASONS FOR GRANTING THE PETITION

EPA's GHG rulemakings violate an elementary interpretive principle: Before using the absurdity doctrine to rewrite codified numerical thresholds, an agency must endeavor to construe the statute to avoid the absurdity in the first instance. The "whole statute" canon of construction requires that all statutory provisions be considered together, a task that is particularly important in the context of a complex statutory scheme like the CAA. In the rulemakings below, EPA could and should have construed the Act as a whole, thus avoiding the need to rewrite numerical thresholds. Having failed to do so, the agency's interpretation of the Act was "not in accordance with law" or, at best, was "arbitrary, capricious, [and] an abuse of discretion." 42 U.S.C. § 7607(d)(9)(A).

I. EPA improperly deployed the "absurd results" canon.

EPA employed a novel and expansive interpretation of its authority to regulate pollutants that "may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1). The agency recognized that its construction of the statute caused consequences "so contrary to what Congress had in mind" that they "should be avoided under the 'absurd results' doctrine." App. 1840a. The agency then rewrote other provisions of the statute to avoid the absurdity of its initial construction. This interpretive approach was fundamentally misguided.

1. The principle that statutes should be construed to avoid absurd results "demonstrates a respect for the coequal Legislative Branch, which we assume would not act in an absurd way." *Pub. Citizen* v. *U.S. Dep't of Justice*, 491 U.S. 440, 470 (1989) (Kennedy, J., concurring in the judgment). As William Blackstone explained, "the rule is, that where words bear either none, or a very absurd signification, if literally understood, *we must a little deviate from the received sense of them.*" 1 W. Blackstone, Commentaries on the Laws of England 60 (1765) (emphasis added). Blackstone's formulation recognized that "little" deviations from legislative text — as opposed to wholesale rewriting — could at times allow a court to construe

statutes more consistently with legislative intent than "literal[]" application of the law.

Critically, the absurdity canon does not permit "an unhealthy process of amending the statute by judicial interpretation." *Pub. Citizen*, 491 U.S. at 470 (Kennedy, J., concurring in judgment). Where (as here) a court or agency acknowledges absurd results that would follow from a particular statutory interpretation, the proper course is to interpret the statute to avoid the absurdity. See *Mova Pharm.* v. *Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998) (absurd results do not grant the agency "a license to rewrite the statute").

Such an approach is especially appropriate where the provisions being interpreted are interwoven into a complicated regime like the CAA. As Judge Hand explained, statutory text lives a "communal existence" with the meaning of each word informing the others and "all in their aggregate tak[ing] their purport from the setting in which they are used." *NLRB* v. *Federbush Co.*, 121 F.2d 954, 957 (2d Cir. 1941). A reviewing court thus "should not confine itself to examining a particular statutory provision in isolation," but should instead determine "[t]he meaning — or ambiguity — of certain words or phrases" by placing those words "in context." *Brown & Williamson*, 529 U.S. at 132-133. "Regardless of how serious the problem an administrative agency seeks to address, * * * it may not exercise its authority in a manner that is inconsistent with the administrative structure that Congress enacted into law." *Ragsdale* v. *Wolverine World Wide, Inc.*, 535 U.S. 81, 91 (2002) (quotation marks and citations omitted).

Accordingly, to the extent the CAA contained ambiguities or gaps, both EPA and the Court below were obliged to fill in the gaps and interpret the ambiguous terms to avoid absurd consequences. EPA should have endeavored to construe the Act reasonably and comprehensively — and not necessarily in a manner that would most aggrandize its authority.

2. Instead of taking a lawful interpretive path, EPA chose the "unhealthy process of amending the statute by [agency and] judicial interpretation." *Pub. Citizen*, 491 U.S. at 470 (Kennedy, J., concurring in judgment). After engaging in a series of statutory interpretations and acknowledging the resulting absurdity, EPA frankly discarded precise numerical limitations that Congress had placed on its authority. App. 780a.

Far from scrutinizing EPA's highly unusual interpretive method, the panel concluded that petitioners could not challenge the absurd consequences that concededly flow from the Endangerment Rule. *First*, the panel claimed that the absurdity EPA had identified was "irrelevant" to the endangerment inquiry, because the CAA "does not leave room for EPA to consider as part of the endangerment inquiry the stationary-source regulation triggered by an endangerment finding." App. 29a. *Second*, when petitioners argued the Tailoring Rule unlawfully attempted to address a conceded absurdity by simply rewriting the statute, the panel held that they lacked Article III standing because EPA's Tailoring Rule eased the regulatory burdens earlier set in motion by EPA's Endangerment Rule. See App. 88a-89a.

The upshot was that the panel nowhere addressed the absurdity that EPA acknowledges follows from its construction of the CAA — thus allowing EPA to escape judicial scrutiny of its rewriting of the Clean Air Act. This cannot be right. Agencies may not "use shell games to elude review." *Tesoro Alaska Petroleum Co.* v. *FERC*, 234 F.3d 1286, 1293-1294 (D.C. Cir. 2000). The panel should have seen the agency's procedural gerrymandering for what it was — an improper means of sidestepping judicial review. And it should have recognized that substituting much higher numerical thresholds for much lower ones is never a permissible way to construe a statute. These failures by the panel require correction by this Court.

II. EPA improperly failed to construe the CAA in a manner that would avoid the absurdity that resulted from its own interpretation.

Had the panel required EPA to construe the entire CAA sensibly as a whole, it would have concluded that EPA had several available avenues for avoiding the absurdity that resulted from the agency's preferred interpretation.

A. EPA incorrectly construed section 202(a)(1)'s requirement that an air pollutant "reasonably be anticipated to endanger public health or welfare."

To make an endangerment finding, EPA was statutorily required to find that an air pollutant may "reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). The statutory text, and its settled construction, do not allow EPA to address any and all issues that may be thought of as relating to "health" or "welfare" in the abstract. Instead, the Act cabins EPA's authority by using the specific statutory terms "health" and "welfare" and requiring a particular type of causal connection between air pollutants and endangerment.

Here, EPA departed from prior agency practice and failed to find the requisite causal connection between GHG emissions, on the one hand, and an endangerment of (a) public health or (b) public welfare, on the other. The agency's strained analysis — together with its concession that its overall construction of the Act produces an absurdity — makes clear that the Act's structure simply is not a good fit for addressing harms caused by GHG emissions.

Nor does the Court's decision in *Massachusetts* compel a different result. Indeed, *Massachusetts* could hardly have been clearer in directing that, on remand, "EPA *must* ground its reasons for action *or inaction* in the statute." *Massachusetts*, 549 U.S. at 535 (emphasis added). By overlooking this Court's clear directive, and mistakenly reading *Massachusetts* to hold that the "EPA had a statutory *obligation* to regulate harmful greenhouse gases," App. 18a (emphasis added, quotations marks omitted), the panel left undisturbed EPA's failure to articulate a standard for establishing causal connections.

1. The statutory term "reasonably be anticipated to endanger" requires EPA to establish an appropriate causal connection between emissions of "air pollutants" and "public health" or "public welfare," as those terms are used in the CAA.

Congress's use of the terms "endanger" and "anticipate" ensure that EPA regulates only those types of endangerment that fit within the Act's structure by requiring the agency to establish appropriate causal connections between a pollutant and endangerment. "Endanger" means to "expose to harm or danger" or "to imperil." American Heritage Dictionary of the English Language (4th ed. 2000). "Anticipate" means among other things to "realize beforehand," to "foresee," to "deal with beforehand." *Id.* (definition of "anticipate"). The term "reasonably be anticipated to endanger" thus calls to mind the "foreseeability" tests long used in a variety of contexts to determine legal causation of cognizable harms. See *Palsgraf* v. *Long Island R.R.*, 162 N.E. 99 (N.Y. 1928). "It is a well established principle of law, that in all cases of loss we are to attribute it to the proximate cause, and not to any remote cause: *causa proxima non remota spectatur*." *Waters* v. *Merchants' Louisville Ins. Co.*, 36 U.S. (Pet. 11) 213, 222 (1837) (Story, J.); cf. *CSX Transp., Inc.* v. *McBride*, 131 S. Ct. 2630, 2642 (2011) ("To prevent 'infinite liability,' courts and legislatures appropriately place limits on the chain of causation that may support recovery on any particular claim."); *Babbitt* v. *Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 712 (1995) (O'Connor, J., concurring).

Without these limitations, EPA could claim a sweeping authority to regulate all "airborne compounds of whatever stripe," *Massachusetts*, 549 U.S. at 529, that affect "well-being," 42 U.S.C. § 7602(h), thus assuming unto itself an almost limitless policy discretion. An essential predicate to regulation under the Act is, therefore, that EPA must reasonably foresee that a particular type of air pollution will harm or imperil public health or welfare. The "statutory term 'will endanger' and the "relationship of that term to other sections of the Clean Air Act" thus "limit" and "direct" EPA's authority. *Ethyl Corp.* v. *EPA*, 541 F.2d 1, 29 (D.C. Cir. 1976) (en banc).

Here, EPA failed to appreciate these limitations on its authority. EPA found endangerment of public health and welfare based, not on the harms involving people's exposures to pollutants, but on remote causal connections of a type beyond the bounds of what Congress intended for the agency to address. Had the panel below scrutinized EPA's analysis of legal causation — as opposed to concluding such scrutiny is pretermitted by ***Massachusetts*** — it would have realized that its analysis as to both public health and public welfare was inadequate under the plain terms of the statute and a poor fit with the overall structure of the Act.

2. EPA's finding of an endangerment of "public health" was based on a misreading of the Act. The CAA treats effects on "health" and "welfare" distinctly. In addressing the effects of GHGs on public "health," EPA inappropriately included considerations that, if they are relevant to an endangerment finding at all, may be considered only as relating to public "welfare."

In the context of the CAA, references to protecting or endangering "public health" have long been understood to refer to health risks based on inhalational or other exposures to a pollutant. See *NRDC, Inc.* v. *EPA*, 902 F.2d 962, 973 (D.C. Cir. 1990) (holding that, in promulgating NAAQS, the CAA "does not permit EPA to consider" the health consequences of unemployment), *vacated in irrelevant part by NRDC, Inc.* v. *EPA*, 921 F.2d 326 (D.C. Cir. 1991). Consistent with the structure of the Act, effects unrelated to exposure to pollutants and occurring over a long time horizon have never before been treated as "health" effects.

EPA's rulemaking proposal acknowledged that "there is no evidence that greenhouse gases *directly* cause health effects." App. 322a (emphasis added).

But despite vigorous objections from commenters that EPA could lawfully find endangerment of health only for exposure-related effects of pollutants involving inhalation, skin exposures, ingestion, and the like, App. 322a-324a, EPA nonetheless found an endangerment of public health based, not on harms involving people's exposure to pollutants, but on more remote causal connections more appropriately considered under the Act's "welfare effects" provisions. App. 324a.

3. EPA's finding of endangerment of public "welfare" also misreads the Act.

As an initial matter, EPA never made clear that endangerment to "welfare" — as opposed to public "health" — was an independent and sufficient ground for the Endangerment Finding. EPA's erroneous interpretation of the term "public health" therefore suffices, standing alone, to require reversal of the rulemaking. See *SEC* v. *Chenery Corp.*, 318 U.S. 80 (1943).

At any rate, EPA's failure to identify the statutorily required causal connection was, if anything, more glaring with respect to endangerment of "welfare" than endangerment of "health." The CAA provides a specific statutory method for categorizing "welfare effects." Against this backdrop, past findings of welfare endangerment have focused on particularized exposure-related welfare effects falling into one or more of ten primary categories enumerated by statute; namely, effects on (i) soils, (ii) water, (iii) crops, (iv) vegetation, (v) manmade materials, (vi) animals, (vii) wildlife, (viii) weather, visibility, and climate, (ix) damage to and deterioration of property, and (x) hazards to transportation. See 42 U.S.C.

§ 7602(h). EPA's analysis should have turned on applying this statutory scheme.

Rather than pursuing the inquiry framed by the CAA, EPA chose to organize its endangerment analysis for welfare around an invented six-part scheme lacking a discernible relation to principles drawn from the Act. EPA thus set aside the categories enumerated by the Act in favor of making predictions of how a multi-stage set of causes might produce impacts in future decades on (i) "food production and agriculture," (ii) "forestry," (iii) "water resources," (iv) "sea level rise and coastal areas," (v) "energy, infrastructure and settlements," and (vi) "ecosystems and wildlife." See generally App. 338a-366a.

EPA's analysis under its chosen scheme for analyzing "welfare effects," like its analysis of endangerment of public health, did not rely on findings of exposure-related harms. Indeed, EPA never contended that harmful welfare effects attributable to exposures to greenhouse gases were likely to occur in the near term. Cf., *e.g.*, App. 363a (addressing "near term" impacts). Rather, EPA interpreted the Act as allowing the agency to conclude that welfare endangerment may reasonably be anticipated based on effects both distant in time and causal proximity from the relevant pollutant emissions.

EPA did not contend its finding of welfare endangerment could be justified exclusively based on direct welfare effects involving "climate." Compare App. 71a, 78a (panel opinion). And while EPA noted that section 202(a)(1)'s enumeration of welfare effects concludes by listing two extremely broad categories of potential welfare effects after the dividing phrase "as well as" — namely, "effects on economic values and on personal comfort and well-being," App. 247a — it provided no "intelligible principle" for analysis of these statutory terms that would allow for realistic assessments of welfare effects rather than arbitrarily truncated analysis. *Whitman* v. *American Trucking Associations, Inc.*, 531 U.S. 457 (2001). Indeed, EPA failed to identify any discernible limits on its interpretation of these statutory terms, let alone the "*substantial guidance*" that this Court deemed necessary for EPA's "setting air standards that affect the entire national economy." *Id.* at 475 (emphasis added). And it refused to be guided by Congress' framing of the welfare endangerment inquiry by discarding the statute's categorization of "welfare effects" in favor of newly devised categories of its own choosing. In doing so, EPA discarded the "intelligible principle" based on traditional exposure-related causation of harms (relied on in *Whitman*), but failed to replace it with any other intelligible principle drawn from the statute.

For its part, the panel overlooked EPA's failures to articulate any intelligible standard, thinking there was no interpretive work to do other than apply *Massachusetts*.

4. Finally, EPA erred by interpreting the Act as compelling it to disregard the effect of compliance with law already in place under related regulatory programs.

Although the National Highway Traffic Safety Administration had been directed by a 2007 congressional enactment to issue fuel economy standards for new motor vehicles providing major reductions in GHG emissions, see Energy Independence and Security Act, Pub. L. No. 110–140, 121 Stat. 1492 (Dec.

19, 2007), EPA's rulemaking ignored the emissions reductions that could be "reasonably anticipated" due to the new statutory requirements. App. 257a. EPA reasoned that, despite its obligation to assess what "may reasonably be anticipated," section 202(a) somehow precluded it from considering the emissions reductions reasonably to be expected from compliance with the law. App. 272a-273a.

EPA's refusal to consider reasonably anticipated legal compliance behaviors violates the plain terms of the Act. Any real-world welfare endangerment that "may reasonably be anticipated" over decades to centuries must necessarily account for behavior reasonably expected to occur over those long timespans under laws already in place. App. 272a-273a.

B. EPA incorrectly determined that any "air pollutant" regulated pursuant to section 202(a) must also be regulated under the PSD program.

EPA's rulemaking was also infected by a second, independent error. Relying on prior rulemakings, EPA determined that this Court's holding that GHGs are included within the term "air pollutant" in the Act's overall definitional provision, see *Massachusetts*, 549 U.S. at 529, means *a fortiorari* that GHGs must be deemed "air pollutants" under the CAA's Prevention of Significant Deterioration program, see App. 62a.

EPA failed to recognize that the term "air pollutant," as used in the PSD program, could be given a narrower interpretation to cover just the six NAAQS pollutants — all of which cause exposure-related health problems — rather than encompassing all airborne compounds deemed harmful and regulated by

EPA under any CAA program. As this Court recently explained in interpreting the Clean Air Act, "the natural presumption that identical words used in different parts of the same act are intended to have the same meaning * * * is not rigid and readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent." *Environmental Defense* v. *Duke Energy Corp.*, 549 U.S. 561, 574 (2007) (quotation marks and ellipsis omitted).

Here, the terms "air pollutant" in the definitional provision and PSD program clearly have distinct meanings — as even EPA acknowledges. Although *Massachusetts* said that "air pollutant" means "all airborne compounds of whatever stripe" under section 202(a)(1), 549 U.S. at 529, EPA did not use that broad definition for the term "air pollutant" in the PSD statute, recognizing that it would be illogical to require preconstruction permits because of emissions of any airborne compound, including airborne compounds that have not been deemed harmful enough to be regulated under the CAA. EPA itself has therefore recognized that the *Massachusetts* definition of "air pollutant" cannot control the definition of "air pollutant" under the PSD statute. As Judge Kavanaugh explained, "EPA cannot simultaneously latch on to *Massachusetts* v. *EPA* and reject *Massachusetts* v. *EPA*" in interpreting the term "air pollutant" in the PSD context. App. 150a (dissenting opinion).

C. EPA incorrectly exercised its delegated authority in regulating GHGs.

In *Massachusetts*, the Court recognized that EPA could decline to make an endangerment finding for

GHGs "if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether [GHGs endanger public health or welfare]." 549 U.S. at 533. Accordingly, once it recognized the absurd consequences of squeezing GHGs into the terms of the CAA, EPA was obliged to decline to regulate GHGs if no saving construction of the Act were available. It is "highly unlikely that Congress" would have wanted concededly absurd, economy-wide regulation of these air pollutants. *MCI Telecommunications Corp.* v. *AT&T Co.*, 512 U.S. 218, 231 (1994).

Indeed, if *Brown & Williamson* was an "extraordinary case" requiring the agency to "hesitate before concluding that Congress" intended an improbable "implicit delegation" of authority to regulate, 529 U.S. at 143, 159, this case is even more extraordinary and requires even more hesitation. See App. 122a-123a (Brown, J., dissenting). In *Massachusetts*, the Court reasoned that construing "air pollutant" to include GHGs "would lead to no [ ] extreme measures" as had occurred in *Brown & Williamson*, because there was "nothing counterintuitive to the notion that EPA can curtail" harmful automotive GHG emissions as it had long done under the CAA. 549 U.S. at 531. Now, however, EPA's admittedly absurd extension of GHG emissions controls to hundreds of thousands of small, non-industrial sources far outside anything contemplated by Congress undercuts this distinction.

* * *

At all events, were there any doubts about EPA's interpretations of section 202(a)(1) or the relevant PSD and Title V statutes, EPA was bound to interpret one or all of them to avoid the absurdity that would be produced by a contrary interpretation. *Massachusetts* does not compel a different result, but to the extent that the Court finds that it does, petitioners respectfully submit that the Court should revisit some aspects of the decision.

III. This case presents recurring questions of national importance.

EPA's GHG rulemakings have enormous economic consequences, and the agency's interpretive method poses profound questions under the Constitution's system of separation of powers.

1. There can be little doubt that "[t]his case is [ ] one of exceptional importance" with "massive real-world consequences." App. 133a (Kavanaugh, J., dissenting), As even the members of the panel that upheld the regulations recognized, "[t]he underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance." App. 106a. Neither EPA nor any of its intervenors or *amici* has questioned the staggering practical consequences of these rulemakings. Indeed, EPA avoided performing a cost-benefit analysis of the stationary source aspects of these rulemakings, perhaps hesitating to find out how staggering those consequences really are.

EPA's rulemakings establish a regulatory apparatus the likes, costs, and breadth of which have never before been seen, effectively establishing EPA as a national zoning board with jurisdiction over the entire economy — for the first time ever imposing the CAA's regulatory burdens so heavily and directly on States, industry, farms, convenience stores, hospitals, shopping malls, churches, even homes.

2. The rulemakings below pose profound ques-

tions under the Constitution's separation of powers. If uncorrected, EPA's new understanding of the absurdity canon as granting *carte blanche* for agency amendments to clear statutory text will establish a milestone in the relationship between the legislative and executive branches. As Judge Kavanaugh observed, "undue deference or abdication to an agency carries its own systemic costs. If a court mistakenly allows an agency's transgression of statutory limits, then we green-light a significant shift of power from the Legislative Branch to the Executive Branch." App. 152a-153a (Kavanaugh, J., dissenting).

Whatever the magnitude of the threat to health or welfare posed by climate change, the threat surely does not justify an agency's wholesale rewriting of statutory provisions. No matter how important an agency's policy goals, the agency may not pursue means and ends not encompassed within its congressional delegation of authority — however fondly it may wish to press the square peg of a preferred regulatory program into the nearest statutory round hole. "Where a statute provides the conditions for the exercise of governmental power, its requirements are the result of a deliberative and reflective process engaging *both* of the political branches." *Hamdan* v. *Rumsfeld*, 548 U.S. 557, 637 (2006) (separate opinion) (emphasis added). As the Framers recognized, the "failures of * * * regulation may be a pressing national problem, but a judiciary that licensed extraconstitutional government with each issue of comparable gravity would, in the long run, be far worse." *Free Enterprise Fund* v. *Public Company Accounting Oversight Board*, 130 S. Ct. 3138, 3157 (2010) (quotation marks, alterations, and citations omitted).

The willingness, perhaps eagerness, of unelected EPA officials to construe statutory language in a manner producing absurd results justifying agency-crafted, statutory amendments conflicts with the deliberative governance our Framers envisioned. The Court's review is needed to determine the legitimacy of EPA's new understandings of its interpretive authority.

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted,

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APPENDIX

RECORD
AND
BRIEFS

12-1272
No. ______

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In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

*ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT*

PETITIONERS' APPENDIX
VOLUME I OF V (1a-179a)

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UNITED STATES COURT OF APPEALS
For The District of Columbia Circuit

Argued February 28 and 29, 2012 Decided June 26, 2012

No. 09-1322

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.,
PETITIONERS
v.
ENVIRONMENTAL PROTECTION AGENCY,
RESPONDENT

STATE OF MICHIGAN, ET AL.,
INTERVENORS

Consolidated with 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321

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Deborah Sivas, *Douglas A. Ruley*, *Edward Lloyd*, and *Susan J. Kraham* were on the brief for *amici curiae* America's Great Waters Coalition, et al. in support of respondent. *James K. Thornton* entered an appearance.

No. 10-1073

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.,
PETITIONERS
v.

ENVIRONMENTAL PROTECTION AGENCY,
RESPONDENT

AMERICAN FROZEN FOOD INSTITUTE, ET AL.,
INTERVENORS

Consolidated with 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207,

10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216,
10-1218, 10-1219, 10-1220, 10-1221, 10-1222

On Petitions for Review of Final Agency Action
of the Environmental Protection Agency

Jonathan F. Mitchell, Solicitor General, Office of the Attorney General for the State of Texas, argued the cause for State Petitioners and Supporting Intervenor. With him on the briefs were *Gregg Abbott*, Attorney General, *Bill Cobb*, deputy Attorney General, *J. Reed Clay, Jr.*, Special Assistant and Senior Counsel to the Attorney General, *Michael P. Murphy* and *James P. Sullivan*, Assistant Solicitors General, *Luther Strange*, Attorney General, Office of the Attorney General for the State of Alabama, *Herman Robinson*, *Donald Trahan*, *Kathy M. Wright*, *Gary C. Rikard*, *John Bruning*, Attorney General, Office of the Attorney General for the State of Nebraska, *Katherine J. Spohn*, Special Counsel, *Wayne Stenehjem*, Attorney General, Office of the Attorney General for the State of North Dakota, *Margaret Olson*, Assistant Attorney General, *Alan Wilson*, Attorney General, Office of the Attorney General for the State of South Carolina, *J. Emory Smith, Jr.*, Assistant Deputy Attorney General, *Marty Jackley*, Attorney General, Office of the Attorney General for the State of South Dakota, *Roxanne Giedd*, Chief, and *Kenneth T. Cuccinelli, II*, Attorney General, Office of the Attorney General for the Commonwealth of Virginia. *Mark W. DeLaquil*, *Earle D. Getchell, Jr.*, Assistant Attorney General, Office of the Attorney General for the Commonwealth of Virginia, *Andrew M. Grossman*, *David B. Rivkin*, *Jr.*, and *Robert D. Tambling*, Assistant Attorney General, Office of the Attorney General for the State of Alabama, entered appearances.

F. William Brownell and *Peter Keisler* argued the causes for Non-State Petitioners and Supporting Intervenors. With them on the briefs were *Norman W. Fichthorn*, *Henry V. Nickel*, *Allison D. Wood*, *Charles H. Knauss*, *Shannon S. Broome*, *Timothy K. Webster*, *Roger R. Martella*, *Eric Groten*, *Patrick R. Day*, *John A. Bryson*, *Matthew G. Paulson*, *John P. Elwood*, *Paul D. Phillips*, *James A. Holtkamp*, *Shannon L. Goessling*, *Harry W. MacDougald*, *William H. Lewis, Jr.*, *Ronald J. Tenpas*, *Gordon R. Alphonso*, *Edward A. Kazmarek*, *Chet M. Thompson*, *Neal J. Cabral*, *Scott C. Oostdyk*, *Richard P. Hutchison*, *John J. McMackin, Jr.*, *Robin S. Conrad*, *Sheldon Gilbert*, *Michael W. Steinberg*, *Levi McAllister*, *Jeffrey A. Rosen*, *Robert R. Gasaway*, *Jeffrey Bossert Clark*, *William H. Burgess*, *Ashley C. Parrish*, *Cynthia A.M. Stroman*, *Ellen Steen*, *Leslie Sue Ritts*, *Peter Glaser*, *Mark E. Nagle*, *Terry J. Satterlee*, *Thomas J. Grever*, *Margaret Claiborne Campbell*, *Bryon W. Kirkpatrick*, *Quentin Riegel*, *Elizabeth Gaudio*, *Elizabeth Henry Warner*, *Harry Moy Ng*, *Michele Marie Schoeppe*, *Thomas J. Ward*, and *Peter H. Wyckoff*. *Mark A. Behrens*, *Paul D. Clement*, *Matthew Dukes*, *Virginia L. Hudson*, and *David B. Salmons* entered appearances.

Jonathan S. Massey was on the brief for *amicus curiae* Municipal Gas Commission of Missouri.

John G. Horne, II, *Samuel B. Boxerman* and *Leslie A. Hulse* were on the brief for *amici curiae* the Commonwealth of Kentucky and the American

Chemistry Council in support of petitioners. *Angus Macbeth* entered an appearance.

Amanda Shafer Berman and *Perry M Rosen*, Attorneys, U.S. Department of Justice, argued the causes for respondents. With them on the briefs were *Howard Hoffman*, *Elliott Zenick*, *Brian Doster*, and *David Orlin*, Counsel, U.S. Environmental Protection Agency. *Thomas A. Lorenzen* and *Kim N. Smaczniak*, Attorneys, U.S. Department of Justice, and *John D. Gunter, II* and *Michele L. Walter*, Counsel, U.S. Environmental Protection Agency, entered appearances.

Sean H. Donahue and *Michael J. Myers* argued the causes for State and Environmental Intervenors in support of respondents. With them on the briefs were *Vickie L. Patton*, *Pamela A. Campos*, *Megan Ceronsky*, *Petere Zalzal*, *Eric T. Schneiderman*, Attorney General, Office of the Attorney General for the State of New York, *Barbara D. Underwood*, Solicitor General, *Morgan A. Costello*, Assistant Attorney General, *Monica Wagner*, *Howard I. Fox*, *David S. Baron*, *Lisa Madigan*, Attorney General, Office of the Attorney General for the State of Illinois, *Gerald T. Karr*, Assistant Attorney General, *Joanne Spalding*, *Nathan Matthews*, *Craig Holt Segall*, *Kamala D. Harris*, Attorney General, Office of the Attorney General for the State of California, *Kathleen A. Kenealy*, Senior Assistant Attorney General, *Susan Durbin*, *Raissa Lerner*, *Marc N. Melnick*, and *Nicholas Stern*, Deputy Attorneys General, *Martha Coakley*, Attorney General, Office of the Attorney General for the Commonwealth of Massachusetts, *William L. Pardee* and *Carol Iancu*, Assistant Attorneys General, *David Doniger*, *Meleah Geertsma*, *William J. Schneider*, Attorney General,Office of the Attorney General for the State of Maine, *Gerald D. Ried*, Assistant Attorney General, *Ann B. Weeks*, *Helen D. Silver*, *Thomas J. Miller*, Attorney General, Office of the Attorney General for the State of Iowa, *David R. Sheridan*, Assistant Attorney General, *Douglas F. Gansler*, Attorney General, Office of the Attorney General for the State of Maryland, *Mary Raivel*, Deputy Attorney General, *Michael A. Delaney*, Attorney General, Office of the Attorney General for the State of New Hampshire, *K. Allen Brooks*, Senior Assistant Attorney General, *Barbara Baird*, *William B. Wong*, *Peter F. Kilmartin*, Attorney General, Office of the Attorney General for the State of Rhode Island, *Gregory S. Schultz*, Special Assistant Attorney General, *Frank Rambo*, *Morgan Butler*, *Gary K. King*, Attorney General, Office of the Attorney General for the State of New Mexico, *Stephen Farris*, Assistant Attorney General, *John Kroger*, Attorney General, Office of the Attorney General for the State of Oregon, *Paul Logan*, Assistant Attorney-in- Charge, *Roy Cooper*, Attorney General, Office of the Attorney General for the State of North Carolina, and *J. Allen Jernigan* and *Marc Bernstein*, Special Deputy Attorneys General. *Kenneth P. Alex* and *Gavin G. McCabe*, Deputy Assistant Attorneys General, Office of the Attorney General for the State of California, entered appearances.

No. 10-1092

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.,
PETITIONERS
v.

ENVIRONMENTAL PROTECTION AGENCY,
RESPONDENT

LANGBOARD, INC. - MDF, ET AL.,
INTERVENORS

Consolidated with 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182

On Petitions for Review of Final Actions
of the Environmental Protection Agency

Peter Glaser argued the cause for petitioners. With him on the briefs were *John P. Elwood, Eric Groten, Patrick R. Day, John A. Bryson, Shannon L. Goessling, Harry W. MacDougald, Paul D. Phillips, James A. Holtkamp, Edward A. Kazmarek, Chet M. Thompson, Sam Kazman, Hans Bader, Gordon R. Alphonso, Richard P. Hutchison, Neal J. Cabral, Scott C. Oostdyk, Ronald J. Tenpas, Michael W. Steinberg, Levi McAllister, John J. McMackin Jr., Robin S. Conrad, Rachel L. Brand, Sheldon Gilbert, F. William Brownell, Norman W. Fichthorn, Henry V. Nickel, Allison D. Wood, Ashley C. Parrish, Cynthia A.M. Stroman, Mark E. Nagle, Michael Higgins, Ellen Steen, Timothy K. Webster, Roger R. Martella, Matthew G.Paulson, Charles H. Knauss, Shannon S. Broome, Quentin Riegel, Elizabeth Gaudio, Thomas J. Ward, Harry Moy Ng*, and *Michele Marie Schoeppe*.

Greg Abbott, Attorney General, Office of the Attorney General for the State of Texas, *Bill Cobb*, Deputy Attorney General for Civil Litigation, *Jonathan F. Mitchell*, Solicitor General, *J. Reed Clay Jr.*, Special Assistant and Senior Counsel to the Attorney General, *Michael P. Murphy*, Assistant Solicitor General, *Luther Strange*, Attorney General, Office of the Attorney General for the State of Alabama, *Samuel S. Olens*, Attorney General, Office of the Attorney General for the State of Georgia, *John E. Hennelly*, Senior Assistant Attorney General, *Gary C. Rikard*, *Jon C. Bruning*, Attorney General, Office of the Attorney General for the State of Nebraska, *Katherine J. Spohn*, Special Counsel to the Attorney General, *Wayne K. Stenehjem*, Attorney General, Office of the Attorney General for the State of North Dakota, *Margaret Olson*, Assistant Attorney General, *Alan Wilson*, Attorney General, Office of the Attorney General for the State of South Carolina, *J. Emory Smith, Jr.*, Assistant Deputy Attorney General, *Marty Jackley*, Attorney General, Office of the Attorney General for the State of North Dakota, *Roxanne Giedd*, Chief, Civil Litigation Division, and *Kenneth T. Cuccinelli, II*, Attorney General, Office of the Attorney General for the Commonwealth of Virginia, were on the briefs for State Petitioners and Supporting Intervenor. *Paul D. Clement*, *James W. Coleman*, *Wayne J. D'Angelo*, *Mark W. DeLaquil*, *E. Duncan Getchell Jr.*, Solicitor General, Office of the Attorney General for the Commonwealth of Virginia, *Andrew M. Grossman*, *Virginia L. Hudson*, *David B. Rivkin Jr.*, and *Robert D. Tambling*, Assistant Attorney General, Office of the Attorney General for the State of Alabama, entered appearances.

Samuel B. Boxerman and *Leslie A. Hulse* were on the brief for *amicus curiae* American Chemistry Council in support of petitioners. *Angus Macbeth* entered an appearance.

Eric G. Hostetler, Attorney, U.S. Department of Justice, argued the cause for respondents. With him on the brief were *John Hannon* and *Steven Silverman*, Attorneys, U.S. Environmental Protection Agency.

Raymond B. Ludwiszewski argued the cause for intervenors Association of Global Automakers, et al. With him on the brief were *Kathleen M. Sullivan*, *Sanford I. Weisburst*, and *William B. Adams*.

Gavin G. McCabe, Deputy Attorney General, Office of the Attorney General for the State of California, argued the cause for intervenor State of California. On the brief were *Kamala D. Harris*, Attorney General, *Kathleen A. Kenealy*, Senior Assistant Attorney General, *Marc N. Melnick* and *Nicholas Stern*, Deputy Attorneys General, *Sean H. Donahue*, *Howard I. Fox*, *David S. Baron*, *Pamela Campos*, *Megan Ceronsky*, *Vickie L. Patton*, *Peter Zalzal*, *Joseph R. Biden, III*, Attorney General, Office of the Attorney General for the State of Delaware, *Valerie M. Satterfield*, Deputy Attorney General, *Thomas J. Miller*, Attorney General, Office of the Attorney General for the State of Iowa, *David R. Sheridan*, Assistant Attorney General, *Douglas F. Gansler*, Attorney General, Office of the Attorney General for the State of Maryland, *Roberta R. James*, Assistant Attorney General, *Lisa Madigan*, Attorney General, Office of the Attorney General for the State of Illinois, *Gerald T. Karr*, Assistant Attorney General, *William T. Schneider*, Attorney General, Office of the Attorney General for the State of Maine, *Gerald D. Reid*, Assistant Attorney General, *Martha Coakley*, Attorney General, Office of the Attorney

General for the Commonwealth of Massachusetts, *Carol Iancu*, *Tracy Triplett*, and *William L. Pardee*, Assistant Attorneys General, *Gary K. King*, Attorney General, Office of the Attorney General for the State of New Mexico, *Stephen R. Farris*, Assistant Attorney General, *John Kroger*, Attorney General, Office of the Attorney General for the State of Oregon, *Paul Logan*, Assistant Attorney-in-Charge, *William H. Sorrell*, Attorney General, Office of the Attorney General for the State of Vermont, *Thea J. Schwartz*, Assistant Attorney General, *Eric T. Schneiderman*, Attorney General, Office of the Attorney General for the State of New York, *Michael J. Myers* and *Yueh-Ru Chu*, Assistant Attorneys General, *Peter F. Kilmartin*, Attorney General, Office of the Attorney General for the State of Rhode Island, *Gregory S. Schultz*, Special Assistant Attorney General, *Robert M. McKenna*, Attorney General, Office of the Attorney General for the State of Washington, *Leslie R. Seffern*, Assistant Attorney General, *Christopher King*, Assistant Corporation Counsel, Corporation Counsel for the City of New York, *Joanne Spalding*, *Craig Holt Segall*, *David Doniger* and *Meleah Geertsma*. *Judith A. Stahl Moore*, Assistant Attorney General, Office of the Attorney General for the State of New Mexico, and *John D. Walke* entered appearances.

Richard E. Ayres, *Jessica L. Olson*, and *Kristin L. Hines* were on the brief for *amicus curiae* Honeywell International, Inc. in support of respondents.

Richard L. Revesz, *Michael A. Livermore*, and *Jennifer S. Rosenberg* were on the brief for *amicus curiae* Institute for Policy Integrity at New York University School of Law in support of respondents.

No. 10-1167

AMERICAN CHEMISTRY COUNCIL,
PETITIONER
v.

ENVIRONMENTAL PROTECTION AGENCY AND LISA PEREZ
JACKSON, ADMINISTRATOR, U.S. ENVIRONMENTAL
PROTECTION AGENCY,
RESPONDENTS

CHAMBER OF COMMERCE OF THE UNITED STATES OF
AMERICA, ET AL.,
INTERVENORS

On Petitions for Review of a Final Action
of the Environmental Protection Agency

Timothy K. Webster, *Roger R. Martella, Jr.*, *James W. Coleman*, *William H. Lewis, Jr.*, *Ronald J. Tenpas*, *Charles H. Knauss*, *Shannon S. Broome*, *Bryan M. Killian*, and *Matthew G. Paulson* were on the briefs for petitioners. *Peter D. Keisler*, *Leslie A. Hulse, and Quentin Riegel* entered appearances.

Amanda Shafer Berman and *Perry M. Rosen*, Attorneys, U.S. Department of Justice, and *Elliott Zenick* and *Howard J. Hoffman*, Counsel, U.S. Environmental Protection Agency, were on the brief for respondents. *Jon M. Lipshultz*, Senior Counsel, U.S. Department of Justice, entered and appearance.

Ann Brewster Weeks, *Sean H. Donahue*, *Vickie Patton*, *Peter Zalzal*, *Joanne Spalding*, *Craig Segall*, *David Doniger*, and *Meleah Geertsma* were on the brief of intervenors in support of respondents. *David S. Baron*, *Pamela A. Campos*, *Colin C. O'Brien*, and *John D. Walke* entered appearances.

Vera P. Pardee, *Brendan R. Cummings*, and *Kevin P. Bundy* were on the brief for *amicus curiae* Center for Biological Diversity in support of respondents.

Before: SENTELLE, *Chief Judge*; ROGERS and TATEL,
Circuit Judges.

Opinion for the Court filed PER CURIAM.

PER CURIAM: Following the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007)—which clarified that greenhouse gases are an "air pollutant" subject to regulation under the Clean Air Act (CAA)—the Environmental Protection Agency promulgated a series of greenhouse gas-related rules. First, EPA issued an Endangerment Finding, in which it determined that greenhouse gases may "reasonably be anticipated to endanger public health or welfare." *See* 42 U.S.C. § 7521(a)(1). Next, it issued the Tailpipe Rule, which set emission standards for cars and light trucks. Finally, EPA determined that the CAA requires major stationary sources of greenhouse gases to obtain construction and operating permits. But because immediate regulation of all such sources would result in overwhelming permitting burdens on permitting authorities and sources, EPA issued the Timing and Tailoring Rules, in which it determined that only the largest stationary sources would initially be subject to permitting requirements.

Petitioners, various states and industry groups, challenge all these rules, arguing that they are based on improper constructions of the CAA and are otherwise arbitrary and capricious. But for the reasons set forth below, we conclude: 1) the Endangerment Finding and Tailpipe Rule are neither arbitrary nor capricious; 2) EPA's interpretation of the governing CAA provisions is unambiguously correct; and 3) no petitioner has standing to challenge the Timing and Tailoring Rules. We thus dismiss for lack of jurisdiction all petitions for review of the Timing and Tailoring Rules, and deny the remainder of the petitions.

I.

We begin with a brief primer on greenhouse gases. As their name suggests, when released into the atmosphere, these gases act "like the ceiling of a greenhouse, trapping solar energy and retarding the escape of reflected heat." *Massachusetts v. EPA*, 549 U.S. at 505. A wide variety of modern human activities result in greenhouse gas emissions; cars, power plants, and industrial sites all release significant amounts of these heat-trapping gases. In recent decades "[a] well-documented rise in global temperatures has coincided with a significant increase in the concentration of [greenhouse gases] in the atmosphere." *Id.* at 504-05. Many scientists believe that mankind's greenhouse gas emissions are driving this climate change. These scientists predict that global climate change will cause a host of deleterious consequences, including drought, increasingly severe weather events, and rising sea levels.

The genesis of this litigation came in 2007, when the Supreme Court held in *Massachusetts v. EPA* that greenhouse gases "unambiguous[ly]" may be regulated as an "air pollutant" under the Clean Air Act ("CAA"). *Id.* at 529. Squarely rejecting the contention—then advanced by EPA—that "greenhouse gases cannot be 'air pollutants' within the meaning of the Act," *id.* at 513, the Court held that the CAA's definition of "air pollutant" "embraces *all* airborne compounds of whatever stripe." *Id.* at 529 (emphasis added). Moreover, because the CAA requires EPA to establish motor-vehicle emission standards for "*any* air pollutant . . . which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1) (emphasis added), the Court held that EPA had a "statutory obligation" to regulate harmful greenhouse gases. *Id.* at 534. "Under the clear terms of the Clean Air Act," the Court concluded, "EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* at 533. The Court thus directed EPA to determine "whether sufficient information exists to make an endangerment finding" for greenhouse gases. *Id.* at 534.

Massachusetts v. EPA spurred a cascading series of greenhouse gas-related rules and regulations. First, in direct response to the Supreme Court's directive, EPA issued an Endangerment Finding for greenhouse gases. *Endangerment and Cause or*

Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act ("Endangerment Finding"), 74 Fed. Reg. 66,496 (Dec. 15, 2009). The Endangerment Finding defined as a single "air pollutant" an "aggregate group of six long-lived and directly-emitted greenhouse gases" that are "well mixed" together in the atmosphere and cause global climate change: carbon dioxide, methane, nitrous oxide, hydroflourocarbons, perflourocarbons, and sulfur hexafluoride. *Id.* at 66,536-37. Following "common practice," EPA measured the impact of these gases on a "carbon dioxide equivalent basis,"(CO_2e) which is based on the gases' "warming effect relative to carbon dioxide . . . over a specified timeframe." *Id.* at 66,519. (Using the carbon dioxide equivalent equation, for example, a mixture of X amount of nitrous oxide and Y amount of sulfur hexafluoride is expressed as Z amount of CO_2e). After compiling and considering a considerable body of scientific evidence, EPA concluded that motor-vehicle emissions of these six well-mixed gases "contribute to the total greenhouse gas air pollution, and thus to the climate change problem, which is reasonably anticipated to endanger public health and welfare." *Id.* at 66,499.

Next, and pursuant to the CAA's requirement that EPA establish motor-vehicle emission standards for "any air pollutant . . . which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1), the agency promulgated its Tailpipe Rule for greenhouse gases. *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule* ("Tailpipe Rule"), 75 Fed. Reg. 25,324 (May 7, 2010). Effective January 2, 2011, the Tailpipe Rule set greenhouse gas emission standards for cars and light trucks as part of a joint rulemaking with fuel economy standards issued by the National Highway Traffic Safety Administration (NHTSA). *Id.* at 25,326.

Under EPA's longstanding interpretation of the CAA, the Tailpipe Rule automatically triggered regulation of stationary greenhouse gas emitters under two separate sections of the Act. The first, the Prevention of Significant Deterioration of Air Quality (PSD) program, requires state-issued construction permits for certain types of stationary sources—for example, iron and steel mill plants—if they have the potential to emit over 100 tons per year (tpy) of "any air pollutant." *See* 42 U.S.C. § 7475; 7479(1). All other stationary sources are subject to PSD permitting if they have the potential to emit over 250 tpy of "any air pollutant." *Id.* § 7479(1). The second provision, Title V, requires state-issued operating permits for stationary sources that have the potential to emit at least 100 tpy of "any air pollutant." *Id.* § 7602(j). EPA has long interpreted the phrase "any air pollutant" in both these provisions to mean any air pollutant that is regulated under the CAA. *See Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans* ("1980 Implementation Plan Requirements"), 45 Fed. Reg. 52,676, 52,711 (Aug. 7, 1980) (PSD program); *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule* ("Tailoring Rule"), 75 Fed. Reg. 31,514, 31,553-54 (June 3, 2010) (discussing history of Title V regulation and applicability). And once the Tailpipe Rule set motor-vehicle emission standards for greenhouse gases, they became a regulated pollutant under the Act, requiring PSD and Title V greenhouse permitting.

Acting pursuant to this longstanding interpretation of the PSD and Title V programs, EPA issued two rules phasing in stationary source greenhouse gas regulation. First, in the Timing Rule, EPA concluded that an air pollutant becomes "subject to regulation" under the Clean Air Act—and thus subject to PSD and Title V permitting—only once a regulation requiring control of that pollutant takes effect. *Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs* ("Timing Rule"), 75 Fed. Reg. 17,004 (Apr. 2, 2010). Therefore, EPA concluded, major stationary emitters of greenhouse gases would be subject to PSD and Title V permitting regulations on January 2, 2011—the date on which the Tailpipe Rule became effective, and thus, the date when greenhouse gases first became regulated under the CAA. *Id.* at 17,019.

Next, EPA promulgated the Tailoring Rule. In the Tailoring Rule, EPA noted that greenhouse gases are emitted in far greater volumes than other pollutants. Indeed, millions of industrial, residential, and commercial sources exceed the 100/250 tpy statutory emissions threshold for CO_2e. Tailoring Rule, 75 Fed. Reg. at 31,534-36. Immediately adding these sources to the PSD and Title V programs would, EPA predicted, result in tremendous costs to industry and state permitting authorities. *See id.* As a result, EPA announced that it was "relieving overwhelming permitting burdens that would, in the absence of this rule, fall on permitting authorities and sources." *Id.* at 31,516. Departing from the CAA's 100/250 tpy emissions threshold, the Tailoring Rule provided that only the largest sources—those exceeding 75,000 or 100,00[illegible] tpy CO_2e, depending on the program and project[illegible] would initially be subject to greenhouse gas permitting. *Id.* at 31,523. (The Tailoring Rule further provided that regulated sources must also emit greenhouse gases at levels that exceed the 100/250 tpy emissions threshold on a *mass* basis. That is, they must emit over 100/250 tpy of actual pollutants, in addition to exceeding the 75,000/100,000 tpy carbon dioxide equivalent. *Id.* at 31,523.)

A number of groups—including states and regulated industries—filed petitions for review of EPA's greenhouse gas regulations, contending that the agency misconstrued the CAA and otherwise acted arbitrarily and capriciously. This appeal consolidates the petitions for review of the four aforementioned rules: the Endangerment Finding, the Tailpipe Rule, the Timing Rule, and the Tailoring Rule.

"The Clean Air Act empowers us to reverse the Administrator's action in rulemaking if it is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.'" *Med. Waste Inst. & Energy Recovery Council v. EPA*, 645 F.3d 420, 424 (D.C. Cir. 2011) (quoting 42 U.S.C. § 7607(d)(9)(A)). Questions of statutory interpretation are governed by the familiar *Chevron* two-step: "First . . . if the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Chevron, U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984). But "if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute." *Id.* at 843.

This opinion proceeds in several steps. Part II explains why the Endangerment Finding was neither arbitrary nor capricious, while Part III does the same for the Tailpipe Rule. Turning to stationary source regulation, Part IV examines whether any petitioners may timely challenge EPA's longstanding interpretation of the PSD statute. Because we conclude that they may, Part V addresses the merits of their statutory arguments, and explains why EPA's interpretation of the CAA was compelled by the statute. Next, Part VI explains why petitioners lack standing to challenge the Timing and Tailoring Rules themselves. Finally, Part VII disposes of several arguments that have nothing to do with the rules under review, and thus are not properly before us.

II.

We turn first to State and Industry Petitioners' challenges to the Endangerment Finding, the first of the series of rules EPA issued after the Supreme Court remanded *Massachusetts v. EPA*. In the decision ordering the remand, the Supreme Court held that EPA had failed in its statutory obligations when it "offered no reasoned explanation for its refusal to decide whether greenhouse gases cause or contribute to climate change." *Massachusetts v. EPA*, 549 U.S. at 534. On remand, EPA compiled a substantial scientific record, which is before us in the present review, and determined that "greenhouse gases in the atmosphere may reasonably be anticipated both to endanger public health and to endanger public welfare." Endangerment Finding, 74 Fed. Reg. at 66,497. EPA went on to find that motor-vehicle emissions of greenhouse gases "contribute to the total greenhouse gas air pollution, and thus to the climate change problem, which is reasonably anticipated to endanger public health and welfare." *Id.* at 66,499.

State and Industry Petitioners challenge several aspects of EPA's decision, including (1) EPA's interpretation of CAA § 202(a)(1), which sets out the endangerment-finding standard; (2) the adequacy of the scientific record supporting the Endangerment Finding; (3) EPA's decision not to "quantify" the risk of endangerment to public health or welfare created by climate change; (4) EPA's choice to define the "air pollutant" at issue as an aggregate of six greenhouse gases; (5) EPA's failure to consult its Science Advisory Board before issuing the Endangerment Finding; and (6) EPA's denial of all petitions for reconsideration of the Endangerment Finding. We ultimately conclude that the Endangerment Finding is consistent with *Massachusetts v. EPA* and the text and structure of the CAA, and is adequately supported by the administrative record.

A.

Industry Petitioners contend that EPA improperly interpreted CAA § 202(a)(1) as restricting the Endangerment Finding to a science-based judgment devoid of considerations of policy concerns and regulatory consequences. They assert that CAA § 202(a)(1) requires EPA to consider, *e.g.*, the benefits of activities that require greenhouse gas emissions, the effectiveness of emissions regulation triggered by the Endangerment Finding, and the potential for societal adaptation to or mitigation of climate change. They maintain that eschewing those considerations also made the Endangerment Finding arbitrary and capricious. These contentions are foreclosed by the language of the statute and the Supreme Court's decision in *Massachusetts v. EPA*. Section 202(a) of the CAA states in relevant part that EPA's Administrator

> shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1). This language requires that the endangerment evaluation "relate to whether an air pollutant 'cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare.'" *Massachusetts v. EPA*, 549 U.S. at 532–33. At bottom, § 202(a)(1) requires EPA to answer only two questions: whether particular "air pollution"—here, greenhouse gases—"may reasonably be anticipated to endanger public health or welfare," and whether motor-vehicle emissions "cause, or contribute to" that endangerment.

These questions require a "scientific judgment" about the potential risks greenhouse gas emissions pose to public health or welfare—not policy discussions. *Massachusetts v. EPA*, 549 U.S. at 534. In *Massachusetts v. EPA*, the Supreme Court rebuffed an attempt by EPA itself to inject considerations of policy into its decision. At the time, EPA had "offered a laundry list of reasons not to regulate" greenhouse gases, including

> that a number of voluntary Executive Branch programs already provide an effective response to the threat of global warming, that regulating greenhouse gases might impair the President's ability to negotiate with "key developing nations" to reduce emissions, and that curtailing motor-vehicle emissions would reflect "an inefficient, piecemeal approach to address the climate change issue."

Id. at 533 (citations omitted). The Court noted that "these policy judgments . . . have nothing to do with whether greenhouse gas emissions contribute to climate change. Still less do they amount to a reasoned justification for declining to form a scientific judgment." *Id.* at 533–34. In the Court's view, EPA's policy based explanations contained "no reasoned explanation for [EPA's] refusal to decide" the key part of the endangerment inquiry: "whether greenhouse gases cause or contribute to climate change." *Id.* at 534.

As in *Massachusetts v. EPA*, a "laundry list of reasons not to regulate" simply has "nothing to do with whether greenhouse gas emissions contribute to climate change." *Id.* at 533–34. The additional exercises State and Industry Petitioners would have

EPA undertake—*e.g.*, performing a cost-benefit analysis for greenhouse gases, gauging the effectiveness of whatever emission standards EPA would enact to limit greenhouse gases, and predicting society's adaptive response to the dangers or harms caused by climate change—do not inform the "scientific judgment" that § 202(a)(1) requires of EPA. Instead of focusing on the question whether greenhouse gas emissions may reasonably be anticipated to endanger public health or welfare, the factors State and Industry Petitioners put forth only address what might happen were EPA to answer that question in the affirmative. As EPA stated in the Endangerment Finding, such inquiries "muddle the rather straightforward scientific judgment about whether there may be endangerment by throwing the potential impact of responding to the danger into the initial question." 74 Fed. Reg. at 66,515. To be sure, the subsection following § 202(a)(1), § 202(a)(2), requires that EPA address limited questions about the cost of compliance with new emission standards and the availability of technology for meeting those standards, *see infra* Part III, but these judgments are not part of the § 202(a)(1) endangerment inquiry. The Supreme Court made clear in *Massachusetts v. EPA* that it was not addressing the question "whether policy concerns can inform EPA's actions in the event that it makes such a finding," 549 U.S. at 534–35, but that policy concerns were not part of the calculus for the determination of the endangerment finding in the first instance. The Supreme Court emphasized that it was holding "that EPA must ground its reasons for action or inaction in the statute." *Id.* at 535. The statute speaks in terms of endangerment, not in terms of policy, and EPA has complied with the statute.

State and Industry Petitioners insist that because statutes should be interpreted to avoid absurd results, EPA should have considered at least the "absurd" consequences that would follow from an endangerment finding for greenhouse gases. Specifically: having made an endangerment finding, EPA will proceed to promulgate emission standards under § 202(a)(1). Issuing those standards triggers regulation—under EPA's PSD and Title V programs—of stationary sources that emit greenhouse gases at levels above longstanding statutory thresholds. Because greenhouse gases are emitted in much higher volumes than other air pollutants, hundreds of thousands of small stationary sources would exceed those thresholds. This would subject those sources to PSD and Title V permitting requirements despite what Petitioners claim was Congress's clear intent that the requirements apply only to large industrial sources. Petitioners assert that even EPA believed such overbroad regulation to be an absurd result, which it attempted to rectify by adopting the Tailoring Rule to raise the statutory thresholds, *see infra* Part VI.

However "absurd" Petitioners consider this consequence, though, it is still irrelevant to the endangerment inquiry. That EPA adjusted the statutory thresholds to accommodate regulation of greenhouse gases emitted by stationary sources may indicate that the CAA is a regulatory scheme less-than perfectly tailored to dealing with greenhouse gases. But the Supreme Court has already held that EPA indeed wields the authority to regulate greenhouse gases under the CAA. *See Massachusetts v. EPA*. The plain language of § 202(a)(1) of that Act does not leave room for EPA to consider as part of the endangerment inquiry the stationary-source regulation triggered by an endangerment finding, even if the degree of regulation triggered might at a later stage be characterized as "absurd."

B.

State and Industry Petitioners next challenge the adequacy of the scientific record underlying the Endangerment Finding, objecting to both the type of evidence upon which EPA relied and EPA's decision to make an Endangerment Finding in light of what Industry Petitioners view as significant scientific uncertainty. Neither objection has merit.

1.

As an initial matter, State and Industry Petitioners question EPA's reliance on "major assessments" addressing greenhouse gases and climate change issued by the Intergovernmental Panel on Climate Change (IPCC), the U.S. Global Climate Research Program (USGCRP), and the National Research Council (NRC). Endangerment Finding, 74 Fed. Reg. at 66,510–11. These peer reviewed assessments synthesized thousands of individual studies on various aspects of greenhouse gases and climate change and drew "overarching conclusions" about the state of the science in this field. *Id.* at 66,511. The assessments provide data and information on, *inter alia*, "the amount of greenhouse gases being emitted by human activities"; their continued accumulation in the atmosphere; the resulting observed changes to Earth's energy balance, temperature and climate at global and regional levels, and other "climate-sensitive sectors and systems of the human and natural environment"; the extent to which these changes "can be attributed to human-induced buildup of atmospheric greenhouse gases"; "future projected climate change"; and "projected risks and impacts to human health, society and the environment."*Id.* at 66,510–11.

State and Industry Petitioners assert that EPA improperly "delegated" its judgment to the IPCC, USGCRP, and NRC by relying on these assessments of climate-change science. *See U.S. Telecom Ass'n v. FCC*, 359 F.3d 554, 566 (D.C. Cir. 2004). This argument is little more than a semantic trick. EPA did not delegate, explicitly or otherwise, any decision-making to any of those entities. EPA simply did here what it and other decisionmakers often must do to make a science-based judgment: it sought out and reviewed existing scientific evidence to determine whether a particular finding was warranted. It makes no difference that much of the scientific evidence in large part consisted of "syntheses" of individual studies and research. Even individual studies and research papers often synthesize past work in an area and then build upon it. This is how science works. EPA is not required to re-prove the existence of the atom every time it approaches a scientific question.

Moreover, it appears from the record that EPA used the assessment reports not as substitutes for its own judgment but as evidence upon which it relied to make that judgment. EPA evaluated the processes used to develop the various assessment reports, reviewed their contents, and considered the depth of the scientific consensus the reports represented.

Based on these evaluations, EPA determined the assessments represented the best source material to use in deciding whether greenhouse gas emissions may be reasonably anticipated to endanger public health or welfare. Endangerment Finding, 74 Fed. Reg. at 66,510–11. It then reviewed those reports along with comments relevant to the scientific considerations involved to determine whether the evidence warranted an endangerment finding for greenhouse gases as it was required to do under the Supreme Court's mandate in *Massachusetts v. EPA*.

2.

Industry Petitioners also assert that the scientific evidence does not adequately support the endangerment Finding. As we have stated before in reviewing the science-based decisions of agencies such as EPA, "[a]lthough we perform a searching and careful inquiry into the facts underlying the agency's decisions, we will presume the validity of agency action as long as a rational basis for it is presented." *Am. Farm Bureau Fed'n v. EPA*, 559 F.3d 512, 519 (D.C. Cir. 2009) (internal quotation marks omitted). In so doing, "we give an extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise." *Id.* (internal quotation marks omitted).

The body of scientific evidence marshaled by EPA in support of the Endangerment Finding is substantial. EPA's scientific evidence of record included support for the proposition that greenhouse gases trap heat on earth that would otherwise dissipate into space; that this "greenhouse effect" warms the climate; that human activity is contributing to increased atmospheric levels of greenhouse gases; and that the climate system is warming.

Based on this scientific record, EPA made the linchpin finding: in its judgment, the "root cause" of the recently observed climate change is "very likely" the observed increase in anthropogenic greenhouse gas emissions. Endangerment Finding, 74 Fed. Reg. at 66,518. EPA found support for this finding in three lines of evidence. First, it drew upon our "basic physical understanding" of the impacts of various natural and manmade changes on the climate system. For instance, EPA relied on evidence that the past half-century of warming has occurred at a time when natural forces such as solar and volcanic activity likely would have produced cooling. Endangerment Finding, Response to Comments (RTC) Vol. 3, at 20. Other evidence supports EPA's conclusion that the observed warming pattern—warming of the bottommost layer of the atmosphere and cooling immediately above it—is consistent with greenhouse-gas causation. *Id.*

EPA further relied upon evidence of historical estimates of past climate change, supporting EPA's conclusion that global temperatures over the last half-century are unusual. Endangerment Finding, 74 Fed. Reg. at 66,518. Scientific studies upon which EPA relied place high confidence in the assertion that global mean surface temperatures over the last few decades are higher than at any time in the last four centuries. Technical Support Document for the Endangerment Finding (TSD), at 31. These studies also show, albeit with significant uncertainty, that temperatures at many individual locations were higher over the last twenty-five years than during any period of comparable length since 900 A.D. *Id.*

For its third line of evidence that anthropogenic emissions of greenhouse gases spurred the perceived warming trend, EPA turned to computer-based climate-model simulations. Scientists have used global climate models built on basic principles of physics and scientific knowledge about the climate to try to simulate the recent climate change. These models have only been able to replicate the observed warming by including anthropogenic emissions of greenhouse gases in the simulations. Endangerment Finding, 74 Fed. Reg. at 66,523.

To recap, EPA had before it substantial record evidence that anthropogenic emissions of greenhouse gases "very likely" caused warming of the climate over the last several decades. EPA further had evidence of current and future effects of this warming on public health and welfare. Relying again upon substantial scientific evidence, EPA determined that anthropogenically induced climate change threatens both public health and public welfare. It found that extreme weather events, changes in air quality, increases in food- and water-borne pathogens, and increases in temperatures are likely to have adverse health effects. *Id.* at 66,497–98. The record also supports EPA's conclusion that climate change endangers human welfare by creating risk to food production and agriculture, forestry, energy, infrastructure, ecosystems, and wildlife. Substantial evidence further supported EPA's conclusion that the warming resulting from the greenhouse gas emissions could be expected to create risks to water resources and in general to coastal areas as a result of expected increase in sea level. *Id.* at 66,498. Finally, EPA determined from substantial evidence that motor-vehicle emissions of greenhouse gases contribute to climate change and thus to the endangerment of public health and welfare.

Industry Petitioners do not find fault with much of the substantial record EPA amassed in support of the Endangerment Finding. Rather, they contend that the record evidences too much uncertainty to support that judgment. But the existence of some uncertainty does not, without more, warrant invalidation of an endangerment finding. If a statute is "precautionary in nature" and "designed to protect the public health," and the relevant evidence is "difficult to come by, uncertain, or conflicting because it is on the frontiers of scientific knowledge," EPA need not provide "rigorous step-by-step proof of cause and effect" to support an endangerment finding. *Ethyl Corp. v. EPA*, 541 F.2d 1, 28 (D.C. Cir. 1976). As we have stated before, "Awaiting certainty will often allow for only reactive, not preventive, regulation." *Id.* at 25.

Congress did not restrict EPA to remedial regulation when it enacted CAA § 202(a). That section mandates that EPA promulgate new emission standards if it determines that the air pollution at issue "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). This language requires a precautionary, forward-looking scientific judgment about the risks of a particular air pollutant, consistent with the CAA's "precautionary and preventive orientation." *Lead Indus. Ass'n, Inc. v. EPA*, 647 F.2d 1130, 1155 (D.C. Cir. 1980). Requiring that EPA find "certain" endangerment of public health or welfare before regulating greenhouse gases would effectively prevent EPA from doing the job Congress gave it in § 202(a)—utilizing emission standards to prevent reasonably anticipated endangerment from maturing into concrete harm. *Cf. id.* ("[R]equiring EPA to wait until it can conclusively demonstrate that a particular effect is adverse to health before it acts is inconsistent with both the [CAA]'s precautionary and preventive orientation and the nature of the Administrator's statutory responsibilities. Congress provided that the Administrator is to use his judgment in setting air quality standards precisely to permit him to act in the face of uncertainty.").

In *Massachusetts v. EPA* the Supreme Court confirmed that EPA may make an endangerment finding despite lingering scientific uncertainty. Indeed, the Court held that the existence of "some residual uncertainty" did not excuse EPA's decision to decline to regulate greenhouse gases. *Massachusetts v. EPA*, 549 U.S. at 534. To avoid regulating emissions of greenhouse gases, EPA would need to show "scientific uncertainty . . . so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming." *Id.* Clearly, then, EPA may issue an endangerment finding even while the scientific record still contains at least "some residual uncertainty." Industry Petitioners have shown no more than that.

In the end, Petitioners are asking us to re-weigh the scientific evidence before EPA and reach our own conclusion. This is not our role. As with other reviews of administrative proceedings, we do not determine the convincing force of evidence, nor the conclusion it should support, but only whether the conclusion reached by EPA is supported by substantial evidence when considered on the record as a whole. *See, e.g.*, *New York v. EPA*, 413 F.3d 3, 30 (D.C. Cir. 2005). When EPA evaluates scientific evidence in its bailiwick, we ask only that it take the scientific record into account "in a rational manner." *Am. Petroleum Inst. v. Costle*, 665 F.2d 1176, 1187 (D.C. Cir. 1981). Industry Petitioners have not shown that EPA failed to do so here.

C.

State Petitioners, here led by Texas, contend that the Endangerment Finding is arbitrary and capricious because EPA did not "define," "measure," or "quantify" either the atmospheric concentration at which greenhouse gases endanger public health or welfare, the rate or type of climate change that it anticipates will endanger public health or welfare, or the risks or impacts of climate change. According to Texas, without defining these thresholds and distinguishing "safe" climate change from climate change that endangers, EPA's Endangerment Finding is just a "subjective conviction."

It is true that EPA did not provide a quantitative threshold at which greenhouse gases or climate change will endanger or cause certain impacts to public health or welfare. The text of CAA § 202(a)(1) does not require that EPA set a precise numerical value as part of an endangerment finding. Quite the opposite; the § 202(a)(1) inquiry necessarily entails a case-bycase, sliding-scale approach to endangerment because "[d]anger . . . is not set by a fixed probability of harm, but rather is composed of reciprocal elements of risk and harm, or probability and everity." *Ethyl*, 541 F.2d at 18. EPA need not establish a minimum threshold of risk or harm before determining whether an air pollutant endangers. It may base an endangerment finding on "a lesser risk of greater harm . . . or a greater risk of lesser harm" or any combination in between. *Id.*

Ethyl is instructive. There, EPA made an endangerment finding for airborne lead. During its endangerment inquiry, EPA initially tried to do what Texas asks of it here: find a specific concentration of the air pollutant below which it would be considered "safe" and above which it would endanger public health. *Id.* at 56. However, EPA abandoned that approach because it failed to account for "the wide variability of dietary lead intake" and lacked predictive value. EPA substituted a "more qualitative" approach, which relied on "predictions based on uncertain data" along with clinical studies. *Id.* at 56–57. This court upheld the endangerment finding that used that qualitative approach despite the lack of a specific endangerment "threshold."

In its essence, Texas's call for quantification of the endangerment is no more than a specialized version of Industry Petitioners' claim that the scientific record contains too much uncertainty to find endangerment. EPA relied on a substantial record of empirical data and scientific evidence, making many specific and often quantitative findings regarding the impacts of greenhouse gases on climate change and the effects of climate change on public health and welfare. Its failure to distill this ocean of evidence into a specific number at which greenhouse gases cause "dangerous" climate change is a function of the precautionary thrust of the CAA and the multivariate and sometimes uncertain nature of climate science, not a sign of arbitrary or capricious decision-making.

D.

EPA defined both the "air pollution" and the "air pollutant" that are the subject of the Endangerment Finding as an aggregate of six greenhouse gases, which EPA called "well mixed greenhouse gases": carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Industry Petitioners argue that EPA's decision to include PFCs and SF_6 in this group of greenhouse gases was arbitrary and capricious primarily because motor vehicles generally do not emit these two gases.

No petitioner for review of the Endangerment Finding has established standing to make this argument. Industry Petitioners concede that EPA's decision to regulate PFCs and SF_6 along with the other four greenhouse gases does not injure any motorvehicle-related petitioner. Nor has any non-motor-vehicle related petitioner shown an injury-in-fact resulting from EPA's inclusion of these two gases in the six-gas amalgam of "wellmixed greenhouse gases." At oral argument, Industry Petitioners asserted for the first time that certain utility companies—members of associations that petitioned for review of the Endangerment Finding—own utility transformers that emit SF_6. However, they never demonstrated or even definitively asserted that any of these companies would not be subject to regulation or permitting requirements but for EPA's decision to include SF_6 as part of the "well-mixed greenhouse gases" that are the subject of the Endangerment Finding. *See Sierra Club v. EPA*, 292 F.3d 895, 898–900 (D.C. Cir. 2002) (requiring that a petitioner seeking review of agency action demonstrate standing by affidavit or other evidence if standing is not "self-evident" from the administrative record). Absent a petitioner with standing to challenge EPA's inclusion of PFCs and SF_6 in the "air pollution" at issue, this court lacks jurisdiction to address the merits of Industry Petitioners' contention.

E.

EPA did not submit the Endangerment Finding for review by its Science Advisory Board (SAB). Industry Petitioners claim that EPA's failure to do so violates its mandate to "make available" to the SAB "any proposed criteria document, standard, limitation, or regulation under the Clean Air Act" at the time it provides the same "to any other Federal agency for formal review and comment." 42 U.S.C. § 4365(c)(1); *see Am. Petroleum Inst.*, 665 F.2d at 1188. To begin with, it is not clear that EPA provided the Endangerment Finding "to any other Federal agency for formal review and comment," which triggers this duty to submit a regulation to the SAB. EPA only submitted a draft of the Endangerment Finding to the Office of Information and Regulatory Affairs pursuant to Executive Order 12,866. EPA contends that this was merely an *informal* review process, not "formal review and comment"—at least when compared with a statutory review-and-comment requirement in which other agencies are given the opportunity to provide written comments about the impacts of a proposed regulation on the reviewing agency's universe of responsibility. *See, e.g.*, 49 U.S.C.

§ 32902(j). Industry Petitioners failed to respond to this contention.

In any event, even if EPA violated its mandate by failing to submit the Endangerment Finding to the SAB, Industry Petitioners have not shown that this error was "of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made." 42 U.S.C. § 7607(d)(8); *see Am. Petroleum Inst.*, 665 F.2d at 1188–89 (applying this standard to EPA's failure to submit an ozone standard to the SAB).

F.

Lastly, State Petitioners maintain that EPA erred by denying all ten petitions for reconsideration of the Endangerment Finding. Those petitions asserted that internal emails and documents released from the University of East Anglia's Climate Research Unit (CRU)—a contributor to one of the global temperature records and to the IPCC's assessment report—undermined the scientific evidence supporting the Endangerment Finding by calling into question whether the IPCC scientists adhered to "best science practices." *EPA's Denial of the Petitions To Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act* ("Reconsideration Denial"), 75 Fed. Reg. 49,556, 49,556–57 (Aug. 13, 2010). The petitions pointed to factual mistakes in the IPCC's assessment report resulting from the use of non-peer-reviewed studies and several scientific studies postdating the Endangerment Finding as evidence that the Endangerment Finding was flawed. *Id.*

On August 13, 2010, EPA issued a denial of the petitions for reconsideration accompanied by a 360-page response to petitions (RTP). *Id.* at 49,556. It determined that the petitions did not provide substantial support for the argument that the Endangerment Finding should be revised. According to EPA, the petitioners' claims based on the CRU documents were exaggerated, contradicted by other evidence, and not a material or reliable basis for questioning the credibility of the body of science at issue; two of the factual inaccuracies alleged in the petitions were in fact mistakes, but both were tangential and minor" and did not change the key IPCC conclusions; and the new scientific studies raised by some petitions were either already considered by EPA, misinterpreted or misrepresented by petitioners, or put forth without acknowledging other new studies. *Id.* at 49,557–58.

1.

EPA is required to convene a proceeding for reconsideration of a rule if a party raising an objection to the rule

> can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.

42 U.S.C. § 7607(d)(7)(B). For the purpose of determining whether to commence reconsideration of a rule, EPA considers an objection to be of "central relevance to the outcome" of that rule "if it provides substantial support for the argument that theregulation should be revised." Reconsideration Denial, 75 Fed. Reg. at 49,561.

State Petitioners have not provided substantial support for their argument that the Endangerment Finding should be revised. State Petitioners point out that some studies the IPCC referenced in its assessment were not peer-reviewed, but they ignore the fact that (1) the IPCC assessment relied on around 18,000 studies that were peer-reviewed, and (2) the IPCC's report development procedures expressly permitted the inclusion in the assessment of some non-peer-reviewed studies ("gray" literature).

Moreover, as EPA determined, the limited inaccurate information developed from the gray literature does not appear sufficient to undermine the substantial overall evidentiary support for the Endangerment Finding. State Petitioners have not, as they assert, uncovered a "pattern" of flawed science. Only two of the errors they point out seem to be errors at all, and EPA relied on neither in making the Endangerment Finding. First, as State Petitioners assert, the IPCC misstated the percentage of the Netherlands that is below sea level, a statistic that was used for background information. However, the IPCC corrected the error, and EPA concluded that the error was "minor and had no impact," and the Endangerment Finding did not refer to the statistic in any way. *Id.* at 49,576–77. Second, the IPCC acknowledged misstating the rate at which

Himalayan glaciers are receding. EPA also did not rely on that projection in the Endangerment Finding. *Id.* at 49,577.

State Petitioners also contend that a new study contradicts EPA's reliance on a projection of more violent storms in the future as a result of climate change, but the study they cite only concerns past trends, not projected future storms. The record shows that EPA considered the new studies on storm trends and concluded that the studies were consistent with the Endangerment Finding. In sum, State Petitioners have failed to show that these isolated "errors" provide substantial support for their argument to overturn the Endangerment Finding.

2.

State Petitioners' further argument that EPA erred in denying reconsideration fails as well. These Petitioners claim EPA erred by failing to provide notice and comment before denying the petitions for reconsideration because EPA's inclusion of a 360-page RTP amounted to a revision of the Endangerment Finding, and revision of a rule requires notice and comment. The RTP, however, appears to be exactly what EPA called it—a response to the petitions for reconsideration, not a revision of the Endangerment Finding itself. EPA certainly may deny petitions for reconsideration of a rule and provide an explanation for that denial, including by providing support for that decision, without triggering a new round of notice and comment for the rule.

III.

State and Industry Petitioners contend that in promulgating the Tailpipe Rule, EPA relied on an improper interpretation of CAA § 202(a)(1), and was arbitrary and capricious in failing to justify and consider the cost impacts of its conclusion that the Rule triggers stationary-source regulation under the PSD and Title V provisions. They do not challenge the substantive standards of the Rule and focus principally on EPA's failure to consider the cost of stationary-source permitting requirements triggered by the Rule. Positing an absurd-consequences scenario, Petitioners maintain that if EPA had considered these costs it "would have been forced" to exclude carbon dioxide from the scope of the emission standards, to decline to issue greenhouse gas emission standards at all, or "to interpret the statute so as not to automatically trigger stationary source regulation." Industry Tailpipe Br. 17; *see also* Industry Tailpipe Reply Br. 8–9. Both the plain text of Section 202(a) and precedent refute Petitioners' contentions.

A.

Section 202(a)(1) provides:

> The Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1). By employing the verb "shall," Congress vested a non-discretionary duty in EPA. *See Sierra Club v. Jackson*, 648 F.3d 848, 856 (D.C. Cir. 2011). The plain text of Section 202(a)(1) thus refutes Industry Petitioners' contention that EPA had discretion to defer issuance of motorvehicle emission standards on the basis of stationary-source costs. Neither the adjacent text nor the statutory context otherwise condition this clear "language of command," *id.* (citation omitted). Having made the Endangerment Finding pursuant to CAA § 202(a), 42 U.S.C. § 7521(a), EPA lacked discretion to defer promulgation of the Tailpipe Rule on the basis of its trigger of stationary-source permitting requirements under the PSD program and Title V.

The Supreme Court's decision in *Massachusetts v. EPA* compels this interpretation of Section 202(a)(1). "If EPA makes a finding of endangerment, the Clean Air Act requires the [a]gency to regulate emissions of the deleterious pollutant from new motor vehicles." 549 U.S. at 533. "Under the clear terms of the Clean Air Act, EPA can avoid taking further action *only if* it determines that greenhouse gases do not contribute to climate change *or if* it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* (emphasis added). In the Endangerment Finding, EPA determined that motor-vehicle emissions contribute to greenhouse gas emissions that, in turn, endanger the public health and welfare; the agency therefore was in no position to "avoid taking further action," *id.*, by deferring promulgation of the Tailpipe Rule. Given the non-discretionary duty in Section 202(a)(1) and the limited flexibility available under

Section 202(a)(2), which this court has held relates only to the motor-vehicle industry, *see infra* Part III.C, EPA had no statutory basis on which it could "ground [any] reasons for" further inaction, *Massachusetts v. EPA*, 549 U.S. at 535.

The plain text of Section 202(a)(1) also negates Industry Petitioners' contention that EPA had discretion to defer the Tailpipe Rule on the basis of NHTSA's authority to regulate fuel economy. The Supreme Court dismissed a near-identical argument in *Massachusetts v. EPA*, rejecting the suggestion that EPA could decline to regulate carbon-dioxide emissions because the Department of Transportation (DOT) had independent authority to set fuel-efficiency standards. *Id.* at 531–32. "[T]hat DOT sets mileage standards in no way licenses EPA to shirk its environmental responsibilities," because EPA's duty to promulgate emission standards derives from "a statutory obligation wholly independent of DOT's mandate to promote energy efficiency." *Id.* at 532. Just as EPA lacks authority to refuse to regulate on the grounds of NHTSA's regulatory authority, EPA cannot defer regulation on that basis. A comparison of the relevant statutes bolsters this conclusion. *Compare* 49 U.S.C. § 32902(f) ("When deciding maximum feasible average fuel economy . . . , the Secretary of Transportation shall consider . . . the effect of other motor vehicle standards of the Government on fuel economy . . . ."), *with* 42 U.S.C. § 7521(a) (including no such direction). Nor, applying the same reasoning, was EPA required to treat NHTSA's proposed regulations as establishing the baseline for the Tailpipe Rule. Furthermore, the Tailpipe Rule provides benefits above and beyond those resulting from NHTSA's fuel economy standards. *See, e.g.*, Tailpipe Rule, 75 Fed. Reg. at 25,490 (Table III.F.1-2), 25,636 (Table IV.G.1-4). Petitioners' related contentions regarding the PSD permitting triggers are addressed in Part V.

B.

Turning to the APA, Industry Petitioners contend, relying on *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 525 (D.C. Cir. 1983), and *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C. Cir. 1976), that EPA failed both to justify the Tailpipe Rule in terms of the risk identified in the Endangerment Finding and to show that the proposed standards "would meaningfully mitigate the alleged endangerment," Industry Tailpipe Br. 35. Instead, they maintain that EPA "separated these two integral steps," *id.* at 11, and "concluded that it had no obligation to show . . . 'the resulting emissions control strategy or strategies will have some significant degree of harm reduction or effectiveness in addressing the endangerment,'" *id.* at 11–12 (quoting Endangerment Finding, 74 Fed. Reg. at 66,508). These contentions fail.

Petitioners' reliance on *Small Refiner*, 705 F.2d at 525, is misplaced; the court there laid out guidelines for assessing EPA's discretion to set numerical standards and Petitioners do not challenge the substance of the emission standards. In *Ethyl*, 541 F.2d at 7, the court assessed the scope of EPA's authority, under CAA § 211(c)(1), 42 U.S.C. § 1857f-6c(c)(1) (1970) (*currently codified as amended at* 42 U.S.C. § 7545(c)(1)), to regulate lead particulate in motor-vehicle emissions. The court rejected the argument that the regulations had to "be premisedupon factual proof of actual harm," *Ethyl*, 541 F.2d at 12, and instead deferred to EPA's reasonable interpretation that regulations could be based on a "significant risk of harm," *id.* at 13. Nothing in *Ethyl* implied that EPA's authority to regulate was conditioned on evidence of a particular level of mitigation; only a showing of significant *contribution* was required. EPA made such a determination in the Endangerment Finding, concluding that vehicle emissions are a significant contributor to domestic greenhouse gas emissions. *See, e.g.*, Endangerment Finding, 74 Fed. Reg. at 66,499. Further, in the preamble to the Tailpipe Rule itself, EPA found that the emission standards would result in meaningful mitigation of greenhouse gas emissions. For example, EPA estimated that the Rule would result in a reduction of about 960 million metric tons of CO_2e emissions over the lifetime of the model year 2012–2016 vehicles affected by the new standards. *See* Tailpipe Rule, 75 Fed. Reg. at 25,488–90. Other precedent is likewise unhelpful to Petitioners: in *Chemical Manufacturers Association v. EPA*, 217 F.3d 861, 866 (D.C. Cir. 2000), "nothing in the record" indicated that the challenged regulatory program would "directly or indirectly, further the Clean Air Act's environmental goals," whereas here the record is fulsome, *see supra* Part II.

C.

Petitioners also invoke Section 202(a)(2) as support for their contention that EPA must consider stationary-source costs in the Tailpipe Rule. Section 202(a)(2) provides:

> Any regulation prescribed under paragraph (1) of this subsection . . . shall take effect

> after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

42 U.S.C. § 7521(a)(2). State Petitioners maintain the reference to compliance costs encompasses those experienced by stationary sources under the PSD program, while Industry Petitioners maintain stationary-source costs are a relevant factor in EPA's Section 202(a)(1) rulemaking. This court, however, has held that the Section 202(a)(2) reference to compliance costs encompasses only the cost to the motor-vehicle industry to come into compliance with the new emission standards, and does not mandate consideration of costs to other entities not directly subject to the proposed standards. *See Motor & Equip. Mfrs. Ass'n, Inc. v. EPA*, 627 F.2d 1095, 1118 (D.C. Cir. 1979).

D.

Petitioners' remaining challenges to the Tailpipe Rule fail as well. In Part II, the court rejects the contention that the Tailpipe Rule fails due to flaws in the underlying Endangerment Finding. The record also refutes Industry Petitioners' suggestion that EPA "employed a shell game to avoid," Industry Tailpipe Reply Br. 9 (capitalization removed), responding to comments regarding stationary-source costs. Industry Tailpipe Br. 19–20; *see also* Industry Tailpipe Reply Br. 14–15. EPA adequately responded to "significant comments," 42 U.S.C. § 7607(d)(6)(B). *See, e.g.*, Tailpipe Rule, 75 Fed. Reg. at 25,401–02; Tailpipe Rule, Response to Comments at 7-65 to 7-

69. And, assuming other statutory mandates provide a basis for judicial review, *see* Industry Tailpipe Br. 21–22 (listing mandates); *see, e.g., Small Refiner*, 705 F.2d at 537–39, the record shows EPA's compliance, *see* Tailpipe Rule, 75 Fed. Reg. at 25,539–42, and that EPA was not arbitrary and capricious by not considering stationary-source costs in its analyses. *See, e.g., Michigan v. EPA*, 213 F.3d 663, 689 (D.C.Cir. 2000); *Mid-Tex Elec. Coop., Inc. v. FERC*, 773 F.2d 327, 341–42 (D.C. Cir. 1985). EPA's economic impact assessment conducted pursuant to CAA § 317, 42 U.S.C. § 7617, does not provide grounds for granting the petitions because Petitioners' contentions that EPA, "[i]n defiance of these requirements, . . .refused to estimate or even consider the costs of the [Tailpipe Rule] for stationary sources," Industry Tailpipe Br. 22, are no more than another attempt to avoid the plain text of Section 202(a). *See also* 42 U.S.C. § 7617(e).

IV.

We turn next to the stationary source regulations. As noted *supra* in Part I, EPA's interpretation of the CAA requires PSD and Title V permits for stationary sources whose potential emissions exceed statutory thresholds for *any* regulated pollutant—including greenhouse gases. Industry Petitioners now challenge EPA's longstanding interpretation of the scope of the permitting requirements for construction and modification of major emitting facilities under CAA Sections 165(a) and 169(1), 42 U.S.C. §§ 7475(a) & 7479(1) ("the PSD permitting triggers"). EPA maintains that this challenge is untimely because its interpretation of the PSD permitting triggers was set forth in its 1978, 1980, and 2002 Rules.

In 1978, EPA defined "major stationary source" as a source that emits major amounts of "any air pollutant regulated under the [CAA]." *Part 51–Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Prevention of Significant Air Quality Deterioration* ("1978 Implementation Plan Requirements"), 43 Fed. Reg. 26,380, 26,382 (June 19, 1978). Industry petitioners' challenge to the 1978 Rule in *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1980) reflected their understanding that EPA would apply the PSD permitting program to both pollutants regulated pursuant to National Ambient Air Quality Standards (NAAQS) and other regulated pollutants. *See* Br. for Industry Pet'rs on Regulation of Pollutants other than Sulfur Dioxide and Particulates, No. 78- 1006 (and consolidated cases) (Dec. 19, 1978) at 10, 12. In the 1980 Rule, EPA highlighted that to be subject to PSD review, a "source need only emit *any* pollutant in major amounts (i.e., the amounts specified in [CAA § 169(1)]) and be located in an area designated attainment or unclassifiable for that or any other pollutant." 1980 Implementation Plan Requirements, 45 Fed. Reg. at 52,711 (emphasis in original). EPA explained that "*any* pollutant" meant "both criteria pollutants, for which national ambient air quality standards have been promulgated, and noncriteria pollutants subject to regulation under the Act." *Id.* The same explanation of EPA's interpretation appeared in the 2002 Rule. *Prevention of Significant Deterioration and Nonattainment New Source Review*, 67 Fed. Reg. 80,186, 80,239-40, 80,264 (Dec. 31, 2002).

CAA Section 307(b)(1) provides that a petition for review of any promulgated nationally applicable regulations:

> "shall be filed within sixty days from the date notice of such promulgation . . . appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review . . . shall be filed within sixty days after such grounds arise."

42 U.S.C. § 7607(b)(1). The exception encompasses the occurrence of an event that ripens a claim. *See Chamber of Commerce v. EPA*, 642 F.3d 192, 208 n.14 (D.C. Cir. 2011); *Am. Rd. & Transp. Builders Ass'n v. EPA*, 588 F.3d 1109, 1113 (D.C. Cir. 2009). EPA acknowledges this precedent, but maintains that the "new grounds" exception is narrow and inapplicable because Industry Petitioners' challenge to EPA's interpretation of the PSD permitting triggers is based on legal arguments that were available during the normal judicial review periods for the 1978, 1980, and 2002 Rules, and the "new ground" on which they now rely is a factual development, namely the regulation of greenhouse gases by the Tailpipe Rule. This is correct so far as it goes, but fails to demonstrate that Industry Petitioners' challenge is untimely.

Industry Petitioners point out that two petitioners—the National Association of Home Builders (NAHB) and National Oilseed Processors Association (NOPA) – have newly ripened claims as a result of the Tailpipe Rule, which had the effect of expanding the PSD program to never-regulated sources:

- NAHB's members construct single family homes, apartment buildings, and commercial buildings. According to the Vice President of Legal Affairs, prior to the Tailpipe Rule, no member of NAHB was a major source of any regulated pollutant, and thus no member was ever required to obtain a PSD permit. Decl. of Thomas J. Ward, Vice President of Legal Affairs for NAHB, ¶ 6 (May 10, 2011). Since the Tailpipe Rule rendered greenhouse gases a regulated pollutant, it is now certain that NAHB members that engage in construction projects that emit greenhouse gases in major amounts will have to obtain PSD permits sometime in the future. *Id.* at ¶¶ 7, 8. Indeed, EPA estimated that 6,397 multifamily buildings and 515 single family homes would trigger PSD review annually absent the Tailoring Rule. *See Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Proposed Rule* ("Proposed Tailoring Rule"), 74 Fed. Reg. 55,292, 55,338 (Oct. 27, 2009).

- NOPA's members are large companies that monthly produce millions of tons of vegetable meals and over a billion pounds of oils from oilseeds, such as soybeans. *See, e.g.*, NOPA, January 2012 Statistical Report (Feb. 14, 2012) *available at www.nopa.org*; NOPA, February 2012 Statistical Report (Mar. 14, 2012), *available at www.nopa.org*. According to the Executive Vice President of Regulatory Affairs, NOPA members operate facilities that are major sources of criteria pollutants

> and, for this reason, are subject to PSD review. Decl. of David C. Ailor, Executive Vice President of Regulatory Affairs of NOPA, ¶ 8 (May 10, 2011). Prior to promulgation of the Tailpipe Rule, no member's facility had triggered PSD review by virtue of emissions of a non-criteria pollutant. *Id.* Now that greenhouse gases are a regulated non-criteria pollutant, many NOPA members will have to obtain PSD permits as result of their facilities' emissions of a non-criteria pollutant. *Id.* at ¶¶ 9,10. For some NOPA members this time is not far off because renovations to their facilities will result in greenhouse gas emissions above the significance thresholds set by the Tailoring Rule, 75 Fed. Reg. at 31,567. *Id.* at ¶ 9.

Industry Petitioners thus maintain that because NAHB and NOPA filed their petitions on July 6, 2010, within 60 days of the promulgation of the Tailpipe Rule in the Federal Register on May 7, 2010, their challenges are timely.

"Ripeness, while often spoken of as a justiciability doctrine distinct from standing, in fact shares the constitutional requirement of standing that an injury in fact be certainly impending." *Nat'l Treasury Emp. Union v. United States*, 101 F.3d 1423, 1427 (D.C. Cir. 1996). During an initial review period, although purely legal claims may be justiciable and, thus, prudentially ripe, a party without an immediate or threatened injury lacks a constitutionally ripe claim. *See Baltimore Gas & Elec. Co. v. ICC,* 672 F.2d 146, 149 (D.C. Cir. 1982). EPA's position would conflate the constitutional and prudential considerations.

Constitutional ripeness exists where a challenge "involve[s], at least in part, the existence of a live 'Case or Controversy.'" *Duke Power Co. v. Carolina Envtl. Study Group*, 438 U.S. 59, 81 (1978). Prudential considerations embodied in the ripeness doctrine relate to "the fitness of the issues for judicial decision and the hardship to the parties of withholding court consideration." *Abbott Labs. v. Gardner*, 387 U.S. 136, 149 (1967); *see Duke Power*, 438 U.S. at 81. Standing to challenge agency action exists where a petitioner can demonstrate an "injury in fact" that is fairly traceable to the challenged action and is likely to be redressed by a favorable judicial decision. *Reytblatt v. NRC*, 105 F.3d 715, 721 (D.C. Cir. 1997) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560–61 (1992)).

Had NAHB and NOPA challenged EPA's interpretation of the PSD permitting triggers in 1978, 1980, or 2002, as EPA suggests, the court would have lacked jurisdiction under Article III of the Constitution because their alleged injuries were only speculative. *See, e.g., Occidental Permian Ltd. v. FERC*, 673 F.3d 1024, 1026 (D.C. Cir. 2012); *Baltimore Gas & Elec. Co.*, 672 F.2d at 149. At that time, NAHB and NOPA could have shown only the possibility that their members would be injured if EPA were someday to determine that greenhouse gases were a pollutant that endangers human health and welfare and to adopt a rule regulating the greenhouse gas emissions of stationary sources. EPA does not challenge the assertions in the NAHB and NOPA declarations, which establish no such rule was promulgated prior to the Tailpipe Rule.

The NAHB and NOPA challenges ceased to be speculative when EPA promulgated the Tailpipe Rule regulating greenhouse gases and their challenges ripened because of the "substantial probability" of injury to them. *See Baltimore Gas & Elec. Co.*, 672 F.2d at 149. Although, as EPA notes, other Industry Petitioners' challenges to EPA's interpretation of the PSD permitting triggers ripened decades earlier, this court has assured petitioners with unripe claims that "they will not be foreclosed from judicial review when the appropriate time comes," *Grand Canyon Air Tour Coalition v. FAA*, 154 F.3d 455, 473 (D.C. Cir. 1998), and that they "need not fear preclusion by reason of the 60-day stipulation [barring judicial review]," *Baltimore Gas & Elec. Co.*, 672 F.2d at 149–50. EPA expresses concern that allowing NAHB and NOPA to litigate their newly ripened claims will have far-reaching implications for finality of agency actions, but "the ripeness doctrine reflects a judgment that the disadvantages of a premature review that may prove too abstract or unnecessary ordinarily outweigh the additional costs of – even repetitive – . . . litigation." *Ohio Forestry Ass'n, Inc. v. Sierra Club*, 523 U.S. 726, 735 (1998). Some limitations inhere in doctrines such as *stare decisis* or the law-of-the-circuit doctrine, *see LaShawn A. v. Barry*, 87 F.3d 1389, 1395 (D.C. Cir. 1996) (en banc).

Because petitioners NAHB and NOPA's challenges to EPA's PSD permitting triggers are newly ripened upon promulgation of the Tailpipe Rule and they filed petitions for review within sixty days thereof, their challenge to EPA's interpretation of the PSD permitting triggers is timely.

V.

Having established that Industry Petitioners' challenges to the PSD permitting triggers are both timely and ripe, we turn to the merits of their claims.

A.

CAA Title I, Part C—entitled "Prevention of Significant Deterioration of Air Quality" (PSD)—largely focuses on the maintenance of national ambient air quality standards (NAAQS). Under the PSD program, EPA designates specific pollutants as "NAAQS pollutants" and sets national ambient air quality standards for those pollutants—requiring, for example, that the concentration of a given NAAQS pollutant may not exceed more than a certain number of parts per billion in the ambient air. *See generally* 42 U.S.C. § 7407. Thus far, EPA has designated six NAAQS pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. None of these NAAQS pollutants is one of the six well-mixed greenhouse gases defined as an "air pollutant" in the Endangerment Finding. *See* Environmental Protection Agency, National Ambient Air Quality Standards, *available at* http://www.epa.gov/air/criteria.html (last visited May 3, 2012); Endangerment Finding, 74 Fed. Reg. 66,536-37.

Acting upon information submitted by states, EPA then determines whether each region of the country is in "attainment" or "nonattainment" with the promulgated air quality standard for each NAAQS pollutant, or, alternatively, whether a region is "unclassifiable" for that pollutant. 42 U.S.C. § 7407(d)(1)(A). An area in attainment for a NAAQS pollutant is "any area . . . that meets the . . . ambient air quality standard for the pollutant." *Id.* § 7407(d)(1)(A)(ii). By contrast, an area in nonattainment for a NAAQS pollutant is "any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national . . . ambient air quality standard for the pollutant." *Id.* § 7407(d)(1)(A)(i). Finally, an unclassifiable area is any area that "cannot be classified on the basis of available information as meeting or not meeting the . . . ambient air quality standard for the pollutant." *Id.* § 7407(d)(1)(A)(iii).

The PSD program applies to those areas of the United States designated as in "attainment" or "unclassifiable" for any NAAQS pollutant, *see id.* § 7471, and requires permits for major emitting facilities embarking on construction or modification projects in those regions. *Id.* § 7475(a). A separate part of Title I of the CAA, Part D, governs the construction and modification of sources in nonattainment regions. *See id.* §§ 7501, 7502. It bears emphasis that attainment classifications are pollutant-specific: depending on the levels of each NAAQS pollutant in an area, a region can be designated as in attainment for NAAQS pollutant A, but in nonattainment for NAAQS pollutant B. If a major emitting facility in such a region wishes to undertake a construction or modification project, both Part C and Part D's substantive requirements apply—that is, the source must obtain a general PSD permit and must also abide by Part D's more stringent, pollutant-specific requirements for any NAAQS pollutants for which the area is in nonattainment. *See* 1980 Implementation Plan Requirements, 45 Fed. Reg. at 52,711-12 ("where a source emits in major amounts a pollutant for which the area in which the source would locate is designated nonattainment, Part D NSR rather than Part C PSD review should apply *to those pollutants*.") (emphasis added).

The key substantive provision in the PSD program is CAA Section 165(a), which establishes permitting requirements for "major emitting facilities" located in attainment or unclassifiable regions. In relevant part, section 165(a) provides that "[n]omajor emitting facility . . . may be constructed in any area to which this part applies unless" the facility obtains a PSD permit. 42 U.S.C. § 7475(a). To obtain a PSD permit, a covered source must, among other things, install the "best available control technology [BACT] for each pollutant subject to regulation under [the CAA]"—regardless of whether that pollutant is a NAAQS pollutant. *Id.* § 7475(a)(4). Since the Tailpipe Rule became effective, EPA has regulated automotive greenhouse gas emissions under Title II of the Act. Thus, greenhouse gases are now a "pollutant subject to regulation under" the Act, and, as required by the statute itself, any "major emitting facility" covered by the PSD program must install BACT for greenhouse gases. *See id.*

The dispute in this case centers largely on the scope of the PSD program—specifically, which stationary sources count as "major emitting facilities" subject to regulation. CAA Section 169(1) defines "major emitting facility," for the purposes of the PSD program, as a stationary source "which emit[s], or [has] the potential to emit" either 100 tons per year (tpy) or 250 tpy of "*any air pollutant.*" 42 U.S.C. § 7479(1) (emphasis added). As discussed *supra* in Part I, whether the 100 or 250 tpy threshold applies depends on the type of source. Certain listed categories of sources—for example, iron and steel mill plants—qualify as"major emitting facilities" if they have the potential to emit over 100 tons per year of "any air pollutant." *Id.* All other stationary sources are "major emitting facilities" if they have the potential to emit over 250 tons per year of "any air pollutant." *Id.*

As mentioned above, since 1978 EPA has interpreted the phrase "any air pollutant" in the definition of "major emitting facility" as "any air pollutant regulated under the CAA." *See* 1978 Implementation Plan Requirements, 43 Fed. Reg. at 26,388, 26,403; *supra* Part IV. Thus, because the PSD program covers "major emitting facilities" in "any area to which this part applies," 42 U.S.C. § 7475, EPA requires PSD permits for stationary sources that 1) are located in an area designated as attainment or unclassifiable for any NAAQS pollutant, and 2) emit 100/250 tpy of any regulated air pollutant, regardless of whether that pollutant is itself a NAAQS pollutant. *See* 1980 Implementation Plan Requirements, 45 Fed. Reg. at 52,710-11. Consequently, once the Tailpipe Rule took effect and made greenhouse gases a regulated pollutant under Title II of the Act, the PSD program automatically applied to facilities emitting over 100/250 tpy of greenhouse gases. But because immediate regulation of greenhouse gas-emitting sources exceeding the 100/250 tpy benchmark would result in "overwhelming permitting burdens that would . . . fall on permitting authorities and sources," Tailoring Rule, 75 Fed. Reg. at 31,516, EPA's

Tailoring Rule provided that, for now, sources are subject to PSD permitting requirements only if they have the potential toemit over 100,000 tpy of greenhouse gases (for a construction project) or 75,000 tpy (for a modification project). *Id.* at 31,523; *see also infra*, Part VI.

According to EPA, its longstanding interpretation of the phrase "any air pollutant"—"any air pollutant regulated under the CAA"—is compelled by the statute. *See id.* at 31,517. Disputing this point, Industry Petitioners argue that the phrase is capable of a far more circumscribed meaning and that EPA could have—and should have—avoided extending the PSD permitting program to major greenhouse gas emitters. For the reasons discussed below, we agree with EPA that its longstanding interpretation of the PSD permitting trigger is statutorily compelled. Thus, as EPA argues, it "must give effect to the unambiguously expressed intent of Congress," *Chevron*,467 U.S. at 843, which here requires PSD coverage for major emitters of any regulated air pollutant.

We begin our analysis, as we must, with the statute's plain language. *See Chevron*, 467 U.S. at 842 ("First, always, is the question whether Congress has directly spoken to the precise question at issue."). CAA Section 169(1) requires PSD permits for stationary sources emitting major amounts of "*any* air pollutant." 42 U.S.C. § 7479(1) (emphasis added). On its face, "the word 'any' has an expansive meaning, that is, 'one or some indiscriminately of whatever kind,' " *United States v. Gonzales*, 520 U.S. 1, 5 (1997) (quoting WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 97 (1976)). Greenhouse gases are indisputably an "air pollutant." *See Massachusetts v. EPA*, 549 U.S. at 528–29. Congress's use of the broad, indiscriminate modifier "any" thus strongly suggests that the phrase "any air pollutant" encompasses greenhouse gases.

This plain-language reading of the statute is buttressed by the Supreme Court's decision in *Massachusetts v. EPA*. There the Court determined that CAA's overarching definition of "air pollutant" in Section 302(g)—which applies to all provisions of the Act, including the PSD program—unambiguously includes greenhouse gases. Noting that "[t]he Clean Air Act's sweeping definition of 'air pollutant' includes '*any* air pollution agent or combination of such agents . . . . which is emitted into or otherwise enters the ambient air," the Court held that "the definition embraces *all* airborne compounds of whatever stripe, *and underscores that intent through repeated use of the word 'any.'*" *Id.* at 529 (quoting 42 U.S.C. § 7602(g)) (second and third emphases added). Crucially for purposes of the issue before us, the Court concluded that "[t]he statute is unambiguous." *Id.*

Thus, we are faced with a statutory term—"air pollutant"—that the Supreme Court has determined unambiguously encompasses greenhouse gases. This phrase is preceded by the expansive term "any," a word the Court held "underscores" Congress's intent to include "all" air pollutants"of whatever stripe." *See id.* Absent some compelling reason to think therwise, " 'any' . . . means any," *Ford v. Mabus*, 629 F.3d 198, 206 (D.C. Cir. 2010), and Petitioners have given us no reason to construe that word narrowly here. To the contrary: given both the statute's plain language and the Supreme Court's decision in *Massachusetts v. EPA*, we have little trouble concluding that the phrase "any air pollutant" includes *all* regulated air pollutants, including greenhouse gases.

In reaching this conclusion, we recognize that EPA's definition of "any air pollutant" slightly narrows the literal statutory definition, which nowhere requires that "any air pollutant" be a *regulated* pollutant. *See* 42 U.S.C. § 7479(1). But this does not make the statutory language ambiguous. Indeed, "any regulated air pollutant" is the only logical reading of the statute. The CAA's universal definition of "air pollutant"—the one at issue in *Massachusetts v. EPA*—provides that the term includes "any physical, chemical, biological [or] radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." *Id.* § 7602(g). Of course, nothing in the CAA requires regulation of a substance simply because it qualifies as an "air pollutant" under this broad definition. As discussed *supra* in Parts II and III, for example, the Act requires EPA to prescribe motor vehicle "standards applicable to the emission of any air pollutant" only if that pollutant "cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." *Id.* § 7521(a)(1). But if "any air pollutant" in the definition of "major emitting facility" was read to encompass both regulated and nonregulated air pollutants, sources could qualify as major emitting facilities—and thus be subjected to PSD permitting requirements—if they emitted 100/250 tpy of a "physical, chemical, [or] biological" substance EPA had determined was harmless. It is absurd to think that Congress intended to subject stationary sources to the PSD permitting requirements due to emissions of substances that do not "endanger public health or welfare." *Id.* § 7521(a)(1). Thus, "any regulated air pollutant" is, in this context, the only plausible reading of "any air pollutant."

We find further support for this definition throughout the CAA. First, as previously mentioned, the PSD program provides that all major emitting facilities must install BACT for "each pollutant subject to regulation under [the CAA]." *Id.* § 7475(a)(4). "Each pollutant subject to regulation under" the Act is, of course, synonymous with "any air pollutant regulated under the Act." Thus, EPA's interpretation of "any air pollutant" in the definition of "major emitting facilities" harmonizes the PSD program's scope (i.e., which pollutants trigger PSD coverage) with its substantive requirements (i.e., which pollutants must be controlled to obtain a permit). In other words, because a covered source must control greenhouse gas emissions, it makes sense that major emissions of greenhouse gases would subject that source to the PSD program.

Second, a PSD permittee is required to establish that it

> will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission

> standard or standard of performance under [the CAA].

Id. § 7475(a)(3). Subsections (A) and (B) prohibit a permitted source from contributing to a concentration of NAAQS pollutants that exceeds EPA's standards. By contrast, subsection (C) has an entirely different focus: it prohibits a permitted source from causing or contributing to air pollution in excess of *any* CAA emission standard. Thus, as EPA notes, "what this provision establishes is that while the PSD program was certainly directed towards NAAQS-criteria pollutants, it also was directed at maintaining air quality for other pollutants regulated under other provisions." EPA Timing & Tailoring Br. 101. EPA's determination that "any air pollutant" means "any air pollutant regulated under the Act"—encompassing the greenhouse gases regulated under Title II—is entirely consistent with this focus. Finally, Congress made perfectly clear that the PSD program was meant to protect against precisely the types of harms caused by greenhouse gases. The PSD provision contains a section entitled "Congressional declaration of purpose," which provides, in relevant part, that "[t]he purposes of this part are . . . to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipated to occur from air pollution." 42 U.S.C. § 7470(1). The CAA further provides that "[a]ll language referring to effects on welfare includes, but is not limited to, effects on . . . weather . . . and climate." *Id.* § 7602(h). As previously noted, EPA in the Endangerment Finding "marshaled . . . substantial . . . . scientific evidence . . . for the proposition that greenhouse gases trap heat on earth that would otherwise dissipate into space [and] that this 'greenhouse effect' warms the climate." Part II, *supra* at 28–29. It further concluded that this "anthropogenically induced climate change" was likely to threaten the public welfare through, among other things, "extreme weather events." *Id.* at 15–16. Thus, one express purpose of the program is to protect against the harms caused by greenhouse gases.

In sum, we are faced with a statutory term—"any air pollutant"—that the Supreme Court has determined is "expansive," and "unambiguous[ly]" includes greenhouse gases. *Massachusetts v. EPA*, 549 U.S. at 529. Moreover, the PSD program requires covered sources to install control technology for "each pollutant" regulated under the CAA, 42 U.S.C. § 7475(a)(4), and to establish that they "will not cause, or contribute to, air pollution in excess of *any* . . . emission standard . . . under [the CAA]." *Id.* § 7475(a)(3) (emphasis added). These provisions demonstrate that the PSD program was intended to control pollutants regulated under every section of the Act. Finally, Congress's "Declaration of Purpose" expressly states that the PSD program was meant, in part, to protect against adverse effects on "weather" and "climate"—precisely the types of harm caused by greenhouse gases. *See id.* § 7470(1). Given all this, we have little trouble concluding that "any air pollutant" in the definition of "major emitting facility" unambiguously means "any air pollutant regulated under the CAA."

B.

Industry Petitioners offer three alternative interpretations of the PSD permitting triggers, none of which cast doubt on the unambiguous nature of the statute.

As a preliminary matter, we note that none of Petitioners' alternative interpretations applies to Title V. To the contrary, all of the proposed alternative interpretations are based on the structure of—and purported Congressional intent behind—the PSD program. Indeed, Industry Petitioners never argue that their proposed alternative interpretations are relevant to Title V. Petitioners have thus forfeited any challenges to EPA's greenhouse gas-inclusive interpretation of Title V. *See, e.g., Nat'l Steel & Shipbuilding Co. v. NLRB*, 156 F.3d 1268, 1273 (D.C. Cir. 1998) (petitioners forfeit an argument by failing to raise it in their opening brief).

Industry Petitioners' first alternative is simple enough. Because the PSD program focuses on "the air people breathe in certain geographically defined . . . areas," Coalition for Responsible Reg. Timing & Tailoring Br. 38, Industry Petitioners contend that the term "pollutant" in the PSD statute encompasses only air pollutants that, unlike greenhouse gases, "pollute locally." *Id.* at 35. Industry Petitioners would thus apply a greenhouse gas-exclusive interpretation of "pollutant" throughout the statute's PSD provision. Under this reading, a source would qualify as a "major emitting facility" only if it emits 100/250 tpy of "any air pollutant" except greenhouse gases. *See* 42 U.S.C. § 7479(1). Moreover, sources that *are* subject to PSD permitting requirements would be required to install BACT for "each pollutant subject to regulation under [the CAA]"—except greenhouse gases. *Id.* § 7475(a)(4).

We can easily dispose of Industry Petitioners' argument that the PSD program's "concerns with local emissions," Coalition for Responsible Reg. Timing & Tailoring Br. 36, somehow limit the BACT provision. The statutory text provides, without qualification, that covered sources must install the "best available control technology for *each pollutant subject to regulation* under [the CAA]." 42 U.S.C. § 7475(a)(4) (emphasis added). Because greenhouse gases are indisputably a pollutant subject to regulation under the Act, it is crystal clear that PSD permittees must install BACT for greenhouse gases. "When the words of a statute are unambiguous . . . judicial inquiry is complete." *Connecticut Nat'l Bank v. Germain*, 503 U.S. 249, 254 (1992) (internal quotation marks omitted).

Equally without merit is Industry Petitioners' argument that the PSD program's regional focus requires a greenhouse gas exclusive interpretation of "any air pollutant" in the definition of "major emitting facility." In support of this contention, Industry Petitioners note that CAA Section 161 provides that states' implementation plans for the PSD program "shall contain emission limitations and such other measures as may be necessary . . . to prevent *significant deterioration of air quality in each region*." 42 U.S.C. § 7471 (emphasis added). The term "air quality," Industry Petitioners contend, implies a focus on "the air people breathe," and the term "in each region" suggests that Congress was concerned about local, not global, effects. *See* Coalition for

Responsible Reg. Timing & Tailoring Br. 36. Moreover, Industry Petitioners note that when Congress enacted the PSD program in 1977, it did so "against the backdrop of a known universe of CAA-regulated pollutants." *Id.* All these pollutants, Industry Petitioners argue, "were regulated because they could cause elevated ground-level concentrations in ambient air people breathe." *Id.* And as Industry Petitioners point out, EPA itself has concluded that greenhouse gases are problematic for reasons other than local health and environmental concerns. In EPA's Advance Notice of Proposed Rulemaking for the regulations at issue here, for example, the agency noted that "[a] significant difference between the major [greenhouse gases] and most air pollutants regulated under the CAA is that [greenhouse gases] have much longer atmospheric lifetimes [and] . . . can remain in the atmosphere for decades to centuries." *Regulating Greenhouse Gas Emissions Under the Clean Air Act* ("Greenhouse Gas Advance Notice"), 73 Fed. Reg. 44,354, 44,400–01 (July 30, 2008). Moreover, "unlike traditional air pollutants," greenhouse gases "become well mixed throughout the global atmosphere so that the long-term distribution of [greenhouse gas] concentrations is not dependant on local emission sources." *Id.* Thus, Industry Petitioners conclude, greenhouse gases are problematic for reasons entirely distinct from the local concerns that provided the basis for the PSD program. Given this, the phrase "any air pollutant" cannot be applied to greenhouse gases in the context of the regionally focused PSD program.

As an initial matter, we note that the Supreme Court rejected a very similar argument in *Massachusetts v. EPA.* There, EPA attempted to distinguish between greenhouse gases and other air pollution agents "because greenhouse gases permeate the world's atmosphere rather than a limited area near the earth's surface." *Massachusetts v. EPA*, 549 U.S. at 529 n.26. The Court held that this was "a plainly unreasonable reading of a sweeping statutory provision designed to capture '*any* physical, chemical . . . substance or matter which is emitted into or otherwise enters the ambient air," *id.* (quoting 42 U.S.C. § 7602(g)), thus rejecting the dissent's view that "EPA's exclusion of greenhouse gases . . . is entitled to deference." *Id.* As the Court noted, the purported distinction between greenhouse gases and "traditional" air pollutants "finds no support in the text of the statute, which uses the phrase 'the ambient air' without distinguishing between atmospheric layers." *Id. Massachusetts v. EPA* thus forecloses Industry Petitioners' argument that because greenhouse gases do not "cause elevated ground-level concentrations in ambient air people breathe," Coalition for Responsible Reg. Timing & Tailoring Br. 36, EPA should have adopted a greenhouse gas-exclusive interpretation of "any air pollutant."

We also have little trouble disposing of Industry Petitioners' argument that the PSD program is specifically focused solely on localized air pollution. True, as Industry Petitioners note, one part of the PSD program requires states to "prevent significant deterioration of air quality in each region." 42 U.S.C. § 7471 (emphasis added). But while localized air quality is obviously one concern of the PSD program, a comprehensive reading of the statute shows it was also meant to address a much broader range of arms. As an initial matter, the PSD provision's

"Congressional declaration of purpose" section expansively provides that the program is intended "to protect public health and welfare from *any* actual or potential adverse effect . . . *from air pollution*." *Id.* § 7470(1) (emphasis added). Nothing in this section limits the PSD program to adverse effects on local air quality; to the contrary, the word "any" here gives this clause an "expansive meaning" which we see "no reason to contravene." *New York*, 443 F.3d at 885 (internal quotation marks omitted). Indeed, the CAA expressly provides that effects on "welfare" means "effects on . . . weather . . . and climate." 42 U.S.C. § 7602(h). It seems quite clear to us, then, that the PSD program was intended to protect against precisely the types of harms caused by greenhouse gases. This broad understanding of the PSD program's scope is buttressed by the fact that the program requires covered sources to control "each pollutant subject to regulation under [the CAA]," and further requires sources to comply with "*any* . . . emission standard" under the CAA. *Id.* §§ 7475(a)(3); (a)(4) (emphasis added). These substantive requirements amount to further evidence that Congress wanted the PSD program to cover all regulated pollutants, regardless of the type of harm those pollutants cause.

In light of the PSD program's broad scope of regulation and the express purposes of the program, we conclude—consistent with the Supreme Court in *Massachusetts v. EPA*—that Industry Petitioners' greenhouse gas-exclusive interpretation of "pollutant" is "a plainly unreasonable reading" of the statute. *Massachusetts v. EPA*, 549 U.S. at 529 n.26.

2.

For their second alternative interpretation, Industry Petitioners argue that the PSD program's definition of "major emitting facility" establishes a "pollutant-specific situs requirement." Am. Chemistry Council Br. 33. Under this reading of the statute, a stationary source is subject to PSD permitting requirements only if "(1) a source has major emissions of a NAAQS criteria pollutant and (2) the source is located in an area attaining *that pollutant's*" air quality standard. Coalition for Responsible Reg. Timing & Tailoring Br. 23. Thus, for example, a source would be subject to the PSD permitting requirements if it 1) emits over 100/250 tpy of sulfur dioxide (a NAAQS criteria pollutant), and 2) is located in an area that is in "attainment," or is "unclassifiable," for sulfur dioxide. But under this approach, a stationary source could never be subject to the PSD program solely because of its greenhouse gas emissions. After all, Industry Petitioners observe, EPA declined to make greenhouse gases a NAAQS criteria pollutant. Instead, EPA regulated greenhouse gases only under Title II of the Act, dealing with motor vehicle emissions. Because "no major source of [greenhouse gases] can be located in an area attaining the nonexistent [air quality standard] for [greenhouse gases]," *id.* at 24, Industry Petitioners point out that their reading of the statute would bring no new stationary sources under the PSD program's ambit—alleviating any "absurd results" caused by excessive permitting requirements, *id.* at 25.

Industry Petitioners emphasize that, unlike their first proposed alternative, nothing in this approach would "wholly exempt [greenhouse gases] from PSD." Coalition for Responsible Reg. Timing & Tailoring Reply Br. 20. Although a pollutant-specific situs requirement would limit the *number* of sources subject to the PSD program, nothing in this proposed reading of the statute would alter the substantive requirements for PSD permits, including the requirement that all regulated sources install BACT "for each pollutant subject to regulation under [the CAA]." 42 U.S.C. § 7475(a)(4). So, for example, under this interpretation, a hypothetical stationary source emitting more than 100/250 tpy of sulfur dioxide and located in an area designated as "in attainment" for sulfur dioxide, must still install BACT for "each pollutant subject to regulation" under the Act, including greenhouse gases. Their key point, though, is that sources emitting only major amounts of greenhouse gases—but not major amounts of a NAAQS criteria pollutant—would escape PSD permitting requirements.

Industry Petitioners' argument in support of this interpretation proceeds in several steps. First, they argue that the term "any air pollutant," though "capacious and flexible by itself," "is a chameleon term" when placed in certain contexts. Am. Chemistry Council Br. 38. Indeed, Industry Petitioners note that EPA has already narrowed the literal meaning of the term "any air pollutant" here. After all, and as discussed *supra*, although the statutory term "air pollutant" includes "any physical [or] chemical . . . substance or matter," 42 U.S.C. § 7602(g), EPA has long maintained that the term "any air pollutant" in the definition of "major emitting facility" encompasses only air pollutants regulated under the Act. Moreover, Industry

Petitioners point out that when interpreting CAA Part C, Subpart 2, entitled "Visibility Protection," EPA determined that the term "any pollutant" in the definition of "major stationary source" meant "any visibility-impairing pollutant." *See* Coalition for Responsible Reg. Timing & Tailoring Br. 34 (emphasis added). The statute's definition of "major stationary source" in the visibility-protection subpart is quite similar to the definition of "major emitting facility" in the PSD subpart: for the purposes of the visibility program, a "major stationary source" is defined as a "stationary source[ ] with the potential to emit 250 tons or more of any pollutant." 42 U.S.C. § 7491(g)(7)); *compare* 42 U.S.C. § 7479(1) ("major emitting facility" for the purposes of the PSD program is a source which "emit[s], or [has] the potential to emit," either 100 or 250 tons per year "of any air pollutant"). These narrowed interpretations, Industry Petitioners argue, prove that the seemingly capacious term "any air pollutant" is, notwithstanding that the Supreme Court called this term "expansive" and "sweeping," *Massachusetts v. EPA*, 549 U.S. at 529 nn.25–26, capable of a far more circumscribed meaning.

According to Industry Petitioners, EPA should have adopted that more circumscribed meaning by interpreting "any air pollutant" as establishing a pollutant-specific situs requirement. As Industry Petitioners point out, the PSD program requires permits for "major emitting facilit[ies] . . . in any area to which this part applies," 42 U.S.C. § 7479(1), and defines "major emitting facilities" as stationary sources emitting 100/250 tpy of "any air pollutant." *Id.* § 7475(a). In this context, Industry Petitioners contend, the phrases "any air pollutant" and "in any area to which this part applies" must be read in concert. And, Industry Petitioners argue, these phrases "*together* mean" that a source is subject to PSD permitting requirements only if it emits major amounts of "any [NAAQS] air pollutant whose NAAQS an area is attaining." Am. Chemistry Council Br. 33.

In support of this supposedly holistic interpretation of the statute, Industry Petitioners cite CAA § 163(b), a different section of the PSD provision in which the phrase "any air pollutant" and "any area to which this part applies" are used in conjunction with one another. Unlike § 165(a), which sets permitting requirements for sources covered by the PSD program, § 163 provides guidelines for *areas* designated as "in attainment" under the program. Specifically, § 163(b) limits the "maximum allowable increase in concentrations of" airborne NAAQS pollutants that may occur in an attainment area before that area's "attainment" status is jeopardized. *See* 42 U.S.C. § 7473(b)(1). Subsections (1) through (3) of § 163(b)—not directly relevant here—set limits on the maximum allowable increases for two specific NAAQS pollutants, sulfur dioxide and particulate matter. Subsection (4) is a catchall provision, which limits the maximum allowable increases for all other NAAQS pollutants. It is in subsection (4) that Industry Petitioners find what they believe is their payoff: the terms "any air pollutant" and "any area to which this part applies" in conjunction with one another. Section 163(b)(4) provides:

> The maximum allowable concentration of *any air pollutant in any area to which this part applies* shall not exceed a concentration

> for such pollutant for each period of exposure equal to—
>
> > (A) the concentration permitted under the national secondary ambient air quality standard, or
> > (B) the concentration permitted under the national primary ambient air quality standard,
>
> whichever concentration is lowest for such pollutant for such period of exposure.

42 U.S.C. § 7473(b)(4) (emphasis added). As Industry Petitioners correctly point out, in this context the phrase "any air pollutant" must mean "any NAAQS pollutant," and "in any area to which this part applies" must mean "any area that is in attainment for that NAAQS pollutant." After all, the statute states that the "maximum allowable concentration of any air pollutant . . . shall not exceed" either the primary or secondary national ambient air quality standards. But, as Industry Petitioners observe, national ambient air standards exist only for NAAQS pollutants, so even if "any air pollutant" in CAA § 163(b)(4) was read to include non-NAAQS pollutants, the phrase, in context, would have no practical effect for those pollutants. Moreover, "any area to which this part applies" must mean "any area that is in attainment for that NAAQS pollutant," because if an area was in nonattainment for a particular pollutant, Part D—rather than the PSD program—would govern emissions limits for that specific pollutant. *See id.* § 7501(2) ("[t]he term 'nonattainment area' means, for any air pollutant, an area which is designated 'nonattainment' with respect to that pollutant"); § 7502(c) (setting out required

"Nonattainment plan provisions"). Finally, Industry Petitioners correctly note that a pollutant-specific reading of the phrase "air pollutant" must also apply to CAA § 165(a)(3)(A), which prohibits PSD permittees from "caus[ing], or contribut[ing] to, air pollution in excess of any . . . maximum allowable concentration for *any air pollutant in any area to which this part applies* more than one time per year." *Id.* § 7475(a)(3)(A) (emphasis added). This clause, as Industry Petitioners point out, piggybacks off the NAAQS pollutant-specific definition of "maximum allowable concentration" in § 163(b)(4), prophylactically restricting PSD permittees from endangering an area's attainment status. *See* Am. Chemistry Council Br. 32 (describing the interplay between the two provisions as "Section 163(b)(4) (and Section 165(a)(3)(A), which implements it) . . .").

Based on all of this, Industry Petitioners conclude that because the phrase "any air pollutant in any area to which this part applies" in § 163(b)(4) means "any NAAQS pollutant in any area in attainment for that NAAQS pollutant," an identical reading must apply to the definition of "major emitting facility." As a result, a stationary source may be subject to the PSD program only if it emits 100/250 tpy of any NAAQS pollutant and is located in an area designated as in attainment for that NAAQS pollutant. We are unpersuaded.

Although we agree that the term "any air pollutant" is, in some contexts, capable of narrower interpretations, we see nothing in the definition of "major emitting facility" that would allow EPA to adopt a NAAQS pollutant-specific reading of that phrase. The contrast with the visibility program is instructive. There, EPA determined that "any pollutant" in the definition of "major stationary source" meant "any visibility-impairing pollutant." *See* 40 C.F.R. pt. 51, App. Y, § II.A. But as EPA notes, the entire visibility program, codified in CAA Part C, Subpart 2, deals with visibility-impairing pollutants, as reflected in that subpart's title: "Visibility Protection." *See* 42 U.S.C. prec. § 7491. From this, "it naturally follows that EPA's regulations under that section should address 'visibility-impairing pollutants.' " EPA Timing & Tailoring Br. 99 n.19. No similar guidance can be garnered from Part C, Subpart 1, which contains the phrase "any air pollutant" at issue here. Dealing with far more than NAAQS pollutants, Part C, Subpart 1 requires, for example, covered sources to install BACT for "each pollutant subject to regulation under [the CAA]." 42 U.S.C. § 7475(a)(4). Indeed, Subpart 1 is simply—and expansively—entitled "Clean Air." *Id.* prec. § 7470. Moreover, Congress designed the PSD program broadly to protect against "adverse effect[s]" on "public health and welfare," *Id.* § 7470(1), including effects on global problems like weather and climate. *Id.* § 7602(h).

Furthermore, the phrases "any air pollutant" and "in any area to which this part applies" are used differently in Section 163(b)(4) and in the PSD program's definition of "major emitting facility." The presumption that "[a] term appearing in several places in a statutory text is generally read the same way each time it appears," *Ratzlaf v. United States*, 510 U.S. 135, 143 (1994), "readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent," *Atl. Cleans & Dryers, Inc. v. United States*, 286 U.S. 427, 433 (1933). Here, the focus and structure of § 163(b)(4) is entirely distinct from the PSD permitting trigger. Section 163(b)(4) provides that "[t]he maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a [particular] concentration." 42 U.S.C. § 7473(b)(4). By contrast, § 165(a) provides that "[n]o major emitting facility . . . may be constructed in any area to which this part applies" unless certain conditions are met, *id.* § 7475(a), and § 169(1) defines "major emitting facility" as any stationary source that emits or has the potential to emit threshold amounts of "any air pollutant," *id.* § 7479(1). The differences between these two provisions are manifest. In § 163(b)(4), the phrases "any air pollutant" and "in any area to which this part applies" appear next to one another, and it is the concentration of the pollutant in an area that matters. In the PSD permitting trigger, the phrases appear in different subsections and it is the location of the facility that matters. Section 163(b)(4) thus does nothing to undermine the unambiguous meaning of "any air pollutant" in the definition of "major emitting facility."

Industry Petitioners' pollutant-specific reading of "any air pollutant" is further undermined by contrasting Part C of the Act (the PSD program) with Part D (which regulates areas in nonattainment). Unlike Part C, Part D is expressly pollutant-specific, providing that "[t]he term 'nonattainment area' means, for any air pollutant, an area which is designated 'nonattainment' *with respect to that pollutant*." *Id.* § 7501(2) (emphasis added). Congress thus clearly knew how to promulgate a narrow, pollutant-specific definition of "any air pollutant." That it did so in Part D but not in Part C strongly suggests that the phrase "any air pollutant" in Part C was meant to be construed broadly. *Keene Corp. v. United States*, 508 U.S. 200, 208 (1993) ("[W]here Congress includes particular language in one section of a statute but omits it in another . . . , it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.") (quoting *Russello v. United States*, 464 U.S. 16, 23 (1983)).

A final point: Industry Petitioners observe that every area in the country has always been in attainment for at least one NAAQS criteria pollutant. *See* Tailoring Rule, 75 Fed. Reg. at 31,561. Thus, pursuant to EPA's pollutant-indifferent reading of § 165(a), under which a major emitting facility must abide by PSD requirements so long as it is located in an attainment area for *any* NAAQS pollutant, every facility in the United States has always been in an "area to which this part applies." Consequently, Industry Petitioners argue, "[i]f EPA's interpretation were right, Congress simply could have left out the phrase 'in any area to which this part applies'" in the PSD permitting trigger. Am. Chemistry Council Br. 36. But "Congress does not enact 'stillborn' laws," *id.* (quoting *Sosa v. Alvarez-Machain*, 542 U.S. 692, 714 (2004)), and interpretations that render statutory language superfluous are disfavored. Am. Chemistry Council Reply Br. 19. The fact that the PSD program has applied nationwide since its inception, Industry Petitioners conclude, thus militates against EPA's pollutant-indifferent approach.

This argument fails at its premise, for Industry Petitioners confuse a lack of practical import with a lack of meaning. To say that the phrase "in any area to which this part applies" is currently without practical import is quite different than showing that the phrase means nothing. Indeed, under different circumstances, the phrase would have a significant effect. If, hypothetically, one area of the country was designated as "nonattainment" for every NAAQS pollutant, the phrase "in any area to which this part applies" would limit PSD coverage, as covered sources in that area would be subject only to Part D requirements. In fact, Environmental Intervenors point out that when Congress drafted the PSD permitting triggers "the prospect that some areas could be in nonattainment for all NAAQS was not far-fetched." Sierra Club Historic Reg. Br. 23. "In the years leading up to 1977, EPA air quality data identified a number of areas that failed to meet all five of the then-current [air quality standards] for which EPA had gathered data." *Id.* Accordingly, "in any area to which this part applies" is a meaningful phrase under EPA's pollutant-indifferent interpretation of the PSD permitting triggers: it provides that sources need not obtain PSD permits if they are located in areas designated "nonattainment" for all six NAAQS pollutants.

In short, although we agree with Industry Petitioners that phrases like "any air pollutant" are, in certain contexts, capable of a more limited meaning, they have failed to identify any reasons that the phrase should be read narrowly here. Nor do we know of one. We thus conclude that EPA's 34-year-old interpretation of the PSD permitting triggers is statutorily compelled: a source must obtain a permit if it emits major amounts of any regulated pollutant and is located in an area that is in attainment or unclassifiable for any NAAQS pollutant.

3.

We can quickly dispose of Industry Petitioners' third alternative interpretation, namely, that in order to regulate new pollutants through the PSD program, EPA was required to go through the process prescribed by CAA § 166. Section 166 provides specific steps that EPA must take when designating new "pollutants for which national ambient air quality standards" apply. 42 U.S.C. § 7476(a). Here, Industry Petitioners argue, EPA unlawfully failed to follow the steps laid out in Section 166, including a required study of the pollutant and a one-year delay before the effective date of regulations, before adding greenhouse gases "to the PSD [c]onstellation." Coalition for Responsible Reg. Timing & Tailoring Br. 41.

This argument fails on its face. By its terms, § 166 applies only to new "pollutants *for which national ambient air quality standards*" apply, 42 U.S.C. § 7476(a) (emphasis added), i.e., NAAQS criteria pollutants for which regions may be classified as in "attainment," "non-attainment," or "unclassifiable." And EPA never classified greenhouse gases as a NAAQS criteria pollutant. Instead, it simply determined that under § 165, major emitters of greenhouse gases are subject to the PSD program and all covered sources must install BACT for greenhouse gases. Contrary to Industry Petitioners' arguments, then, § 166 has no bearing on this addition of greenhouse gases into "the PSD [c]onstellation." Coalition for Responsible Reg. Timing & Tailoring Br. 41. Indeed, we rejected a nearly identical argument in *Alabama Power*, holding that there is "no implied or apparent conflict between sections 165 and 166; nor . . . must the requirements of section 165 be 'subsumed' with those of section 166." *Alabama Power*, 636 F.2d at 406. Stating what should have been obvious from the text of the statute, we concluded: "[S]ection 166 has a different focus from section 165." *Id.*

Thus, because EPA has never classified greenhouse gases as a NAAQS criteria pollutant, the § 166 requirements are entirely inapplicable here. This section of the CAA has absolutely no bearing on our conclusion that EPA's interpretation of the PSD permitting trigger is compelled by the statute itself.

VI.

Having concluded that the CAA requires PSD and Title V permits for major emitters of greenhouse gases, we turn to Petitioners' challenges to the Tailoring and Timing Rules themselves.

As an initial matter, we note that Petitioners fail to make any real arguments against the Timing Rule. To be sure, at one point State Petitioners contend that the Timing Rule constitutes an attempt "to extend the PSD and Title V permitting requirements to greenhouse-gas emissions," State Pet'rs' Timing & Tailoring Br. 67. This is plainly incorrect. As discussed in the previous section, greenhouse gases are regulated under PSD and Title V pursuant to automatic operation of the CAA. All the Timing Rule did was delay the applicability of these programs, providing that major emitters of greenhouse gases would be subject to PSD and Title V permitting requirements only once the Tailpipe Rule actually took effect on January 2, 2011. *See* Timing Rule, 75 Fed. Reg. at 17,017-19. Despite this, Petitioners confusingly urge us to vacate "[t]he Tailoring *and* Timing Rules," *e.g.* State Pet'rs' Timing & Tailoring Br. 24(emphasis added), although it is unclear what practical effect vacature of the Timing Rule would have. Nonetheless, given this phrasing of their argument, and given our conclusion that Petitioners lack Article III standing to challenge *both* rules, we shall, where appropriate, discuss the Timing Rule in conjunction with the Tailoring Rule.

In the Tailoring Rule, EPA announced that it was "relieving overwhelming permitting burdens that would, in the absence of this rule, fall on permitting authorities and sources." Tailoring Rule, 75 Fed. Reg. at 31,516. Although the PSD statute requires permits for sources with the potential to emit 100/250 tpy of "any air pollutant," 42 U.S.C. § 7479(1), EPA noted that immediate application of that threshold to greenhouse gas-emitting sources would cause permit applications to jump from 280 per year to over 81,000 per year. Tailoring Rule, 75 Fed. Reg. at 31,554. Many of these applications would come from commercial and residential sources, which would "each incur, on average, almost $60,000 in PSD permitting expenses." *Id.* at 31,556. Similarly, if the Title V 100 tpy threshold applied immediately to greenhouse gases, sources needing operating permits would jump from 14,700 per year to 6.1 million per year. *Id.* at 31,562. "The great majority of these sources would be small commercial and residential sources" which "would incur, on average, expenses of $23,175." *Id.* And were permitting authorities required to hire the 230,000 full-time employees necessary to address these permit applications, "authorities would face over $21 billion in additional permitting costs each year due to [greenhouse gases], compared to the current program cost of $62 million each year." *Id.* at 31,563.

Thus, instead of immediately requiring permits for all sources exceeding the 100/250 tpy emissions threshold, EPA decided to "phas[e] in the applicability of these programs to [greenhouse gas] sources, starting with the largest [greenhouse gas] emitters." *Id.* at 31,514. The Tailoring Rule established the first two steps in this phased-in process. During Step One, only sources that were "subject to PSD requirements for their conventional pollutants anyway" (i.e., those sources that exceeded the statutory emissions threshold for non-greenhouse gas pollutants) were required to install BACT for their greenhouse gas emissions. *Id.* at 31,567. Step Two, which took effect on July 1, 2011, also requires PSD permits for sources with the potential to emit over 100,000 tpy $CO_{2}e$ after a proposed construction project, or 75,000 tpy $CO_{2}e$ after a proposed modification project. *Id.* at 31,523. Step Two further requires Title V permits for sources which have the potential to emit over 100,000 tpy $CO_{2}e$. *Id.* at 31,516. EPA has since proposed—but has yet to finalize—a "Step Three," which would maintain the current thresholds while the agency evaluates the possibility of regulating smaller sources. *See* EPA's 28(j) Letter 1-2, February 27, 2012.

In the Tailoring Rule, EPA justified its phased-in approach on three interrelated grounds, each of which rests on a distinct doctrine of administrative law. First, EPA concluded "the costs to sources and administrative burdens . . . that would result from [immediate] application of the PSD and title V programs . . .at the statutory levels . . . should be considered 'absurd results,'" which Congress never intended. *Id.* at 31,517; *see Am. Water Works Ass'n v. EPA*, 40 F.3d 1266, 1271 (D.C. Cir. 1994) ("[W]here a literal reading of a statutory term would lead to absurd results, the term simply has no meaning . . and is the proper subject of construction by EPA and the courts."). Thus, under the "absurd results" doctrine, EPA concluded that the PSD and Title V programs "should not [immediately] be read to apply to all [greenhouse gas] sources at or above the 100/250 tpy threshold." Tailoring Rule, 75 Fed. Reg. at 31,554. Second, emphasizing that immediate regulation at the 100/250 tpy threshold would cause tremendous administrative burden, EPA justified its deviation from this threshold on the basis of the "administrative necessity" doctrine. *Id.* at 31,576; *see Envtl. Def. Fund, Inc. v. EPA*, 636 F.2d 1267, 1283 (D.C. Cir. 1980) ("[A]n agency may depart from the requirements of a regulatory statute . . . to cope with the administrative impossibility of applying the commands of the substantive statute."). Finally, asserting that there exists a judicial doctrine that allows agencies to implement regulatory programs in a piecemeal fashion, EPA stated that the Tailoring Rule was justified pursuant to this "one-step-at-atime" doctrine. Tailoring Rule, 75 Fed. Reg. at 31,578; *see Massachusetts v. EPA*, 549 U.S. at 524 ("Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop.").

Petitioners—particularly State Petitioners—argue that none of these doctrines permit EPA to "depart unilaterally from the [CAA's] permitting thresholds and replace them with numbers of its own choosing." State Pet'rs' Timing & Tailoring Br. 29. Admitting the "lamentable policy consequences of adhering to the unambiguous numerical thresholds in the Clean Air Act," State Petitioners rather colorfully argue that EPA's attempts to alleviate those burdens "establish only that EPA is acting as a benevolent dictator rather than a tyrant." *Id.* at 26. And because EPA exceeded the boundaries of its lawful authority, Petitioners urge us to vacate the Tailoring Rule.

Before we may address the merits of these claims, however, we must determine whether we have jurisdiction. "No principle," the Supreme Court has repeatedly explained, "is more fundamental to the judiciary's proper role in our system of government than the constitutional limitation of federal-court jurisdiction to actual cases or controversies." *Raines v. Byrd*, 521 U.S. 811, 818 (1997) (internal quotation marks omitted). The doctrine of standing "is an essential and unchanging part of the case-or-controversy requirement." *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992). To establish standing, a petitioner must have suffered an "injury in fact" that is 1) "concrete and particularized . . . [and] actual or imminent, not conjectural or hypothetical," 2) was caused by the conduct complained of, and 3) is "likely, as opposed to merely speculative [to] be redressed by a favorable decision." *Id.* at 560–61 (internal quotation marks and citations omitted).

Petitioners fall far short of these "irreducible constitutional . . . elements" of standing, *id.* at 560. Simply put, Petitioners have failed to establish that the Timing and Tailoring Rules caused them "injury in fact," much less injury that could be redressed by the Rules' vacatur. Industry Petitioners contend that they are injured because they are subject to regulation of greenhouse gases, Coalition for Responsible Reg. Timing & Tailoring Br. 14. State Petitioners claim injury because they own some regulated sources and because they now carry a heavier administrative burden. State Pet'rs' Timing & Tailoring Br. 22–23. But as discussed above, *see supra* Part V, the CAA mandates PSD and Title V coverage for major emitters of greenhouse gases. Thus, Industry Petitioners were regulated and State Petitioners required to issue permits not because of anything EPA did in the Timing and Tailoring Rules, but by automatic operation of the statute. Given this, neither the Timing nor Tailoring Rules caused the injury Petitioners allege: having to comply with PSD and Title V for greenhouse gases.

Indeed, the Timing and Tailoring Rules actually mitigate Petitioners' purported injuries. Without the Timing Rule, Petitioners may well have been subject to PSD and Title V for greenhouse gases before January 2, 2011. Without the Tailoring Rule, an even greater number of industry and state-owned sources would be subject to PSD and Title V, and state authorities would be overwhelmed with millions of additional permit applications. Thus, Petitioners have failed to "show that, absent the government's allegedly unlawful actions, there is a substantial probability that they would not be injured and that, if the court affords the relief requested, the injury will be removed." *Chamber of Commerce v. EPA*, 642 F.3d 192, 201 (D.C. Cir. 2011) (quotations and alterations omitted). Far from it. If anything, vacature of the Tailoring Rule would significantly exacerbate Petitioners' injuries.

Attempting to remedy this obvious jurisdictional defect, State Petitioners present two alternative theories, neither of which comes close to meeting the "irreducible constitutional . . . elements" of standing. *Lujan*, 504 U.S. at 560. First, State Petitioners counterintuitively suggest that they actually want EPA to immediately "appl[y] the 100/250 tpy permitting thresholds to greenhouse-gas emissions." State Pet'rs' Timing & Tailoring Reply Br. 15. Admitting that vacature of the Tailoring Rule would result in astronomical costs and unleash chaos on permitting authorities, State Petitioners predict that Congress will be forced to enact "corrective legislation" to relieve the overwhelming permitting burdens on permitting authorities and sources, thus mitigating their purported injuries. *Id.*

This theory fails. To establish standing, plaintiffs must demonstrate that it is "likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision," *Lujan*, 504 U.S. at 561 (internal quotation marks omitted), but here, State Petitioners simply hypothesize that Congress will enact "corrective legislation." State Pet'rs' Timing & Tailoring Reply Br. 15. We have serious doubts as to whether, for standing purposes, it is ever "likely" that Congress will enact legislation at all. After all, a proposed bill must make it through committees in both the House of Representatives and the Senate and garner a majority of votes in both chambers—

overcoming, perhaps, a filibuster in the Senate. If passed, the bill must then be signed into law by the President, or go back to Congress so that it may attempt to override his veto. As a generation of schoolchildren knows, "by that time, it's very unlikely that [a bill will] become a law. It's not easy to become a law." Schoolhouse Rock, *I'm Just a Bill*, at 2:41, *available at* http://video.google.com/videoplay?docid =7266360872513258 185# (last visited June 1, 2012).

And even if the astronomical costs associated with a 100/250 tpy permitting threshold make *some* Congressional action likely, State Petitioners are still unable to show that it is "likely, as opposed to merely speculative," *Lujan*, 504 U.S. at 561, that Congress will redress their injury. State Petitioners apparently assume that if the 100/250 tpy permitting threshold was immediately applied to greenhouse gases, Congress would exempt those pollutants from the PSD and Title V programs entirely. But this is just one of many forms "corrective legislation" could take. For example, were we to vacate the Tailoring Rule, Congress could decide to readopt its key provisions in the PSD and Title V statutes. Or it could set PSD and Title V permitting thresholds at 25,000 tpy for greenhouse gases—higher than the 100/250 tpy threshold, but lower (and thus more costly to Petitioners) than the thresholds promulgated in the Tailoring Rule. Or it could do something else entirely. All of this is guesswork, which is precisely the point: State Petitioners' faith that Congress will alleviate their injury is inherently speculative.

State Petitioners' second alternative theory of standing fares no better. In their reply brief, they contend that even if vacating the Timing or Tailoring

Rules would indeed exacerbate their costs and administrative burdens (the purported injuries they claimed in their opening brief), "then State Petitioners can establish Article III standing under *Massachusetts* by asserting injuries caused by EPA's failure to regulate sooner." State Pet'rs' Timing & Tailoring Reply Br. 5. Essentially, State Petitioners' reply brief contends that, contrary to the position taken in the opening brief, they want more regulation, not less, and that they wanted regulation sooner rather than later. And because the Commonwealth of Massachusetts had standing to seek regulation of greenhouse gases in *Massachusetts v. EPA*, State Petitioners argue that they now have standing to seek more regulation of greenhouse gases as well.

This argument is completely without merit. As an initial matter, we are aware of no authority which permits a party to assert an entirely new injury (and thus, an entirely new theory of standing) in its reply brief. Quite to the contrary, we have held that, where standing is not self-evident, "[i]n its *opening* brief, the petitioner should . . . include . . . a concise recitation of the basis upon which it claims standing." *Sierra Club v. EPA*, 292 F.3d 895, 901 (D.C. Cir. 2002) (emphasis added); *see also* D.C. Cir. R. 28(a)(7) ("[i]n cases involving direct review in this court of administrative actions, the brief of the appellant or petitioner must set forth the basis for the claim of standing."); *American Library Ass'n v. FCC*, 401 F.3d 489, 493–94 (D.C. Cir. 2005) (discussing limitations on this principle). After all, "it is often the case . . . that some of the relevant facts are known only to the petitioner, to the exclusion of both the respondent and the court." *Sierra Club*, 292 F.3d at 901. If "the petitioner does not submit evidence of those facts with its opening brief," the respondent is "left to flail at the unknown in an attempt to prove the negative." *Id.* This principle is particularly important here, for State Petitioners' asserted fear of global warming stands in stark contrast to the position they took throughout this litigation. In an earlier brief, for example, they characterized the Endangerment Finding as "a subjective conviction" State Pet'rs' Endangerment Br. 19, "supported by highly uncertain climate forecasts," *id.* at 18, and "offer[ing] no criteria for determining a harmful, as opposed to a safe, climate," *id.* at 17. Given this, EPA could not possibly have anticipated that State Petitioners, abruptly donning what they themselves call "an environmentalist hat," State Pet'rs' Timing & Tailoring Reply Br. 4, would assert that global warming causes them concrete and particularized harm.

In any event, State Petitioners fail to cite any record evidence to suggest that they are adversely affected by global climate change. This is in stark contrast to the evidence put forward in *Massachusetts v. EPA*, where the Commonwealth submitted unchallenged affidavits and declarations showing that 1) rising sea tides due to global warming had "already begun to swallow Massachusetts' coastal land," and 2) "[t]he severity of that injury will only increase over the course of the next century." *Massachusetts v. EPA*, 549 U.S. at 522–23. These specific, factual submissions were key to the standing analysis in *Massachusetts v. EPA*: the Court held that "petitioners' *submissions as they pertain to Massachusetts* have satisfied the most demanding standards of the adversarial process." *Id.* at 521 (emphasis added). It is true, as State Petitioners emphasize, that the Supreme Court held that states are "entitled to special solicitude in our standing analysis." *Id.* at 522. But nothing in the Court's opinion remotely suggests that states are somehow exempt from the burden of establishing a concrete and particularized injury in fact. State Petitioners, like Industry Petitioners, failed to do so here. We shall thus dismiss all challenges to the Timing and Tailoring Rules for lack of jurisdiction.

VII.

Following promulgation of the Timing and Tailoring Rules, EPA issued a series of rules ordering states to revise their PSD State Implementation Plans (SIPs) to accommodate greenhouse gas regulation. *See Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call*, 75 Fed. Reg. 53,892 (Sept. 2, 2010), 75 Fed. Reg. 77,698 (Dec. 13, 2010); *Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Failure to Submit State Implementation Plan Revisions Required for Greenhouse Gases*, 75 Fed. Reg. 81,874 (Dec. 29, 2010). Industry Petitioners present several challenges to these SIP-related rules. But our review in this case is limited to four EPA decisions: the Endangerment Finding, the Tailpipe Rule, and the Timing and Tailoring Rules. We thus lack jurisdiction over the SIP-related rules. Moreover, challenges to these rules are currently pending in at least two separate cases before this court. *See Utility Air*

Regulatory Group v. EPA, No. 11-1037 (consolidating various challenges); *Texas v. EPA*, No. 10-1425 (challenge brought by Texas). We decline Industry Petitioners' invitation to rule on the merits of cases which are properly before different panels.

VIII.

For the foregoing reasons, we dismiss all petitions for review of the Timing and Tailoring Rules, and deny the remainder of the petitions.

So ordered.

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 09-1322 **September Term 2011**
Filed On: June 26, 2012

COALITION FOR RESPONSIBLE
REGULATION, INC., ET AL.,

PETITIONERS

V.

ENVIRONMENTAL PROTECTION
AGENCY,

RESPONDENT

STATE OF MICHIGAN, ET AL.,
INTERVENORS

Consolidated with 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321

No. 10-1073

COALITION FOR RESPONSIBLE
REGULATION, INC., ET AL.,

PETITIONERS

v.

ENVIRONMENTAL PROTECTION
AGENCY,

RESPONDENT

AMERICAN FROZEN FOOD INSTITUTE,
ET AL.,
INTERVENORS

Consolidated with 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222

NO. 10-1092

COALITION FOR RESPONSIBLE
REGULATION, INC., ET AL.,

PETITIONERS

v.

ENVIRONMENTAL PROTECTION
AGENCY,

RESPONDENT

LANGBOARD, INC. - MDF, ET AL.,
INTERVENORS

Consolidated with 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182

NO. 10-1167

AMERICAN CHEMISTRY COUNCIL,

PETITIONER

V.

ENVIRONMENTAL PROTECTION AGENCY
AND LISA PEREZ JACKSON, ADMINISTRATOR,
U.S. ENVIRONMENTAL PROTECTION
AGENCY,

RESPONDENTS

CHAMBER OF COMMERCE OF THE
UNITED STATES OF AMERICA, ET AL.,

INTERVENORS

Consolidated with 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180

On Petitions for Review of Final Actions of the
Environmental Protection Agency

BEFORE: SENTELLE, *Chief Judge*, ROGERS, AND TATEL, *Circuit Judges*

JUDGMENT

These causes came on to be heard on the petitions for review of final actions of the Environmental Protection Agency and were argued by counsel. On consideration thereof, it is

ORDERED and **ADJUDGED** that the Timing and Tailoring petitions for review be dismissed, and the remainder of the petitions be denied, in accordance with the opinion of the court filed herein this date.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

By: /s/
Jennifer M. Clark
Deputy Clerk

Date: June 26, 2012

Opinion Per Curiam

UNITED STATES COURT OF APPEALS
For The District of Columbia Circuit

Filed: December 20, 2012

No. 09-1322

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.,
Petitioners
v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent

STATE OF MICHIGAN, ET AL.,
Intervenors

Consolidated with 10-1024, 10-1025,10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321

No. 10-1073

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.,
Petitioners
v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent

AMERICAN FROZEN FOOD INSTITUTE, ET AL.,
Intervenors

Consolidated with 10-1083, 10-1099, 10-1109,10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222

No. 10-1092

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.,
Petitioners
v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent

LANGBOARD, INC.-MDF, ET AL.,
Intervenors

Consolidated with 10-1094, 10-1134, 10-1143,10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182

No. 10-1167

AMERICAN CHEMISTRY COUNCIL,
Petitioner
v.

ENVIRONMENTAL PROTECTION AGENCY AND
LISA PEREZ JACKSON, ADMINISTRATOR,
U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondents

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, ET AL.,
Intervenors

Consolidated with 10-1168, 10-1169, 10-1170,10-1173,
10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179,
10-1180

On Petitions for Rehearing En Banc

Before SENTELLE*, *Chief Judge*, and HENDERSON, ROGERS*, TATEL*, GARLAND, BROWN*, GRIFFITH, and KAVANAUGH*, *Circuit Judges*.

ORDER

The petition of the Chamber of Commerce of the

United States of America, joined by the State of Alaska, Peabody, Energy Company, Southeastern Legal Foundation, et al., State Petitioners and Intervenors for Petitioners, for rehearing en banc; and the petition of the National Association of Manufacturers, et al. for rehearing en banc in No. 10–1073, et al. and No. 10–1167, et al., and the responses to the petitions were circulated to the full court, and a vote was requested. Thereafter, a majority of the judges eligible to participate did not vote in favor of the petitions. Upon consideration of the foregoing, it is

ORDERED that the petitions be denied.

FOR THE COURT:
Mark J. Langer, Clerk

BY: /s/
Jennifer M. Clark
Deputy Clerk

* Circuit Judges Brown and Kavanaugh would grant the petitions for rehearing en banc.

* A statement by Chief Judge Sentelle and Circuit Judges Rogers and Tatel, concurring in the denials of rehearing en banc, is attached.

* A statement by Circuit Judge Brown, dissenting from the denials of rehearing en banc, is attached.

* A statement by Circuit Judge Kavanaugh, dissenting from the denials of rehearing en banc, is attached.

SENTELLE, *Chief Judge*, ROGERS, *Circuit Judge*, and TATEL, *Circuit Judge*, concurring in the denials of rehearing en banc: In dissenting from the denials of rehearing en banc, Judge Brown primarily takes issue with EPA's Endangerment Finding. But as she candidly acknowledges, *see* Dissenting Op. at 2 (Brown, J.), her quarrel is with the Supreme Court. In *Massachusetts v. EPA,* 549 U.S. 497, 127 S.Ct. 1438, 167 L.Ed.2d 248 (2007), the Court expressly *held* that the Clean Air Act's "sweeping definition of 'air pollutant' " unambiguously includes greenhouse gases. *See id.* at 528–29. Moreover, in so holding, the Court expressly rejected many of the arguments her dissent now presses. In particular, it rebuffed EPA's attempt to use "postenactment congressional actions and deliberations" to obscure "the meaning of an otherwise-unambiguous statute," *id.* at 529, and found EPA's reliance on *FDA v. Brown & Williamson Tobacco Corp.,* 529 U.S. 120 (2000), "similarly misplaced," *Massachusetts v. EPA,* 549 U.S. at 530. Seeking to revive the *Brown & Williamson* argument, Judge Brown suggests that the Court never considered the "far-reaching effects" of extending greenhouse gas regulation to stationary sources. *See* Dissenting Op. at 18 (Brown, J.). But this is inaccurate—the briefs before the Court explicitly raised the argument that interpreting "air pollutant" to include greenhouse gases could have tremendous consequences for stationary-source regulation. *See, e.g.,* Brief of Respondent CO_2 Litigation Group, *Massachusetts v. EPA,* 549 U.S. 497 (2007) (No. 05–1120), 2006 WL 3043971 at *19–*31.

To the extent Judge Brown attempts to bypass *Massachusetts v. EPA* by focusing on the statutory condition that air pollution "*reasonably be anticipated to endanger* public health or welfare," 42 U.S.C. § 7521(a)(1) (emphasis added), her quarrel is not just with the Supreme Court, but also with EPA's assessment of the science. Of course, we agree that the statute requires EPA to find a particular causal nexus between the pollutant and the harm in order to regulate. *See* Dissenting Op. at 9 (Brown, J.). But that is exactly what EPA did: it found that "greenhouse gases in the atmosphere may *reasonably be anticipated* both to endanger public health and to endanger public welfare." *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,* 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009). And, as the panel opinion explains, EPA's scientific judgment about the causal relationship between greenhouse gases and climate change is a scientific determination entitled to "an extreme degree of deference." *Coalition for Responsible Regulation v. EPA,* 684 F.3d 102, 120 (D.C. Cir. 2012) (quoting *American Farm Bureau Federation v. EPA,* 559 F.3d 512, 519 (D.C. Cir. 2009)). The dissent's suggestion that EPA was somehow statutorily precluded from finding the requisite nexus between greenhouse gases and harm to public health and welfare, *see* Dissenting Op. at 10–11 (Brown, J.), is belied by the Supreme Court's decision to remand precisely this question. *See Massachusetts v. EPA,* 549 U.S. at 532–35.

Judge Kavanaugh's dissent relates to the scope of the Prevention of Significant Deterioration ("PSD") program, an aspect of the panel opinion Judge Brown also rejects. Specifically, Judge Kavanaugh disagrees with EPA's longstanding interpretation of the term "any air pollutant," 42 U.S.C. § 7479(1), arguing that, in the context of the PSD program, "any air pollutant" refers not to all pollutants regulated under the Clean Air Act, but only to the six NAAQS pollutants. Because taking the statute at its word and interpreting "any air pollutant" to include greenhouse gases would lead to what he considers absurd results, Judge Kavanaugh insists that EPA and this Court are obligated to read "any air pollutant" more narrowly. *See* Dissenting Op. at 3–10 (Kavanaugh, J.). This argument, however, hinges on the proposition that both readings are plausible interpretations of an ambiguous statutory provision. *See* Dissenting Op. at 2–3, 10 (Kavanaugh, J.). But as the panel opinion explains at length, the statute is clear. *See Coalition for Responsible Regulation,* 684 F.3d at 132–44. Congress did not say "certain 'air pollutants.' " Dissenting Op. at 2 (Kavanaugh, J.). It said "any air pollutant," and it meant it. *See Coalition for Responsible Regulation,* 684 F.3d at 136. Thus, unlike the unreasonable interpretation rejected in *Kloeckner v. Solis,* No. 11–184, slip op. at 7–13 (U.S. 2012), the panel's interpretation of the statute is the only plausible one.

Moreover—and again, as the panel opinion explains at length, *see Coalition for Responsible Regulation,* 684 F.3d at 135–36—considering "any air pollutant" in context buttresses rather than undermines the panel's interpretation. The statute frames the purpose of the PSD program in broad—not NAAQS-specific—terms, emphasizing that the program's goal is "to protect public health and welfare from any actual or potential adverse effect which ... may reasonably be anticipate[d] to occur from air pollution." 42 U.S.C. § 7470(1). And although certain aspects of the program are specifically directed at NAAQS pollutants, *see, e.g., id.* § 7473(b)(4), the program as a whole plainly has a more expansive scope. For instance, covered sources are required to (1) install the best available control technology for "*each* pollutant subject to regulation under [the Act]," *id.* § 7475(a)(4) (emphasis added), and (2) demonstrate that they will not cause or contribute to "*any* ... applicable emission standard" under the Act, *id.* § 7475(a)(3) (emphasis added).

In the end, we agree that "the question here is: Who Decides?" Dissenting Op. at 18 (Kavanaugh, J.). We also agree that "Congress (with the President) sets the policy through statutes, agencies implement that policy within statutory limits, and courts in justiciable cases ensure that agencies stay within the statutory limits set by Congress." Dissenting Op. at 18 (Kavanaugh, J.). Here, Congress spoke clearly, EPA fulfilled its statutory responsibilities, and the panel, playing its limited role, gave effect to the statute's plain meaning. *See Chevron, U.S.A., Inc. v. NRDC,* 467 U.S. 837, 842–43 (1984) ("If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.").

To be sure, the stakes here are high. The underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance. The legal issues presented, however, are straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent. There is no cause for en banc review.

BROWN, *Circuit Judge*, dissenting from the denial of rehearing en banc: In the summer of 1974, while waiting to start classes at UCLA, I was lucky enough to obtain a summer job house sitting in the pleasant, upscale neighborhood of Pasadena. Known mostly for its Rose Parade and Rose Bowl, Pasadena is one of the more scenic exurbs of Los Angeles. I inhabited a sparsely furnished, modest-but-pricey bungalow set among the lush landscape typical of southern California. This is a place where Birds of Paradise grow ten feet tall and the magenta blossoms of Bougainvillea fall like lavish draperies from redwood garden trellises. After staying in the house more than a month and spending a restless night listening to the agitated thrashings of the jacaranda trees in a fitful wind, I stumbled bleary-eyed into the kitchen, looked out the window, and stopped—utterly dumbfounded. There—looking like it was but a few feet beyond the back fence—stood a mountain. Not a foothill. Not an unobtrusive mesa. A mountain! Closer inspection revealed not a lone majestic peak, but a whole mountain range I later identified as the San Gabriels. In those days, the air in the Los Angeles basin was so thick with smog that a mountain, or even a nearby mountain range, could simply disappear.

Although the Los Angeles basin was among the most notorious examples of the phenomenon, it was by no means unique and certainly not the worst. It was this crisis of ambient air quality that precipitated the enactment of the Clean Air Act (CAA). But as the CAA's history, language, and structure make clear, Congress never intended the Act to serve as an environmental cure-all. It was targeted legislation designed to remedy a particular wrong: the harmful direct effects of poisoned air on human beings and their local environs. This is what Congress understood as "air pollution which may reasonably be anticipated to endanger public health" in the tailpipe emissions provision, 42 U.S.C. § 7521(a)(1). The Supreme Court in *Massachusetts v. EPA*, 549 U.S. 497 (2007), however, concluded otherwise. In dicta too suggestive to ignore, the Court implicitly assumed that climate change could provide the basis for an endangerment finding in the tailpipe context. *See id.* at 532–33.

Bound as I am by *Massachusetts,* I reluctantly concur with the Panel's determination that EPA may regulate GHGs in tailpipe emissions. But I do not choose to go quietly. Because the most significant regulations of recent memory rest on the shakiest of foundations, Part I of this statement engages *Massachusetts's* interpretive shortcomings in the hope that either Court or Congress will restore order to the CAA. Part II, by contrast, reflects my belief that *Massachusetts* does not compel the same result for Title V and the Prevention of Significant Deterioration of Air Quality (PSD) program. Although I agree with Judge Kavanaugh's dissent, *Coal. for Responsible Regulation v. EPA,* Nos. 09–1322, et al. (Kavanaugh, J., dissenting from denial of rehearing en banc), I approach the inflection point from a slightly different perspective. Part III concludes with a brief note on standing.

Because I would vote for the full court to consider the propriety of extending *Massachusetts* to Title V and the PSD program, I respectfully dissent from this denial of rehearing en banc.

I.

A.

The origins of the Clean Air Act are closely tied to fatal fogs and deadly air inversions that, for much of early postindustrial history, seemed to be the inevitable consequence of economic progress. *See* Arnold W. Reitze, Jr., *A Century of Air Pollution Control Law: What's Worked; What's Failed; What Might Work,* 21 ENVTL. L. 1549, 1575 (1991).[1] Initially regulated at the local and state level, air pollution became the focus of the federal government only after World War II. *See id.* at 1585–86. In October 1948, a severe temperature inversion in the industrial city of Donora, Pennsylvania increased air pollution to such an extent that traffic " 'was virtually stopped because of lack of visibility.' " The inversion killed 20 people, *id.*, and prompted the federal government to begin researching air pollution. *Id.* at 1586. By 1961, President Kennedy included a plea for "an effective air pollution program" in his Special Message on the Natural Resources. *Id.* Public pressures for legislation only increased when a "Killer Smog" engulfed London in December 1962, killing at least 340, and a similar inversion in New York City allegedly claimed the lives of 200. *Id.* Eventually, legislation recommended by President Kennedy in February 1963 led to the enactment of the CAA, which President Johnson signed into law on December 17, 1963. *Id.* at 1586–87. Seven years later, President Nixon signed The Clean Air Amendments of 1970. The 1970 Amendments authorized the EPA to prescribe national ambient air quality standards (NAAQS) and created the statutory framework that still exists today.

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[1] Inversions, sometimes known as "Londoners," occur "when a layer of hot air warmed by ... water exists above cooler ground-level air and traps smoke and particulate matter under the warmer air." *Id.*

B.

It was no happy accident that congressional draftsmen titled the legislation the "*Clean Air* Act." Ambient air quality was the point, purpose, and focus of the CAA. Congress had set its sights on the "dirty, visible 'smokestack' emissions," 136 CONG. REC. H2771–03 (1990) (statement of Rep. Roe), and smog caused by vehicle emissions. The CAA was the means by which Congress would grapple with urban air pollution and its attendant health effects, including impaired breathing, heart disease, lung damage and lung disease, and even death. If pollution was the problem, these ills were the specific harms Congress sought to combat. Even a cursory glance at the legislative history, with its numerous charts, graphics, and statistics detailing cancer and death rates, will bear this point out. *See, e.g.*, Hearings on Air Pollution—1968 Before the Subcomm. on Air and Water Pollution of the Sen. Comm. on Pub. Works, 90th Cong. 2nd Sess., pt. 2, 608–20 (1968) (statement of Dr. Samuel S. Epstein, Children's Cancer Research Foundation.) ("Air Pollution—1968").

With the enactment of the 1990 Amendments, Congress expanded the Act beyond its singular emphasis on urban air quality to address hazardous—*i.e.*, toxic—air pollutants, acid rain, and stratospheric ozone. In regulating hazardous pollutants, Congress reemphasized the need for a close and tangible nexus between pollutant and harm. The legislative record, for example, continued to conceive of dangers in terms of their direct effects on human health and well-being. *See, e.g.*, S. Rep. No. 101–228, at 3388 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385 ("Air pollution can silently damage our lungs and heart or act swiftly in the case of exposure to toxic air pollutants. Rigorous regulation of toxic air pollutants is needed to avoid risk of serious, irreversible damage to human health."). To the extent the regulation of stratospheric ozone and acid rain suggest a broader nexus between pollutant and harm to human health, the very particular way in which Congress handled these exceptions goes a long way toward proving the rule: Congress only expands the CAA through considered legislative acts.

In addressing these transnational phenomena, the legislature did not spin regulations out of whole cloth. With ozone concerns, for example, Congress developed solutions through international negotiations, the implementation of which led to the creation of a separate title of the CAA. *See NRDC v. EPA*, 464 F.3d 1, 3 (D.C. Cir. 2006). Likewise, years of contentious discussions with Canada helped bring about the acid rain provisions in the 1990 Amendments. *See generally* Dennis A. Leaf, *Intergovernmental Cooperation: Air Pollution from an U.S. Perspective*, 18 CAN.-U.S. L.J. 245 (1992). Simply put, when Congress became aware of new dangers, it acted judiciously in crafting workable remedies that, when they obtained the necessary political support, were worked into their own discrete provisions under the Act. Neither Congress nor the EPA attempted to force these distinct problems into existing, ill-suited regulatory schemes.

Congressman Waxman, one of the strongest proponents of stringent air pollution controls and a key force behind the 1990 Amendments, has stated that "in recent experience, no legislation has received more scrutiny during its consideration." The Honorable Henry A. Waxman, *An Overview of the Clean Air Act Amendments of 1990,* 21 ENVTL. L. 1721, 1724 (1991). Hyperbole or not, the admission is telling. The history of the CAA is one of hard-fought incremental gains through which Congress remedied particular environmental wrongs with tailored remedies. Said the Congressman:

> Discrete and extensive new programs are included to grapple with high ambient pollution levels (urban and regional smog), hazardous air pollution, acid rain, and depletion of the stratospheric ozone layer. Each of these programs [was] tailored to the problem it [sought] to address, and each [was] quite different in its approach."

Id. at 1811. Political necessity has forced Congress to calibrate its amendments to the CAA with great specificity and care. Where our Representatives have acted with such caution, any suggestion that Congress has—through a single word—conferred upon EPA the authority to steamroll through Congressional gridlock, upend the Senate's rejection of the Kyoto Protocol, and regulate GHGs for the whole of American industry must necessarily fail. The legislature, recall, does not "hide elephants in mouseholes." *Whitman v. Am. Trucking Assocs.,* 531 U.S. 457, 468, (2001).

But we needn't rely on interpretative canons alone to make this point. In drafting the 1990 Amendments, Congress considered—and *expressly rejected*—proposals authorizing EPA to regulate GHGs under the CAA. *See* S. Rep. No. 101–228, at 377 (1989), *as reprinted in* 1990 U.S.C.C.A.N. 3385, 3760. Even the Executive objected that an attempt to control Carbon Dioxide (CO_2) emissions—emissions not harmful to health—in order to prevent global warming was premature. *See* Administration's Amendments—Hearings Before the Subcomm. On Health and the Env't of the Comm. on Energy and Commerce, 101st Cong., 1st Sess. (1989) (includes Bush Administration Report on S. 1630). The Executive's critique noted that "unilateral action aimed at addressing a global problem" through a standard limiting tailpipe emissions would not be an effective means of safeguarding the global environment and would "necessarily punish national interests." *Id.* at 792, 813.

That Congress has never deviated from its decision to not regulate GHGs under the CAA was not for lack of opportunity. Congress has considered and rejected countless other bills in the years since the 1990 Amendments that would have authorized GHG regulation. By one estimate, Congressmen have proposed over 400 bills concerning GHGs between 1990 and 2009. *See* Abigail R. Moncrieff, *Reincarnating the "Major Questions" Exception to Chevron Deference As A Doctrine of Noninterference (or Why Massachusetts v. EPA Got It Wrong),* 60 ADMIN L. REV. 593, 636–37 (2008) (tracking proposals). Congress's inability to break this nearly quarter-century long deadlock is incredibly suggestive: this is not an area of policymaking where the legislature has acted rashly or unthinkingly in delegating authority to agencies.

At bottom, Congress understood the dangers of "any air pollutant" in § 7521(a)(1) in terms of the ill-effects caused those who inhale the pollutants, not the broad, attenuated consequences of climate change. The CAA was drafted not to combat the threat of flooding or the menace of heat waves, *see* Endangerment and Cause of Contribute Findings for Greenhouse Gases, 74 Fed. Reg. 66,496, 66,526 (Dec. 15, 2009) ("EPA Endangerment Finding"), but the choking, stifling, and degenerative effect of airborne pollutants on human beings and their affected localities. Congress has long quantified this harm in terms of mortality rates, *see, e.g.,* Air Pollution—1968, 564 (statement of Dr. Roger S. Mitchell, Director, Webb–Waring Institute for Medical Research), not acreage of "costal land" lost. *Massachusetts,* 549 U.S. at 522. To put matters pointedly: the injury sufficient to establish standing need not suffice to establish endangerment as well.

Congress was of course free to circumvent this close cause-health effect nexus by devising a separate provision for GHG regulation, much as it did for stratospheric ozone, but it did no such thing. And nothing in the legislative history suggests that Congress has deviated from this status quo.

The plain language of the CAA only underscores the Act's non-applicability to GHGs insofar as it requires the harm be of the sort "reasonably [ ] anticipated to endanger." 42 U.S.C. § 7251(a)(1)—a term we know to have a discrete meaning.

C.

In the present case, this Court had "little trouble" disposing of the argument that the "PSD program is specifically focused solely on localized air pollution" because it is "*quite clear ... the PSD program was intended to protect against precisely the types of harms caused by greenhouse gases.*" *CRR* Slp. Op. 62–63 (emphasis added). *Massachusetts* notwithstanding, this statement is a curious thing in light of the uncontradicted legislative history just discussed.[2] So too is the court's reliance on the statutory text, particularly its finding that "the CAA expressly provides that effects on 'welfare' means 'effects on ... weather ... and climate.' " Slp. Op. 62–63 (citing 42 U.S.C. § 7602(h)).

As a textual matter, there is nothing "quite clear" about it. The Supreme Court has declared that GHGs like CO_2 are pollutants within the meaning of the Act. Under the CAA, however, EPA can regulate a pollutant only if the administrator finds that the GHG causes or contributes to "air pollution which *may reasonably be anticipated to endanger* public health or welfare." 42 U.S.C. § 7251(a)(1) (emphasis added). But in locating the CAA's conception of "harm" in § 7602(h), the definition of "welfare," and not § 7251(a)(1) generally, this court effectively skirted the operative statutory language—"may reasonably be anticipated"—and rendered it nugatory. This was in error. Section 7602(h) defines only the potential *objects* of harm; the "reasonably be anticipated" language of § 7251(a)(1) supplies the requisite *nexus* between the pollutant and the objects of its harm. The two provisions must be read together if the statute is to be interpreted faithfully. To put matters another way, the "may reasonably be anticipated" language must do some analytical work in the endangerment determination lest it be deemed surplusage. *See, e.g., Conference of State Bank Supervisors v. Conover,* 715 F.2d 604, 627 (D.C. Cir. 1983) ("[I]n construing a statute, we 'are obliged to give effect, if possible, to every word Congress used.' " (quoting *Reiter v. Sonotone Corp.,* 442 U.S. 330, 339 (1979))). And in view of the CAA's legislative history, the nature of that work is clear.

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[2] As noted, the weather and climate issues targeted by the CAA involve direct, deleterious, localized effects caused by polluted air people breathe or suspended pollutants that may be deposited on land and crops by precipitation.

In order to reasonably anticipate that a pollutant will contribute to air pollution that endangers public health or welfare, the Agency would have to conclude that pollution created by CO_2 or another GHG is a reasonably direct cause of the damage to public health and welfare. To find that CO_2 may ultimately endanger public health and welfare because sea levels will rise tells us nothing about whether CO_2 concentrations in the ambient air directly harm public health and welfare. The ingredients of a Killer Smog are few and specific; the process through which an air inversion traps particulate matter close to the ground is well understood. With both there is a direct correlation between reducing the concentration of the pollutant and reducing the negative health effects. Questions of public health impacts from air pollution have consistently been based on the direct—that is, inhalational—effects of exposure to the pollutant. *See, e.g.,* Joint Opening Brief of Non–State Petitioners and Supporting Intervenors at 58, *Coal. for Responsible Regulation v. EPA,* No. 09–1322 (May 20, 2011); *NRDC, Inc. v. EPA,* 902 F.2d 962, 973 (D.C. Cir. 1990) (concluding that EPA may not consider the health effects of increased unemployment when setting new health-based NAAQS)

In contrast, any harm to human health and welfare flowing from climate change comes at the end of a long speculative chain. The dissent in *Massachusetts* pointed out that EPA had described in great detail the scientific uncertainty that precluded even forming a judgment as to whether greenhouse gases endanger public welfare. *See* 549 U.S. at 553–55 (Scalia, J., dissenting). In that earlier defense of its refusal to form a judgment, EPA explained how predicting climate change involved a "complex web of economic and physical factors," including:

> [o]ur ability to predict future global anthropogenic emissions of GHGs and aerosols; the fate of these emissions once they enter the atmosphere (*e.g.*, what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (*e.g.*, changes in cloud cover and ocean circulation); change in temperature characteristics (*e.g.*, average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (*e.g.*, shifts in precipitation, storms); and ultimately the

> impact of such changes on human health and welfare (*e.g.*, increases or decreases in agricultural productivity, human health impacts).

Id. If there can be this much logical daylight between the pollutant and the anticipated harm, there is nothing EPA is not authorized to do. If this finding is valid, in a world where six degrees of separation is the compass of all humankind, the right endangerment finding would allow EPA to rule the world. But as this Court has noted before, EPA's authority to regulate is constrained, not enlarged, by the relationship of the term "will endanger" to other sections of the CAA. *See Ethyl v. EPA*, 541 F.2d 1, 29 (D.C. Cir. 1976) (en banc).

Of course, nothing here should be taken to imply that a particular GHG does not contribute to climate change. I mean only to suggest that a pollutant might contribute to the nebulous mélange of potential drivers of climate change without having any direct, deleterious impact within the meaning of the CAA. I emphasize too that this is not a problem with science. This is a problem of statutory interpretation. Climate change, with its geologic timeframe and its many uncertainties and imponderables, is and will probably remain a subject of some controversy. EPA finds the science sufficiently convincing for its purposes and it is entitled to a certain amount of deference on questions related to its technical expertise. But it is not necessary to quibble with the science of climate change to conclude that the endangerment finding fails on textual and logical terms. There is simply a point at which a difference in degree becomes a difference in kind and we have passed this point many times over in the course of this tortured litigation. The Supreme Court, however, has refused to recognize as much for tailpipe emissions.

II.

A.

But we need not follow ***Massachusetts*** off the proverbial cliff and apply its reasoning to the unique Title V and PSD provisions not considered in that case. The cascading layers of absurdity that flow from that interpretive exercise make clear that the plain language of the CAA compels no such result. As EPA's own rulemaking documents have so unabashedly explained:

> To apply the statutory PSD and title V applicability thresholds literally to sources of GHG emissions would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program. These extraordinary increases in scope of the permitting programs would mean that the programs would become several hundred-fold larger than what Congress appeared to contemplate.

PSD and Title V Greenhouse Gas Tailoring Rule; Final Rule, 75 Fed. Reg. 31,514, 31,533 (Jun. 3, 2010) ("Final Tailoring Rule"). Completely oblivious to the irony, EPA added:

> For our authority to take this action, we rely in part on the "absurd results" doctrine, because applying the PSD and title V requirements literally (as previously interpreted narrowly by EPA) would not only be inconsistent with congressional intent concerning the applicability of the PSD and title V programs, but in fact would severely undermine congressional purpose for those programs.

Id. at 31,541–42. And again:

> [I]n this case because a literal reading of the PSD and title V applicability provisions results in insurmountable administrative burdens. Those insurmountable administrative burdens—along with the undue costs to sources—must be considered "absurd results" that would undermine congressional purpose for the PSD and title V programs.

Id. at 31,547.

In precincts outside Washington, D.C., this litany might cause a regulator to pause and consider whether results so at odds with Congressional presuppositions could ever be justified as falling within the literal meaning of an enactment. EPA, however, proposes that the absurd result can be easily eliminated by ramping up and gradually phasing in the requirements. Faced with the choice of reconsidering the legitimacy of an endangerment finding that sets in motion such a cluster of chaos or rewriting the statute, the agency has blithely done the latter. This is an abuse of the absurdity and administrative necessity doctrines as neither can be invoked to preempt legislative prerogatives. Permitting a statute "to be read to avoid absurd results allows an agency to establish that seemingly clear statutory language does not express the 'unambiguously expressed intent of Congress,' " but it does not grant the agency "a license to rewrite the statute." *Mova Pharmaceuticals v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998).

But that is not the worst of it. The real absurdity—apparently as invisible to the EPA as the San Gabriels once were to me—cannot be cured by phase in, no matter how subtly Byzantine. The real absurdity is that this unprecedented expansion of regulatory control, this epic overreach, may very well do more damage to the well-being of Americans than GHGs could ever do.[3]

B.

A second, more elementary consideration counsels against the mechanical application of *Massachusetts's* tailpipe emissions determination to these distinct CAA provisions: deference to Congress.

As articulated in *Food & Drug Administration v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), the Supreme Court's "major questions" canon gives form to the judicial intuition so strongly implicated here: Congress should not be presumed to have deferred to agencies on questions of great significance more properly resolved by the legislature. If there was ever a regulation in recent memory more befitting such a presumption than the present, I confess I do not know of it.

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[3] *See, e.g.*, Joint Reply Br. of Non–State Petitioners and Supporting Intervenors at *1, No. 09–1322 (Nov. 14, 2011) ("Nor does [EPA] dispute that the new rules will impose massive burdens on a struggling economy, or that its program of vehicle standards will affect global mean temperatures by no more than *0.01 degree Celsius by 2100* ").

On familiar facts, the Supreme Court in *Brown & Williamson* rebuffed the FDA's expansionist effort to bring tobacco products within its regulatory ambit. The agency's regulation rested on a strained interpretation of the Food, Drug, and Cosmetic Act, 21 U.S.C. § 301 *et seq.*, in which it defined nicotine as a "drug" and cigarettes and smokeless tobacco as "combination products" used to deliver nicotine to the body. *See Brown & Williamson,* 529 U.S. at 125–27. Applying *Chevron U.S.A. Inc. v. Natural Resources Defense Council,* 467 U.S. 837 (1984), the Court first considered the statutory structure. "[I]f tobacco products were within the FDA's jurisdiction," the majority concluded, the normal operation of the "Act would require the FDA to remove them from the market entirely," and this would "contradict Congress' clear intent as expressed in its more recent, tobacco-specific legislation." *Brown & Williamson,* 359 U.S. at 143. As the present case confirms, such absurdity is all but inevitable where an agency attempts to regulate that which "simply do[es] not fit" within its regulatory scheme. *Id.* The Court next considered Congress's 35 year history of tobacco-specific legislation, finding it "clear" that this "legislation has effectively ratified the FDA's previous position that it lacks jurisdiction to regulate tobacco." *Id.* at 156.

The Court then closed its lengthy *Chevron* discussion with an appeal to first principles. The "inquiry into whether Congress has directly spoken to the precise question at issue," the Court explained, "is shaped, at least in some measure, by the nature of the question presented." *Id.* at 159. *Chevron* deference operates on the assumption "that a statute's ambiguity constitutes an implicit delegation," but this tenuous fiction need not hold true in every situation. *Id.* "In extraordinary cases," the Court went on, "there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." *Id.* (referencing Stephen Breyer, *Judicial Review of Questions of Law and Policy*, 38 ADMIN. L.REV. 363, 370 (1986) ("A court may also ask whether the legal question is an important one. Congress is more likely to have focused upon, and answered, major questions, while leaving interstitial matters to answer themselves in the course of the statute's daily administration")).[4]

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[4] *MCI Telecommunications Corporation v. AT&T Co.*, 512 U.S. 218 (1994), a case the *Brown & Williamson* Court found "instructive," *Brown & Williamson*, 529 U.S. at 160, had advanced a similar logic. In concluding Congress had spoken to the meaning of the term "modify" as it appears in § 203(b) of the Communications Act of 1934, the Court rejected FCC's far more expansive interpretation. The Court assumed in dicta that it was "highly unlikely that Congress would leave the determination of wheth er an industry will be entirely, or even substantially, rate-regulated to agency discretion—and even more unlikely that it would achieve that through such a subtle device as permission to 'modify' rate-filing requirements." *MCI*, 512 U.S. at 231. Certainly the same might be said here as well.

Declaring *Brown & Williamson* "hardly [the] ordinary case," the Court reasoned:

> Contrary to its representations to Congress since 1914, the FDA has now asserted jurisdiction to regulate an industry constituting a significant portion of the American economy. In fact, the FDA contends that, were it to determine that tobacco products provide no "reasonable assurance of safety," it would have the authority to ban cigarettes and smokeless tobacco entirely. Owing to its unique place in American history and society, tobacco has its own unique political history. Congress, for better or for worse, has created a distinct regulatory scheme for tobacco products, squarely rejected proposals to give the FDA jurisdiction over tobacco, and repeatedly acted to preclude any agency from exercising significant policymaking authority in the area. Given this history and the breadth of the authority that the FDA has asserted, we are obliged to defer not to the agency's expansive construction of the statute, but to Congress' consistent judgment to deny the FDA this power.

Brown & Williamson, 529 U.S. at 159–60.

In view of the language, structure, and history of the CAA, I am simply unable to distinguish this logic from the present case in any meaningful way. To the contrary, with only the slightest of modifications one could rework the above text to apply to GHG emissions.[5]

Although the *Massachusetts* Court distinguished *Brown & Williamson,* it did so only in the context of tailpipe emissions. Its reasoning does not extend to Title V and the PSD program.

In the Court's view, *Brown & Williamson* had "found critical at least two considerations that have no counterpart in [*Massachusetts*]." 549 U.S. at 531. First, whereas the regulation of tobacco under the FDCA would have necessarily led to a ban on tobacco products—an outcome that clashed with the "common sense" intuition that Congress never meant to remove those products from circulation—the expansion of EPA's "jurisdiction would lead to no such extreme measures [because] EPA would only *regulate* emissions" and "there is nothing counterintuitive to the notion that EPA can curtail the emission of substances that are putting the global climate out of kilter." *Id.* But the Court spoke too soon. In the present litigation, EPA argued—and a Panel of this Court readily agreed—that in regulating tailpipe emissions under 42 U.S.C. § 7521, it is obligated to regulate stationary sources under Title V and the PSD program as well. As a threshold matter, the *Massachusetts* Court never considered these far-reaching effects. It limited its brief discussion on the merits to the tailpipe emissions question squarely before it. In this way, the Court never considered the differing ways in which the CAA regulates tailpipes and stationary sources.

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[5] Perhaps:

> Contrary to its representations in *Massachusetts v. EPA,* the EPA has now asserted jurisdiction to regulate industries constituting a significant portion of the American economy. In fact, the EPA contends that, because greenhouse gases can be regulated as tailpipe emissions, it is obligated to regulate all stationary sources at admittedly "absurd" levels. Owing to its ubiquitous place in the planet's life cycle, greenhouse gases have their own unique political history. Congress, for better or for worse, has declined to create a distinct regulatory scheme for greenhouse gases, squarely rejected proposals to give the EPA jurisdiction over greenhouse gases, and repeatedly acted to preclude any agency from exercising significant policymaking authority in the area. Given this history and the breadth of the authority that the EPA has asserted, we are obliged to defer not to the agency's expansive construction of the statute, but to Congress' consistent judgment to deny the EPA this power.

With tailpipe emissions, the inclusion of greenhouse gasses within the term "air pollutant" does not directly expand or contract the universe of vehicles and engines subject to the new standards. Consequently, the regulation's impact will fall primarily on those manufacturers already complying with existing emission requirements. And even then, the Court explained, EPA "would have to delay any action 'to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance.' " *Massachusetts*, 549 U.S. at 531 (quoting § 7521(a)(2)). Not so with the regulation of stationary sources. Insofar as 42 U.S.C. § 7479(1) defines "major emitting facility" to include those facilities with the "potential to emit" either 100 or 250 "tons per year or more of *any* air pollutant," the statutory term is necessarily tied to CAA's jurisdictional scope. Inescapably, then, the regulation of greenhouse gasses as "air pollutants" will radically expand the universe of covered entities far beyond Congress's intentions. EPA's decidedly extra-textual Tailoring Rule only confirms the ludicrousness of this result. Nor can it be said that the statutory safeguards operate in the same way as § 7521(a)(2). Permitting authorities may well be able to determine on a case-by-case basis what constitutes the "best available control technology" for a particular emitting facility, 42 U.S.C. § 7479(3), but this is of little consolation for the small business owner who previously fell outside the CAA. At bottom, this outcome clashes with the "common sense" understanding that Congress would not have intended such a broad, unchecked expansion of the CAA to potentially millions of businesses from all walks of industry. The Supreme Court in *Massachusetts* simply did not have occasion to consider this absurd and "counterintuitive" outcome, but we do—and we must.

Second, the Court determined that the "unbroken series of congressional enactments" referenced in *Brown & Williamson* "made sense only if adopted 'against the backdrop of the FDA's consistent and repeated statements that it lacked authority under the FDCA to regulate tobacco.' " *Massachusetts,* 549 U.S. at 531.[6] By contrast, EPA had "not identified any congressional action that conflicts in any way with the regulation of greenhouse gases from new motor vehicles." *Id.* And even if it had, "Congress could not have acted against a regulatory 'backdrop' of disclaimers of regulatory authority" because "EPA had never disavowed the authority to regulate greenhouse gases, and in 1998 it in fact affirmed that it *had* such authority." *Id.* When read in context, however, it is clear that the Court's reasoning was building toward a wholly unspectacular point: because EPA's legislative history failed to establish congressional intent with the same weight and precision as *Brown & Williamson,* it did not justify "read[ing] ambiguity into a clear statute." *Id.* That logic is inapplicable here. In the absence of lexical clarity—which the Court had found in in CAA's "sweeping definition of 'air pollutant,' " *id.* at 528—we *need* legislative history and other indicia of congressional intent to inform our understanding of how GHGs are to be regulated under other CAA provisions.[7]

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[6] The suggestion here seems to be that Congress's decision to regulate tobacco products would not, by itself, evince its intent to proscribe agencies from doing the same. Doing so in light of FDA's statements, however, had the effect of implicitly codifying the agency's long-held view.

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[7] Consider the role of NAAQS in this regulatory system. EPA in *Massachusetts* had observed that NAAQS were established to "address air pollution problems that occur primarily at ground level" as well as "concentrations of substances in the ambient air and the related public health and welfare problems." *Massachusetts,* 549 U.S. at 558–59 (Scalia, J., dissenting). EPA thus reasoned that the regulation of the buildup of CO_2 in the upper reaches of the atmosphere—the process alleged to cause global climate change—was not akin to regulating the concentration of a substance that is polluting the air and was "beyond the scope of CAA's authorization to regulate." *Id.* In other words, EPA maintained that had Congress intended the CAA to regulate greenhouse cases and global climate change, it would have provided some better tool than NAAQS. That defense—offered in response to a demand to regulate tailpipe emissions—applies

The *Massachusetts* Court's effort to distinguish *Brown & Williamson* is thus unavailing where we deal not with the definitional scope of "any pollutant" and tailpipe emissions, but the particular dangers Congress sought to combat in enacting Title V and the PSD program. When read in conjunction with the CAA's history, structure, and language, the intuitive logic of the "major questions" doctrine makes clear that the Panel erred in extending *Massachusetts*. Congress simply did not intend for EPA to convert the "Clean Air Act" to the "Warm Air Act" writ large. But that is exactly what the federal courts have done.

As the Chief Justice observed in his *Massachusetts* dissent, impatience is not a juridical principle that can be sustained under our constitutional framework. *See Massachusetts,* 549 U.S. at 535–36 (Roberts, C.J., dissenting). It certainly fares no better as a default measure of institutional choice under *Chevron*. As *Massachusetts* recognized, an agency can only exercise the authority Congress has delegated to it. *See* 549 U.S. at 534–35 (noting that EPA must "ground its reasons for action or inaction in the statute" and "exercise its discretion within defined statutory limits."). Absurdity can never figure as an adequate substitute for authority in this threshold assessment. Nor can absurdity cure the agency's failure to establish that the statute unambiguously compels its interpretation or that its interpretation, though

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with even greater potency to Title V and the PSD program. In fact, although EPA now claims it is authorized to regulate greenhouse gases and global climate change, the agency acknowledges that the regulatory framework is as ill-suited to the task as ever.

discretionary, is actually consistent with statutory text, structure, and purposes. The agency seeks to avoid these pesky constraints here by invoking *Massachusetts*, but Article III judges cannot be a legitimate source of legislative authority. By deferring to the distorted claim of delegation advanced here, this Court has transformed *Chevron* from a useful, albeit accidental, touchstone into an idol to which we surrender our constitutional faith.

III.

In rejecting State Petitioners' challenge to the Tailoring Rule for want of standing, the Panel invoked that famed preceptor of American civics, Schoolhouse Rock, to great effect. Slp. Op. at 79. ("As a generation of schoolchildren knows, 'by that time, it's very unlikely that [a bill will] become a law. It's not easy to become a law.' "). I certainly do not quarrel with such dispositive authority. Lawmaking is neither easy nor certain. In an ordinary case, the mere possibility of "corrective legislation" will not establish that redress is "likely, as opposed to merely speculative." *Lujan*, 504 U.S. at 561. But it bears repeating that this is not an ordinary case. Where the choice is between non-action or a confessedly "absurd" regulation poised to impress countless billions of dollars in costs on American industry, we have transcended the realm of the speculative. For once, the comparison with *Massachusetts* is apt. The Supreme Court found standing on the basis of an estimated rise in sea level of 20 to 70 centimeters by the year 2100, *see Massachusetts*, 549 U.S. at 542 (Roberts, C.J, dissenting)—a prediction based almost entirely on conjecture. Is it any more speculative to say that specific projections of billions of dollars in actual regulatory costs would not suffice to compel Congress to act?

The Panel's alternative contention fares better: because Congress could remedy the issue in countless ways, not all of which inure to State Petitioners' benefit, the inquiry is "inherently speculative." *See* Op. at 79. This argument benefits from the genuine uncertainty in Congress over what, if any, role EPA should play in GHG regulation. But therein lies a frighteningly obtuse logic. If EPA actions are *ultra vires* precisely because disagreement on the Hill prevented Congress from altering the status quo and authorizing such regulation, how then can the very same deadlock be used to *defeat* Petitioners' standing to challenge the Rule through which EPA effectuates its absurdist scheme? The Court cannot have it both ways.

At bottom, bad decisions make bad law. In denying rehearing en banc, this Court has read *Massachusetts* to its illogical ends and it is American industry that will have to pay. That this Court did so is unsurprising, but certainly not fated. *Massachusetts* does not compel this outcome for the PSD and Title V provisions. Had this Court interrogated its own assumptions and yielded not to *Massachusetts's* telos but sound constitutional principles, it would have found that the matter properly belongs before Congress, not courts or agencies. As Schoolhouse Rock long ago explained:

Ring one, Executive,
Two is Legislative, that's Congress.
Ring three, Judiciary.

> See it's kind of like my circus, circus.[8]

And what a circus it is.

For these reasons, I respectfully dissent from the denial of rehearing en banc.

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[8] "Three Ring Government," Schoolhouse Rocks, *available at http:// www.schoolhouserock.tv/ThreeRing.html.*

KAVANAUGH, *Circuit Judge*, dissenting from the denial of rehearing en banc:

This case is plainly one of exceptional importance. A decision in either direction will have massive real-world consequences. The U.S. Chamber of Commerce describes the EPA regulations at issue here as "the most burdensome, costly, far-reaching program ever adopted by a United States regulatory agency." Petition for Rehearing En Banc at 1. On the other hand, EPA issued these regulations to help address global warming, a policy issue of major long-term significance to the United States. Put simply, the economic and environmental policy stakes are very high.

Of course, our role is not to make the policy choices or to strike the balance between economic and environmental interests. That job is for Congress and the President when considering and enacting legislation, and then as appropriate for the Executive Branch—here, EPA, under the ultimate supervision of the President—when exercising its authority within statutory constraints. Our job as a court is more limited: to ensure that EPA has acted within the authority granted to it by Congress. In this case, I conclude that EPA has exceeded its statutory authority. I respectfully disagree with the panel opinion's contrary conclusion, and given the overall importance of the case, I respectfully dissent from the denial of rehearing en banc.

I

A

This case concerns EPA's implementation of the Prevention of Significant Deterioration provisions of the Clean Air Act. The Prevention of Significant Deterioration program—which is codified in Sections 7470 to 7479 of Title 42—is designed to maintain state and local compliance with the National Ambient Air Quality Standards, known as the NAAQS. The NAAQS are currently established for six air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. As relevant here, the Prevention of Significant Deterioration statute requires stationary facilities that emit certain "air pollutants" to obtain permits before beginning new construction. *See* 42 U.S.C. §§ 7475(a)(1), 7479(1). To obtain a permit, the facility must undergo a lengthy, costly process to analyze the new construction's impact on air quality and to try to demonstrate its compliance with the relevant emissions limits.

A central question in this case is how to construe the term "air pollutant" for purposes of this statutory permitting requirement. In particular, the question is whether the term "air pollutant" here covers not just the NAAQS pollutants, which can cause breathing problems or other health issues, but also greenhouse gases such as carbon dioxide, which contribute to global warming. Under the broader interpretation of "air pollutant" that encompasses greenhouse gases, a far greater number of facilities would fall within the Prevention of Significant Deterioration program and have to obtain pre-construction permits. That in turn would impose significantly higher costs on businesses and individuals that are building new commercial or residential property.

In considering a different Clean Air Act program targeted at motor vehicle emissions, the Supreme Court said that the term "air pollutant" meant "all airborne compounds of whatever stripe," which included greenhouse gases such as carbon dioxide. *Massachusetts v. EPA*, 549 U.S. 497, 529 (2007). But all parties here, including EPA, agree that the *Massachusetts v. EPA* interpretation of the term "air pollutant" cannot control in this case, for purposes of this very different Clean Air Act program for stationary facilities. Rather, as the parties agree, we must look to the text and context of the Prevention of Significant Deterioration statute to determine what "air pollutant" covers here.

Looking at the relevant statutory text and context, there would initially appear to be two plausible interpretations of the term "air pollutant" for purposes of the Prevention of Significant Deterioration statute: (i) more broadly, an airborne compound that is deemed harmful and is regulated by EPA in any Clean Air Act program, which would include greenhouse gases such as carbon dioxide; or (ii) more narrowly, the six air pollutants that are regulated by EPA in setting and enforcing the NAAQS, which would cover carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide, but would not include greenhouse gases such as carbon dioxide.

EPA chose the broader interpretation of "air pollutant," thereby greatly expanding the reach of the Prevention of Significant Deterioration statute. But that broader interpretation has a glaring problem, as EPA itself recognized. In the context of the Prevention of Significant Deterioration statute, EPA's broader interpretation would not mesh with other provisions of the statute and would lead to absurd results. That's because the Prevention of Significant Deterioration statute requires pre-construction permits for facilities with the potential to emit more than 250 tons per year (or, for some facilities, 100 tons per year) of any covered pollutant. *See* 42 U.S.C. §§ 7475(a)(1), 7479(1). That would be a very low trigger for emissions of greenhouse gases because greenhouse gases are emitted in far greater quantities than the NAAQS pollutants. As a result, the low trigger would mean a dramatically higher number of facilities would fall within the program and have to obtain pre-construction permits.

In an unusual twist, EPA openly acknowledged the unreasonableness—indeed, the absurdity—caused by its interpretation of the statute. If the Prevention of Significant Deterioration program were interpreted to require pre-construction permits based on emissions of greenhouse gases, EPA candidly stated that the result would be "so contrary to what Congress had in mind—and that in fact so undermines what Congress attempted to accomplish with the PSD requirements—that it should be avoided under the 'absurd results' doctrine." 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009).

But faced with those absurd consequences from the broader interpretation of the statute, EPA surprisingly did not choose the seemingly obvious option of adopting the narrower and more sensible interpretation of the term "air pollutant" for the Prevention of Significant Deterioration statute—the interpretation limited to NAAQS air pollutants. Instead, EPA plowed ahead with the broader interpretation. And then, to try to deal with the absurd repercussions of that interpretation for the Prevention of Significant Deterioration statute, EPA re-wrote the very specific 250–ton trigger in the permitting requirement of the statute, unilaterally raising that trigger for greenhouse gas emissions from 250 tons to 100,000 tons—a 400–fold increase. *See* 75 Fed. Reg. 31,514 (June 3, 2010). EPA believed that re-writing the statute's permitting-triggers provision in this way would reduce the number of facilities that would require preconstruction permits and thereby "tailor" the absurdity—that is, alleviate some of the absurdity caused by interpreting "air pollutant" to cover greenhouse gases.[1]

This is a very strange way to interpret a statute. When an agency is faced with two initially plausible readings of a statutory term, but it turns out that one reading would cause absurd results, I am aware of no precedent that suggests the agency can still choose the absurd reading and then start rewriting other perfectly clear portions of the statute to try to make it all work out. And just recently, the Supreme Court reminded the Executive Branch and the lower courts that this is not the proper way to interpret a statute: Instead of "reading new words into the statute" to avoid absurd results, as the Government had urged in that case, the Court said that the statute should be interpreted so that "no absurdity arises in the first place." *Kloeckner v. Solis,* No. 11–184, slip op. at 13 (U.S. 2012).

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[1] At the same time, EPA reserved the right to ratchet the trigger all the way back down to 250 tons, thereby bringing more and more facilities under the program at EPA's unilateral discretion. EPA's assertion of such extraordinary discretionary power both exacerbates the separation of powers concerns in this case and underscores the implausibility of EPA's statutory interpretation. Put simply, the statute cannot be read to grant discretion to EPA to raise or lower the permitting triggers as EPA sees fit.

Even limited to this case alone, the practical implications of accepting EPA's approach are obviously major. And if this case stands as a precedent that influences other agency decisionmaking, the future consequences likewise could be significant: Agencies presumably could adopt absurd or otherwise unreasonable interpretations of statutory provisions and then edit other statutory provisions to mitigate the unreasonableness. Allowing agencies to exercise that kind of statutory re-writing authority could significantly enhance the Executive Branch's power at the expense of Congress's and thereby alter the relative balance of powers in the administrative process. I would not go down that road.

B

In my view, the statutory issue here is reasonably straightforward. The Prevention of Significant Deterioration statute's definition of "major emitting facility" subjects a facility to the permitting requirement based on the facility's emissions of "air pollutants." *See* 42 U.S.C. §§ 7475(a)(1), 7479(1). In the context of the Prevention of Significant Deterioration program as a whole, it seems evident that the term "air pollutant" refers to the NAAQS air pollutants.

To begin with, as explained above, interpreting "air pollutant" in this context to refer to the NAAQS air pollutants would avoid the absurd consequences that EPA's broader interpretation creates—namely, the exponential increase in the number of facilities that would be required to obtain pre-construction permits. That single point alone provides dispositive support for the narrower, NAAQS-specific interpretation. *See, e.g., Taniguchi v. Kan Pacific Saipan, Ltd.*, 132 S. Ct. 1997, 2004–05 (2012) (statutory context supports narrower rather than broader reading of statutory term).

Moreover, other provisions in the Prevention of Significant Deterioration statute likewise plainly use the term "air pollutant" to refer to the NAAQS air pollutants. The Prevention of Significant Deterioration program is codified in Sections 7470 to 7479 of Title 42. Of relevance here, Section 7473 sets guidelines for areas designated as in attainment of the NAAQS and requires that the "concentration of any air pollutant" in those areas not exceed certain concentrations permitted by the NAAQS. 42 U.S.C. § 7473(b)(4). The term "air pollutant" in Section 7473(b)(4) necessarily refers to the NAAQS air pollutants. In addition, several other provisions in the Prevention of Significant Deterioration statute similarly refer to Section 7473(b)(4)'s maximum concentrations for NAAQS pollutants. Each of those references thus also necessarily employs a NAAQS-specific use of the term "air pollutant." *See, e.g.*, 42

U.S.C. § 7473(c)(1) (listing exclusions from "the maximum allowable increases in ambient concentrations of an air pollutant"); § 7474(a)(B) (redesignations cannot cause "concentrations of any air pollutant" to exceed the maximum); *see also* § 7475(a)(3)(A) (facility may not cause air pollution in excess of "maximum allowable concentration for any pollutant").

So it's clear that a variety of provisions in the Prevention of Significant Deterioration statute use "air pollutant" to refer to a NAAQS air pollutant. And we presume that, unless otherwise indicated, the term "air pollutant" is used the same way throughout the Prevention of Significant Deterioration statute—and here, we have no reason to conclude otherwise. *See IBP, Inc. v. Alvarez,* 546 U.S. 21, 34 (2005) ("identical words used in different parts of the same statute are generally presumed to have the same meaning").

By contrast, when Congress wanted, in the Prevention of Significant Deterioration statute, to refer to a broader set of pollutants than the NAAQS pollutants, it did so expressly. Thus, a facility that requires a pre-construction permit because of its emissions of NAAQS pollutants must employ the best available control technology for emissions not just of "air pollutants" but of "each pollutant subject to regulation under this chapter," which—now that EPA has regulated greenhouse gases in other parts of the Clean Air Act—*does* include greenhouse gases. 42 U.S.C. § 7475(a)(4). By its terms, Section 7475(a)(4) thus applies to greenhouse gases, not just the NAAQS. Importantly, however, Congress did not employ the language "each pollutant subject to regulation under this chapter" in the statutory provision setting forth which facilities must obtain a pre-construction permit, the provision at issue in this case. And the policy distinction drawn in Section 7475(a)(4) is rather intuitive: Congress designed the statute's permitting requirement based on facilities' NAAQS emissions, but, once those facilities are subject to the permitting requirement, they must also meet a range of other minimum environmental standards.[2]

The overall objectives of the Prevention of Significant Deterioration statute also suggest that "air pollutant" refers to the NAAQS air pollutants for purposes of the permitting requirement. Importantly, the Prevention of Significant Deterioration statute applies only in areas that have met the NAAQS—that is, areas that do not have excessive emissions of the NAAQS air pollutants. If the purpose of this statute were in part to address global warming by requiring pre-construction permits for facilities that emit greenhouse gases, as EPA's reading suggests, why would the statute target the construction of facilities only in areas that are in *compliance* with the NAAQS—and not elsewhere in the United States? That would make little sense, which in turn further suggests that EPA has misread the statute.

Moreover, as its name indicates, the Prevention of

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[2] Section 7479(1)—the definition of "major emitting facility"—speaks of "any" air pollutant. But the word "any" just begs the question of what the term "air pollutant" covers in the Prevention of Significant Deterioration program. It's either any air pollutant regulated under the Clean Air Act or any of the NAAQS air pollutants.

Significant Deterioration statute is designed primarily to prevent "deterioration" of an attainment area's air quality. The relevant air quality standards that define whether an area is in attainment are the NAAQS. In a statute expressly linked to the NAAQS and designed to ensure that air quality does not "deteriorate" with respect to the NAAQS, it is somewhat illogical to read the statute as requiring pre-construction permits simply because a facility may emit substances that will *not* affect attainment of the NAAQS. Under EPA's approach, a facility could be covered by the permitting requirement even if it emits no NAAQS air pollutants at all. That, too, makes little sense and suggests that EPA has misread the statute.

A separate canon of interpretation further demonstrates that EPA's broad reading of the term "air pollutant" is at odds with Congress's design. By requiring a vastly increased number of facilities to obtain pre-construction permits, EPA's interpretation will impose enormous costs on tens of thousands of American businesses, with corresponding effects on American jobs and workers; on many American homeowners who move into new homes or plan other home construction projects; and on the U.S. economy more generally. Yet there is literally no indication in the text or legislative record that Members of Congress ever contemplated—much less intended—such a dramatic expansion of the permitting requirement of the Prevention of Significant Deterioration statute. Courts do not lightly conclude that Congress intended such major consequences absent some indication that Congress meant to do so. *See FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159–61 (2000).

Here, as elsewhere, we should not presume that Congress hid an elephant in a mousehole.

For all of those reasons—the statutory text, the absurdity principle, the statutory context as demonstrated by related statutory provisions, the overarching objectives of the statute, the major unintended consequences of a broader interpretation—the Prevention of Significant Deterioration statute as a whole overwhelmingly indicates that the permitting requirement is based on emissions of the NAAQS air pollutants.

And just to reiterate, the simple and absolutely dispositive point in this case is the following: The broader interpretation of "air pollutant" adopted by EPA produces what even EPA itself admits are absurd consequences. When an agency is faced with two plausible readings of a statutory term, but one reading would cause absurd results, the agency cannot choose the absurd reading. Here, therefore, EPA was required to adopt the narrower and more sensible interpretation of "air pollutant," the interpretation limited to the NAAQS pollutants. As the Supreme Court has said, "interpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with the legislative purpose are available." *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564 (1982). Such an "alternative interpretation[ ] consistent with the legislative purpose" is readily available here.

II

If that were the end of the analysis, I would not hesitate to conclude that EPA had adopted an impermissibly broad reading of the term "air pollutant" for purposes of the permitting provision of the Prevention of Significant Deterioration statute. But before reaching that conclusion definitively, we need to consider whether EPA's approach was mandated by the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007). In that case, the Supreme Court considered the general statutory term "air pollutant" as applied to a different aspect of the Clean Air Act—the motor vehicle emissions program. The Court there interpreted "air pollutant" very broadly to mean "all airborne compounds of whatever stripe," including greenhouse gases. *Id.* at 529.

Does *Massachusetts v. EPA* dictate EPA's broader interpretation of "air pollutant" in the different context of the Prevention of Significant Deterioration statute? The panel opinion seemed to think so; its conclusion appears to have been heavily if not dispositively influenced by *Massachusetts v. EPA*. *See, e.g., Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 134, 136 (D.C. Cir. 2012). In my view, however, the holding in *Massachusetts v. EPA* does not control the result in this case. Indeed, as explained more fully below, even EPA has concluded that *Massachusetts v. EPA* does not control here. The decision in *Massachusetts v. EPA* concerned the motor vehicle emissions program, a point the Supreme Court expressly noted many times in its opinion. The case did not purport to say that every other use of the term "air pollutant" throughout the sprawling and multifaceted Clean Air Act necessarily includes greenhouse gases. Each individual Clean Air Act program must be considered in context.[3]

Importantly, in *Massachusetts v. EPA*, the Supreme Court explicitly relied on the fact that the Clean Air Act's "capacious definition of 'air pollutant,' " did not appear "counterintuitive" or produce "extreme" consequences in the context of motor vehicle emissions. 549 U.S. at 531–32. But, as explained above, EPA's capacious definition of "air pollutant" *is* counterintuitive and *does* produce extreme consequences in the context of the Prevention of Significant Deterioration statute, as EPA itself acknowledges. Moreover, in this case, an alternative and sensible interpretation of the term "air pollutant" is readily discernible from the text, context, and structure of the Prevention of Significant Deterioration statute as a whole—namely, the NAAQS-specific interpretation.

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[3] As an analogy, take the familiar example of "no vehicles in the park." Assume that a court has decided that the term "vehicles" generally includes bicycles, and that no bicycles are allowed in the park. Next assume that another park regulation states that "all park service vehicles must have reinforced gas tanks." In that latter regulation, context tells us that the term "vehicles" obviously does not include bicycles. Bicycles are still vehicles in the abstract, but the gas-tank regulation logically applies only to a specific subset of vehicles (namely, motor vehicles).

So it is with "air pollutant" as used in different parts of the Clean Air Act. *Massachusetts v. EPA* held that the term "air pollutant" generally includes greenhouse gases. But that does not mean that the term "air pollutant" can never be used in a narrower sense. Greenhouse gases may qualify as "air pollutants" in the abstract, but context tells us that the Prevention of Significant Deterioration program uses the term "air pollutant" to refer only to a subset of all air pollutants (namely, the NAAQS pollutants).

To be sure, as noted earlier, the same words used in different parts of an Act are often construed to have the same meaning. *See IBP, Inc. v. Alvarez,* 546 U.S. 21, 34 (2005). If that were an inflexible command, the ***Massachusetts v. EPA*** interpretation of "air pollutant" would certainly control here and throughout the entire Clean Air Act. But as the Supreme Court recently reminded us—*in the context of interpreting the Clean Air Act*—"the natural presumption that identical words used in different parts of the same act are intended to have the same meaning is not rigid and readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent." *Environmental Defense v. Duke Energy Corp.,* 549 U.S. 561, 574 (2007) (internal quotation marks and ellipsis omitted). As instructed by the Supreme Court, we must interpret statutory terms based on their context and in light of the statute as a whole, even if that approach on some occasions means that the same term applies differently in different parts of a statute. *See, e.g., General Dynamics Land Systems, Inc. v. Cline,* 540 U.S. 581, 596–97, (2004) (term "age" has different meanings within Age Discrimination in Employment Act); *United States v. Cleveland Indians Baseball Co.,* 532 U.S. 200, 212–13 (2001) (term "wages paid" has different meanings within Social Security Act Amendments of 1939); *Robinson v. Shell Oil Co.,* 519 U.S. 337, 343–44 (1997) (term "employee" has different meanings within Title VII).

The Supreme Court's application of that interpretive principle in *Environmental Defense v. Duke Energy*—a decision issued on the same day as *Massachusetts v. EPA*—is illuminating. There, the Supreme Court confronted the Clean Air Act's definition of a stationary source "modification." *See* 549 U.S. at 567–68. That term was relevant to both the New Source Performance Standards program and the Prevention of Significant Deterioration program. The Court ruled that EPA could interpret the term "modification" differently for each of those two Clean Air Act programs, even though "the terms share a common statutory definition." *Id.* at 574. In so holding, the Court analyzed the two programs' different regulatory goals, noting that a "given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies." *Id.*

The Supreme Court's interpretive approach in *Environmental Defense v. Duke Energy*—which recognizes that the meaning of a statutory term in the Clean Air Act may vary based on the particular program at issue—shows that the *Massachusetts v. EPA* interpretation of "air pollutant" in the context of the motor vehicle emissions program does not necessarily require the same interpretation of "air pollutant" in the context of the Prevention of Significant Deterioration program. In *Massachusetts v. EPA,* the Supreme Court emphasized that the regulation of greenhouse gases in the motor vehicle emissions program would not be "counterintuitive" and would not lead to any "extreme measures." 549 U.S. at 531. Greenhouse gas standards would simply be added to the other regulations already applicable to manufacturers of new motor vehicles, and any such standards would take into account both cost and technological feasibility. *See* 42 U.S.C. § 7521(a). By contrast, the regulation of greenhouse gases in the Prevention of Significant Deterioration program would be both counterintuitive and extreme. Tens of thousands of businesses and homeowners would be swept into the Clean Air Act's purview for the first time and hit with permitting costs averaging $60,000, not to mention the additional costs of trying to construct and maintain the facility in compliance with the relevant emissions limits and technological standards. *See* 75 Fed. Reg. 31,514, 31,556 (June 3, 2010). In addition, the costs associated with a vastly expanded permitting requirement would deter numerous projects from even starting in the first place. The major differences between the motor vehicle emissions program and the Prevention of Significant Deterioration program thus neatly fit the *Environmental Defense v. Duke Energy* paradigm of "distinct statutory objects calling for different implementation strategies."

In reaching that conclusion, it bears mention that the Clean Air Act is a very complicated statute encompassing several distinct environmental programs. It is no surprise, then, that the motor vehicle emissions program and the Prevention of Significant Deterioration program are not the only parts of the Act to employ a term like "air pollutant" in a context-dependent way. For example, the visibility program applies to facilities based on their emissions of "any pollutant." 42 U.S.C. § 7491(g)(7). In the context of that program, EPA has interpreted the term "any pollutant" to mean "any visibility-impairing pollutant," which obviously does not include greenhouse gases. 40 C.F.R. pt. 51, App. Y, § II.A. Similarly, the nonattainment program applies to areas that have been designated as nonattainment "for any air pollutant." 42 U.S.C. § 7501(2). In the context of that program, the term "air pollutant" is logically limited to the NAAQS air pollutants, which are the only pollutants for which an area can be designated as nonattainment. *Id.* § 7407(d)(1)(A). All of that simply underscores that a court should exercise caution before reflexively importing the interpretations applicable to one Clean Air Act program into a distinct Clean Air Act program.

Any lingering doubt that *Massachusetts v. EPA* does not control here is dispelled when we recall that EPA itself has rejected *Massachusetts v. EPA's* interpretation of "air pollutant" for the Prevention of Significant Deterioration statute. The Court in *Massachusetts v. EPA* said that "air pollutant" meant "all airborne compounds of whatever stripe." 549 U.S. at 529. EPA has acknowledged, however, that such a broad definition cannot possibly extend to the use of the term "air pollutant" in the Prevention of Significant Deterioration statute. EPA understood that it would be absurd to require pre-construction permits because of emissions of any airborne compound, including emissions of airborne compounds that have not been deemed harmful and regulated under the Clean Air Act. To avoid rendering the Prevention of Significant Deterioration statute an absurdity, EPA construed "air pollutant" to mean *certain* air pollutants—in particular, "any regulated air pollutant."

The critical point for present purposes—and it really is a critical point in thinking about the significance of *Massachusetts v. EPA* to the present case—is that EPA itself recognized that the *Massachusetts v. EPA* definition of "air pollutant" cannot and does not control how to interpret "air pollutant" in the Prevention of Significant Deterioration context. As it tries to justify its broad interpretation of the Prevention of Significant Deterioration statute, EPA cannot simultaneously latch on to *Massachusetts v. EPA* and reject *Massachusetts v. EPA*.

If *Massachusetts v. EPA* does not control here—and even EPA admits that it does not—then we are back where we started. EPA was faced with two initially plausible interpretations of "air pollutant" for purposes of the permitting requirement of the Prevention of Significant Deterioration statute. One interpretation created patent absurdities and made little sense given the other statutory provisions. The other interpretation fit comfortably and sensibly within the statutory text and context. EPA nonetheless chose the first option. In my view, EPA's reading of the statute was impermissible. An agency cannot adopt an admittedly absurd interpretation and discard an eminently sensible one.

Given all of this, the case seems reasonably straightforward. So how did the panel opinion reach the opposite conclusion? I respectfully have three main points of disagreement. First, as I read it, the panel opinion was decisively influenced by *Massachusetts v. EPA's* interpretation of "air pollutant" in the context of the motor vehicle emissions program. But in light of the material differences between the motor vehicle emissions program and the Prevention of Significant Deterioration program, the *Massachusetts v. EPA* interpretation cannot control here, as even EPA acknowledges. Second, the panel opinion attempted to buttress its choice of a broad interpretation of the term "air pollutant" by pointing to Section 7475(a)(4), the provision in the Prevention of Significant Deterioration program requiring covered facilities to use the best available control technology. But as explained above, Section 7475(a)(4) actually cuts the other way because it specifically refers to "each pollutant subject to regulation under this chapter," which now does include greenhouse gases—whereas, by contrast, other statutory provisions in the Prevention of Significant Deterioration program clearly employ a NAAQS-specific interpretation of the unadorned term "air pollutant." Third, the panel gave insufficient weight to the most critical point in this case, the absurd consequences of EPA's broad interpretation. This was a mistake because the ultimate clincher in this case is one simple point: EPA chose an admittedly absurd reading over a perfectly natural reading of the relevant statutory text. An agency cannot do that.

III

In finding EPA's statutory interpretation legally impermissible, I do not in any way want to diminish EPA's vital policy objectives. EPA's regulations for the Prevention of Significant Deterioration statute may well be a good idea as a matter of policy. The task of dealing with global warming is urgent and important. But as in so many cases, the question here is: Who Decides? The short answer is that Congress (with the President) sets the policy through statutes, agencies implement that policy within statutory limits, and courts in justiciable cases ensure that agencies stay within the statutory limits set by Congress. A court's assessment of an agency's compliance with statutory limits does not depend on whether the agency's policy is good or whether the agency's intentions are laudatory. Even when that is true, we must enforce the statutory limits. *See Hamdan v. United States,* 696 F.3d 1238 (D.C. Cir. 2012) (ruling that Executive Branch exceeded statutory authority in wartime prosecution of al Qaeda member).

In cases like this one, the bedrock underpinnings of our system of separation of powers are at stake. To be sure, courts must be wary of undue interference with an agency's action implementing its statutory responsibilities. *See American Radio Relay League, Inc. v. FCC,* 524 F.3d 227 (D.C. Cir. 2008) (separate opinion of Kavanaugh, J.); *see also Desert Citizens Against Pollution v. EPA,* 699 F.3d 524 (D.C. Cir. 2012); *National Environmental Development Association's Clean Air Project v. EPA,* 686 F.3d 803 (D.C. Cir. 2012); *American Petroleum Institute v. EPA,* 684 F.3d 1342 (D.C. Cir. 2012); *ATK Launch Systems, Inc. v. EPA,* 669 F.3d 330 (D.C. Cir. 2012); *Natural Resources Defense Council v. EPA,* 661 F.3d 662 (D.C. Cir. 2011); *Medical Waste Institute & Energy Recovery Council v. EPA,* 645 F.3d 420 (D.C. Cir. 2011). To take one salient and important example, the statutory scheme gives EPA significant discretion in setting the NAAQS for the NAAQS air pollutants—a discretion the courts must respect.

But at the same time, undue deference or abdication to an agency carries its own systemic costs. If a court mistakenly allows an agency's transgression of statutory limits, then we green-light a significant shift of power from the Legislative Branch to the Executive Branch. The Framers of the Constitution did not grant the Executive Branch the authority to set economic and social policy as it sees fit. Rather, the Framers gave Congress, along with the President, that legislative role (subject to constitutional limits), and they assigned the Executive Branch the executive power to issue rules and enforce the law *within the limits set by Congress.*[4]

It is true that the legislative process can be cumbersome and frustrating, and the Executive Branch often is well-intentioned in wanting to address pressing policy concerns quickly, before the sometimes glacial congressional machinery can be stirred to action.[5] The legislative process can be slow because the Constitution makes it far harder to enact legislation than to block it: Under the Constitution, three different entities must agree in order to enact legislation—the House, the Senate, and the President (or two-thirds of both the House and the Senate to override a President's veto). But the Framers knew the legislative process would be laborious. They designed it that way. The time and difficulty of enacting new legislation has never justified an agency's contravention of statutory limits. The Framers specifically contemplated, moreover, that there would be situations where the Executive Branch confronts a pressing need that it does not have current authority to address. In those circumstances, the Constitution's Recommendations Clause provides that the President may "recommend" to Congress "such Measures as he shall judge necessary and expedient." U.S. CONST. art. II, § 3.

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[4] In protecting national security, the Executive has some Article II authority to act in certain circumstances in the Nation's defense even without specific congressional authorization. This is known as *Youngstown* category two. *See Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 637 (1952) (Jackson, J., concurring). There is no general *Youngstown* category two authority in the domestic social and economic realms, where the Executive must have statutory authority in order to act.

[5] In 2009, the House of Representatives passed a global warming bill that was supported by the President. But the Senate did not pass it. In the early 2000s, Senators McCain and Lieberman sought to pass global warming legislation, but no law was ultimately enacted. Numerous other bills have been introduced over the years, and various legislative efforts are ongoing.

Importantly, the separation of powers and checks and balances of our system are designed not just to ensure that the Branches operate within the proper spheres of their authority, but also to protect individual liberty. As the Supreme Court has explained many times, "while a government of opposite and rival interests may sometimes inhibit the smooth functioning of administration, the Framers recognized that, in the long term, structural protections against abuse of power were critical to preserving liberty.... The failures of ... regulation may be a pressing national problem, but a judiciary that licensed extraconstitutional government with each issue of comparable gravity would, in the long run, be far worse." *Free Enterprise Fund v. Public Company Accounting Oversight Board,* 130 S. Ct. 3138, 3157 (2010) (internal quotation marks, alterations, and citations omitted).

As a court, it is not our job to make the policy choices and set the statutory boundaries, but it is emphatically our job to carefully but firmly enforce the statutory boundaries. That bedrock separation of powers principle accounts for my concern about this case. Here, as I see it, EPA went well beyond what Congress authorized for the Prevention of Significant Deterioration statute. I respectfully disagree with the panel's resolution of this issue, and given the overall importance of the case, I respectfully dissent from the denial of rehearing en banc.

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 09-1322 **September Term 2012**
EPA-74FR66496

Filed On: December 20, 2012

Coalition for Responsible
Regulation, Inc., et al.,

Petitioners

v.

Environmental Protection
Agency,

Respondent

State of Michigan, et al.,
Intervenors

Consolidated with 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321

No. 10-1073 **EPA-75FR17004**
EPA-75FR31514

Coalition for Responsible
Regulation, Inc., et al.,

Petitioners

v.

Environmental Protection
Agency,

Respondent

American Frozen Food Institute,
et al.,

Intervenors

Consolidated with 10-1083, 10-1099, 10-1109,
10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122,
10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128,
10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148,
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10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213,
10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222

No. 10-1092 **EPA-75FR25323**
EPA-75FR25324

Coalition for Responsible
Regulation, Inc., et al.,

Petitioners

v.

Environmental Protection
Agency,

Respondent

Langboard, Inc. - MDF, et al.,
Intervenors

Consolidated with 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182

NO. 10-1167

EPA-43FR26380
EPA-43FR26388
EPA-45FR52676
EPA-67FR80186

American Chemistry Council,

Petitioner

v.

Environmental Protection Agency
and Lisa Perez Jackson, Administrator,
U.S. Environmental Protection
Agency,

Respondents

Chamber of Commerce of the
United States of America, et al.,

Intervenors

Consolidated with 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180

BEFORE: Sentelle, Chief Judge, and Rogers and Tatel, Circuit Judges

ORDER

Upon consideration of the petition of the Pacific Legal Foundation for panel rehearing joined by State Petitioners and Intervenors for Petitioner, filed in No. 10-1310, on August 10, 2012; and the petition of the Chamber of Commerce of the United States of America for panel rehearing, joined by the State of Alaska and Peabody Energy Company, filed August 10, 2012, it is

ORDERED that the petitions be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

By: /s/
Michael C. McGrail
Deputy Clerk

UNITED STATES COURT OF APPEALS
For The District of Columbia Circuit

No. 09-1322 **September Term 2010**

EPA-74FR66496
EPA-75FR49556

Filed On: March 22, 2011

Coalition for Responsible
Regulation, Inc., et al.,

Petitioners

v.

Environmental Protection
Agency,

Respondent

State of Michigan, et al.,
Intervenors

Consolidated with 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321

BEFORE: Henderson, Garland, and Kavanaugh, Circuit Judges

ORDER

Upon consideration of the proposed briefing formats and the response of state petitioners concerning the order in which issues should be considered, it is

ORDERED that the following briefing format and schedule apply in these consolidated cases:

Briefs for State Petitioners and Supporting Intervenors (no more than two briefs, not to exceed a combined total of 15,000 words)	May 20, 2011
Briefs for Non-State Petitioners and Supporting Intervenors (no more than two briefs, not to exceed a combined total of 15,000 words)	May 20, 2011
Brief(s) for Amici Curiae in Support of Petitioners (not to exceed a combined total of 7,000 words)	May 27, 2011
Brief for Respondent (not to exceed 30,000 words)	August 18, 2011

Brief(s) for Amici Curiae in Support of Respondent (not to exceed a combined total of 7,000 words)	August 25, 2011
Joint Brief for Intervenors in Support of Respondent (not to exceed 15,000 words)	September 16, 2011
Reply Brief(s) for State Petitioners (not to exceed a combined total of 7,500 words)	October 17, 2011
Reply Brief(s) for Non-State Petitioners (not to exceed a combined total of 7,500 words)	October 17, 2011
Deferred Appendix	October 31, 2011
Final Briefs	November 14, 2011

The parties will be informed by separate order of the date of oral argument and the composition of the merits panel. The court reminds the parties that

> In cases involving direct review in this court of administrative actions, the brief of the appellant or petitioner must set forth the basis for the claim of standing. . . . When the appellant's or petitioner's standing is not apparent from the administrative record, the brief must include arguments and evidence establishing the claim of standing.

See D.C. Cir. Rule 28(a)(7).

Parties are strongly encouraged to hand deliver the paper copies of their briefs to the Clerk's office on the date due. Filing by mail may delay the processing of the brief. Additionally, counsel are reminded that if filing by mail, they must a class of mail that is at least as expeditious as first-class mail. See Fed. R. App. P. 25(a). All briefs and appendices must contain the date that the case is scheduled for oral argument at the top of the cover. See D.C. Cir. Rule 28(a)(8).

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

By: /s/
Heather Stockslager
Deputy Clerk

UNITED STATES COURT OF APPEALS
For The District of Columbia Circuit

No. 10-1092 **September Term 2010**

EPA-75FR25323
EPA-75FR25324
EPA75FR25324

Filed On: March 22, 2011

Coalition for Responsible
Regulation, Inc., et al.,

Petitioners

v.

Environmental Protection
Agency,

Respondent

Alliance of Automobile
Manufacturers, et al.,
Intervenors

Consolidated with 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182

BEFORE: Henderson, Garland, and Kavanaugh, Circuit Judges

ORDER

Upon consideration of the proposed briefing formats, the response of state petitioners concerning the order in which issues should be considered, and the American Chemistry Council's response to respondent's briefing format proposal, it is

ORDERED that the following briefing format and schedule apply in these consolidated cases:

Briefs for Petitioners and Supporting Intervenors (no more than two briefs, not to exceed a combined total of 14,000 words)	June 3, 2011
Brief(s) for Amici Curiae in Support of Petitioners (not to exceed a combined total of 7,000 words)	June 10, 2011
Brief for Respondent (not to exceed 14,000 words)	September 1, 2011
Brief(s) for Amici Curiae in Support of Respondent (not to exceed a combined total of 7,000 words)	September 8, 2011

Joint Brief for Automobile Manufacturer Intervenors in Support of Respondent (not to exceed 4,375 words)	September 30, 2011
Joint Brief for Remaining Intervenors Supporting Respondent (not to exceed 4,375 words)	September 30, 2011
Reply Briefs (no more that two briefs, not to exceed a combined total of 7,000 words)	October 31, 2011
Deferred Appendix	November 14, 2011
Final Briefs	November 28, 2011

The parties will be informed by separate order of the date of oral argument and the composition of the merits panel. The court reminds the parties that

> In cases involving direct review in this court of administrative actions, the brief of the appellant or petitioner must set forth the basis for the claim of standing. . . . When the appellant's or petitioner's standing is not apparent from the administrative record, the brief must include arguments and evidence establishing the claim of standing.

See D.C. Cir. Rule 28(a)(7).

Parties are strongly encouraged to hand deliver the paper copies of their briefs to the Clerk's office on the date due. Filing by mail may delay the processing of the brief. Additionally, counsel are reminded that if filing by mail, they must a class of mail that is at least as expeditious as first-class mail. See Fed. R. App. P. 25(a). All briefs and appendices must contain the date that the case is scheduled for oral argument at the top of the cover. See D.C. Cir. Rule 28(a)(8).

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

By: /s/
Sabrina M. Crisp
Deputy Clerk

UNITED STATES COURT OF APPEALS
For The District of Columbia Circuit

No. 10-1073 **September Term 2010**

EPA-75FR17004
EPA-75FR31514

Filed On: March 21, 2011

Coalition for Responsible
Regulation, Inc., et al.,

Petitioners

v.

Environmental Protection
Agency,

Respondent

Consolidated with 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222

BEFORE: Henderson, Garland, and Kavanaugh, Circuit Judges

ORDER

Upon consideration of the proposed briefing formats, the response of state petitioners concerning the order in which issues should be considered, the Center for Biological Diversity's request to file a separate brief, and the American Chemistry Council's response to respondent's briefing format proposal, it is

ORDERED that the following briefing format and schedule apply in these consolidated cases:

Brief for Petitioner Center for Biological Diversity (not to exceed 5,000 words)	June 20, 2011
Briefs for Remaining Petitioners and Supporting Intervenors (no more than two briefs, not to exceed a combined total of 28,000 words)	June 20, 2011
Brief(s) for Amici Curiae in Support of Petitioners (not to exceed a combined total of 7,000 words)	June 27, 2011
Brief for Respondent (not to exceed 33,000 words)	September 16, 2011
Brief(s) for Amici Curiae in Support of Respondent (if any at time of briefing) (not to exceed a combined total of 7,000 words)	September 23, 2011

Joint Brief for Intervenors in Support of Respondent in Response to Petitioner Center for Biological Diversity (not to exceed 3,125 words)	October 17, 2011
Joint Brief for Remaining Intervenors in Support of Respondent (not to exceed 14,000 words)	October 17, 2011
Reply Brief for Petitioner Center for Biological Diversity (not to exceed 2,500 words)	November 16, 2011
Reply Briefs for Remaining Petitioners and Supporting Intervenors (no more than two briefs, not to exceed a combined total of 14,000 words)	November 16, 2011
Deferred Appendix	November 30, 2011
Final Briefs	December 14, 2011

The parties will be informed by separate order of the date of oral argument and the composition of the merits panel. The court reminds the parties that

> In cases involving direct review in this court of administrative actions, the brief of the appellant or petitioner must set forth the basis for the claim of standing. . . . When the appellant's or petitioner's standing is not apparent from the administrative record, the brief must include arguments and evidence establishing the claim of standing.

See D.C. Cir. Rule 28(a)(7).

Parties are strongly encouraged to hand deliver the paper copies of their briefs to the Clerk's office on the date due. Filing by mail may delay the processing of the brief. Additionally, counsel are reminded that if filing by mail, they must use a class of mail that is at least as expeditious as first-class mail. See Fed. R. App. P. 25(a). All briefs and appendices must contain the date that the case is scheduled for oral argument at the top of the cover. See D.C. Cir. Rule 28(a)(8).

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

By: /s/
Ken R. Meadows
Deputy Clerk

UNITED STATES COURT OF APPEALS
For The District of Columbia Circuit

No. 10-1167 **September Term 2010**

EPA-43FR26380
EPA-43FR26388
EPA-45FR52676
EPA-67FR80186

Filed On: March 18, 2011

American Chemistry Council,

Petitioner

v.

Environmental Protection
Agency and Lisa Perez Jackson,
Administrator, U.S. Environmental
Protection Agency,

Respondents

Chamber of Commerce of the United
States of America, et al.,
Intervenors

Consolidated with 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180

BEFORE: Henderson, Garland, and Kavanaugh, Circuit Judges

ORDER

Upon consideration of the order to show cause filed December 14, 2010, the responses thereto, and the reply, it is

ORDERED that the order to show cause be discharged. It is

FURTHER ORDERED, on the court's own motion, that the following briefing format and schedule apply in this case:

Joint Brief for Petitioners (not to exceed 14,000 words)	May 10, 2011
Briefs for Intervenor in Support of Petitioners (not to exceed 8,750 words)	May 24, 2011
Brief for Respondents (not to exceed 14,000 words)	June 23, 2011
Joint Brief for Intervenors in Support of Respondents (not to exceed 8,750 words)	July 7, 2011
Brief(s) for Amicus Curiae for Respondents (not to exceed 7,000 words)	July 7, 2011

Joint Reply Brief for Petitioners (not to exceed 7,000 words)	July 21, 2011
Reply Brief for Intervenor in Support of Petitioners (not to exceed 4,375 words)	July 21, 2011
Deferred Appendix	July 29, 2011
Final Briefs	August 5, 2011

The parties are reminded to address in their briefs the issues raised by the motion to dismiss, including whether the court must await the Environmental Protection Agency's resolution of the petitions to reconsider pending before it.

The Clerk is directed to schedule this case for oral argument before the same panel that is hearing No. 09-1322, et al., Coalition for Responsible Regulation v. EPA; 10-1073, et al., Coalition for Responsible Regulation v. EPA; and 10-1092, et al., Coalition for Responsible Regulation v. EPA.

All issues and arguments must be raised by petitioners in the opening brief. The court ordinarily will not consider issues and arguments raised for the first time in the reply brief. The parties will be informed by separate order of the date of oral argument and the composition of the merits panel. The court reminds the parties that

> In cases involving direct review in this court of administrative actions, the brief of the appellant or petitioner must set forth the basis for the claim of standing. . . . When the appellant's or petitioner's standing is not apparent from the administrative record, the brief must include arguments and evidence establishing the claim of standing.

See D.C. Cir. Rule 28(a)(7).

Parties are strongly encouraged to hand deliver the paper copies of their briefs to the Clerk's office on the date due. Filing by mail may delay the processing of the brief. Additionally, parties are reminded that if filing by mail, they must use a class of mail that is at least as expeditious as first-class mail. See Fed. R. App. P. 25(a). All briefs and appendices must contain the date that the case is scheduled for oral argument at the top of the cover. See D.C. Cir. Rule 28(a)(8).

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

By: /s/
Jennifer M. Clark
Deputy Clerk

UNITED STATES COURT OF APPEALS
For The District Of Columbia Circuit

No. 09-1322 **September Term 2010**

EPA-74FR66496
EPA-75FR49556

Filed On: December 10, 2010

Coalition for Responsible Regulation, Inc., et al.,

Petitioners,

v.

Environmental Protection Agency,

Respondent.

Consolidated with 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321

No. 10-1073

Coalition for Responsible Regulation, Inc., et al.,

Petitioners,

v.

Environmental Protection Agency,

Respondent.

Consolidated with 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222

No. 10-1092

Coalition for Responsible Regulation, Inc., et al.,

Petitioners,

v.

Environmental Protection Agency,

Respondent.

Consolidated with 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182

BEFORE: Ginsburg, Tatel, and Brown, Circuit Judges

ORDER

Upon consideration of the motions to stay, the response thereto, and the replies; the motion for leave to file a response, the opposition thereto, and the reply; the motion for leave to file declarations under seal; the motion to file a sur-reply, the response thereto, and the reply; the motion for coordination of related cases, the responses thereto, and the reply; and the Rule 28(j) letters and responses thereto, it is

ORDERED that the motion for leave to file a response be granted. The Clerk is directed to file the lodged response of the Chamber of Commerce of the United States of America. It is

FURTHER ORDERED that the motion to file declarations under seal be granted. It is

FURTHER ORDERED that the motion to file a sur-reply be granted. The Clerk is directed to file the lodged sur-reply. It is

FURTHER ORDERED that the motions to stay be denied. Petitioners have not satisfied the stringent standards required for a stay pending court review. See Washington Metro. Area Transit Comm'n v. Holiday Tours, Inc., 559 F.2d 841, 843 (D.C. Cir. 1977); D.C. Circuit Handbook of Practice and Internal Procedures 32 (2010). Specifically, with regard to each of the challenged rules, petitioners have not shown that the harms they allege are "certain," rather than speculative, or that the "alleged harm[s] will directly result from the action[s] which the movant[s] seeks to enjoin." Wisconsin Gas Co. v. FERC, 758 F.2d 669, 674 (D.C. Cir. 1985) (per curiam). It is

FURTHER ORDERED that these cases be scheduled for oral argument on the same day before the same panel.

Per Curiam

FOR THE COURT:
Mark J. Langer, Court

BY: /s/
Ken R. Meadows
Deputy Clerk

RECORD
AND
BRIEFS

12-1272

No. ______

Supreme Court, U.S.
FILED
APR 1 9 2013
OFFICE OF THE CLERK

In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, STATE OF ALASKA, AND AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

PETITIONERS' APPENDIX
VOLUME II OF V (180a-689a)

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Chapter I

[EPA-HQ-OAR-2009-0171; FRL-9091-8]

RIN 2060-ZA14

Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act

Tuesday, December 15, 2009

AGENCY: Environmental Protection Agency (EPA).

***66496 ACTION:** Final rule.

SUMMARY: The Administrator finds that six greenhouse gases taken in combination endanger both the public health and the public welfare of current and future generations. The Administrator also finds that the combined emissions of these greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas air pollution that endangers public health and welfare under CAA section 202(a). These Findings are based on careful consideration of the full weight of scientific evidence and a thorough review of numerous public comments received on the Proposed Findings published April 24, 2009.

DATES: These Findings are effective on January 14, 2010.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2009-0171. All documents in the docket are listed on the www.regulations.gov Web site. Although listed in the index, some information is not publicly available, *e.g.*, confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov* or in hard copy at EPA's Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Jeremy Martinich, Climate Change Division, Office of Atmospheric Programs (MC-6207J), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 343-9927; fax number: (202) 343-2202; e-mail address: *ghgendangerment@epa.gov*. For additional information regarding these Findings, please go to the Web site *http://www.epa.gov/climatechange/endangerment.html*.

SUPPLEMENTARY INFORMATION:

Judicial Review

Under CAA section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by February 16, 2010. Under CAA section 307(d)(7)(B), only an objection to this final action that was raised with reasonable specificity during the period for public comment can be raised during judicial review. This section also provides a mechanism for us to convene a proceeding for reconsideration, " '[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of this rule.' " Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, Environmental Protection Agency, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20004, with a copy to the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20004.

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

ACUS Administrative Conference of the United States
ANPR Advance Notice of Proposed Rulemaking
APA Administrative Procedure Act
CAA Clean Air Act
CAFE Corporate Average Fuel Economy
CAIT Climate Analysis Indicators Tool
CASAC Clean Air Scientific Advisory Committee
CBI Confidential Business Information
CCSP Climate Change Science Program
CFCs chlorofluorocarbons
CFR Code of Federal Regulations
CH_4 methane
CO_2 carbon dioxide
CO_2 e CO_2 -equivalent
CRU Climate Research Unit
DOT U.S. Department of Transportation
EO Executive Order
EPA U.S. Environmental Protection Agency
FR Federal Register
GHG greenhouse gas
GWP global warming potential
HadCRUT Hadley Centre/Climate Research Unit (CRU) temperature record
HCFCs hydrochlorofluorocarbons
HFCs hydrofluorocarbons
IA Interim Assessment report
IPCC Intergovernmental Panel on Climate Change
MPG miles per gallon
MWP Medieval Warm Period
N_2 O nitrous oxide
NAAQS National Ambient Air Quality Standards
NAICS North American Industry Classification System
NASA National Aeronautics and Space

Administration
NF$_3$ nitrogen trifluoride
NHTSA National Highway Traffic Safety Administration
NOAA National Oceanic and Atmospheric Administration
NOI Notice of Intent
NO$_X$ nitrogen oxides
NRC National Research Council
NSPS new source performance standards
NTTAA National Technology Transfer and Advancement Act of 1995
OMB Office of Management and Budget
PFCs perfluorocarbons
PM particulate matter
PSD Prevention of Significant Deterioration
RFA Regulatory Flexibility Act
SF$_6$ sulfur hexafluoride
SIP State Implementation Plan
TSD technical support document
U.S. United States
UMRA Unfunded Mandates Reform Act of 1995
UNFCCC United Nations Framework Convention on Climate Change
USGCRP U.S. Global Climate Research Program
VOC volatile organic compound(s)
WCI Western Climate Initiative
WRI World Resources Institute

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I. Introduction

A. Overview

Pursuant to CAA section 202(a), the Administrator finds that greenhouse gases in the atmosphere may reasonably be anticipated both to endanger public health and to endanger public welfare. Specifically, the Administrator is defining the "air pollution" referred to in CAA section 202(a) to be the mix of six long-lived and directly-emitted greenhouse gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide ($N_2 O$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). In this document, these six greenhouse gases are referred to as "well-mixed greenhouse gases" in this document (with more precise meanings of "long lived" and "well mixed" provided in Section IV.A).

The Administrator has determined that the body of scientific evidence compellingly supports this finding. The major assessments by the U.S. Global Climate Research Program (USGCRP), the Intergovernmental Panel on Climate Change (IPCC), and the National Research Council (NRC) serve as the primary scientific basis supporting the Administrator's endangerment finding.[1] The Administrator reached her determination by considering both observed and projected effects of greenhouse gases in the atmosphere, their effect on climate, and the public health and welfare risks and impacts associated with such climate change. The Administrator's assessment focused on public health and public welfare impacts within the United States. She also examined the evidence with respect to impacts in other world regions, and she concluded that these impacts strengthen the case for endangerment to public health and welfare because impacts in other world regions can in turn adversely affect the United States.

The Administrator recognizes that human-induced climate change has the potential to be far-reaching and multi-dimensional, and in light of existing knowledge, that not all risks and potential impacts can be quantified or characterized with uniform metrics. There is variety not only in the nature and potential magnitude of risks and impacts, but also in our ability to characterize, quantify and project such impacts into the future. The Administrator is using her judgment, based on existing science, to weigh the threat for each of the identifiable risks, to weigh the potential benefits where relevant, and ultimately to assess whether these risks and effects, when viewed in total, endanger public health or welfare.

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public health by evaluating the risks associated with changes in air quality, increases in temperatures, changes in extreme weather events, increases in food- and waterborne pathogens, and changes in aeroallergens. The evidence concerning adverse air quality impacts provides strong and clear support for an endangerment finding. Increases in ambient ozone are expected to occur over broad areas of the country, and they are expected to increase serious adverse health effects in large population areas that are and may continue to be in nonattainment. The evaluation of the potential risks associated with increases in ozone in attainment areas also supports such a finding.

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[1] Section III of these Findings discusses the science on which these Findings are based. In addition, the Technical Support Document (TSD) accompanying these Findings summarizes the major assessments from the USGCRP, IPCC, and NRC.

The impact on mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heat waves, also provides support for a public health endangerment finding. There are uncertainties over the net health impacts of a temperature increase due to decreases in cold-related mortality, but some recent evidence suggests that the net impact on mortality is more likely to be adverse, in a context where heat is already the leading cause of weather-related deaths in the United States.

The evidence concerning how human-induced climate change may alter extreme weather events also clearly supports a finding of endangerment, given the serious adverse impacts that can result from such events and the increase in risk, even if small, of the occurrence and intensity of events such as hurricanes and floods. Additionally, public health is expected to be ***66498** adversely affected by an increase in the severity of coastal storm events due to rising sea levels.

There is some evidence that elevated carbon dioxide concentrations and climate changes can lead to changes in aeroallergens that could increase the potential for allergenic illnesses. The evidence on pathogen borne disease vectors provides directional support for an endangerment finding. The Administrator acknowledges the many uncertainties in these areas. Although these adverse effects provide some support for an endangerment finding, the Administrator is not placing primary weight on these factors.

Finally, the Administrator places weight on the fact that certain groups, including children, the elderly, and the poor, are most vulnerable to these climate-related health effects.

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public welfare by evaluating numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife. For each of these sectors, the evidence provides support for a finding of endangerment to public welfare. The evidence concerning adverse impacts in the areas of water resources and sea level rise and coastal areas provides the clearest and strongest support for an endangerment finding, both for current and future generations. Strong support is also found in the evidence concerning infrastructure and settlements, as well ecosystems and wildlife. Across the sectors, the potential serious adverse impacts of extreme events, such as wildfires, flooding, drought, and extreme weather conditions, provide strong support for such a finding.

Water resources across large areas of the country are at serious risk from climate change, with effects on water supplies, water quality, and adverse effects from extreme events such as floods and droughts. Even areas of the country where an increase in water flow is projected could face water resource problems from the supply and water quality problems associated with temperature increases and precipitation variability, as well as the increased risk of serious adverse effects from extreme events, such as floods and drought. The severity of risks and impacts is likely to increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

Overall, the evidence on risk of adverse impacts for coastal areas provides clear support for a finding that greenhouse gas air pollution endangers the welfare of current and future generations. The most serious potential adverse effects are the increased risk of storm surge and flooding in coastal areas from sea level rise and more intense storms. Observed sea level rise is already increasing the risk of storm surge and flooding in some coastal areas. The conclusion in the assessment literature that there is the potential for hurricanes to become more intense (and even some evidence that Atlantic hurricanes have already become more intense) reinforces the judgment that coastal communities are now endangered by human-induced climate change, and may face substantially greater risk in the future. Even if there is a low probability of raising the destructive power of hurricanes, this threat is enough to support a finding that coastal communities are endangered by greenhouse gas air pollution. In addition, coastal areas face other adverse impacts from sea level rise such as land loss due to inundation, erosion, wetland submergence, and habitat loss. The increased risk associated with these adverse impacts also endangers public welfare, with an increasing risk of greater adverse impacts in the future.

Strong support for an endangerment finding is also found in the evidence concerning energy, infrastructure, and settlements, as well ecosystems and wildlife. While the impacts on net energy demand may be viewed as generally neutral for purposes of making an endangerment determination, climate change is expected to result in an increase in electricity production, especially supply for peak demand. This may be exacerbated by the potential for adverse impacts from climate change on hydropower resources as well as the potential risk of serious adverse effects on energy infrastructure from extreme events. Changes in extreme weather events threaten energy, transportation, and water resource infrastructure. Vulnerabilities of industry, infrastructure, and settlements to climate change are generally greater in high-risk locations, particularly coastal and riverine areas, and areas whose economies are closely linked with climate-sensitive resources. Climate change will likely interact with and possibly exacerbate ongoing environmental change and environmental pressures in settlements, particularly in Alaska where indigenous communities are facing major environmental and cultural impacts on their historic lifestyles. Over the 21st century, changes in climate will cause some species to shift north and to higher elevations and fundamentally rearrange U.S. ecosystems. Differential capacities for range shifts and constraints from development, habitat fragmentation, invasive species, and broken ecological connections will likely alter ecosystem structure, function, and services, leading to predominantly negative consequences for biodiversity and the provision of ecosystem goods and services.

There is a potential for a net benefit in the near term[2] for certain crops, but there is significant uncertainty about whether this benefit will be achieved given the various potential adverse impacts of climate change on crop yield, such as the increasing risk of extreme weather events. Other aspects of this sector may be adversely affected by climate change, including livestock management and irrigation requirements, and there is a risk of adverse effect on a large segment of the total crop market. For the near term, the concern over the potential for adverse effects in certain parts of the agriculture sector appears generally comparable to the potential for benefits for certain crops. However, The body of evidence points towards increasing risk of net adverse impacts on U.S. food production and agriculture over time, with the potential for significant disruptions and crop failure in the future.

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[2] The temporal scope of impacts is discussed in more detail in Section III.C. The phrase "near term" as used in this document generally refers to the current time period from and the next few decades. The phrase "long term" generally refers to a time frame extending beyond that to approximately the middle to the end of this century.

For the near term, the Administrator finds the beneficial impact on forest growth and productivity in certain parts of the country from elevated carbon dioxide concentrations and temperature increases to date is offset by the clear risk from the observed increases in wildfires, combined with risks from the spread of destructive pests and disease. For the longer term, the risk from adverse effects increases over time, such that overall climate change presents serious adverse risks for forest productivity. There is compelling reason to find that the support for a positive endangerment finding increases as one considers expected future conditions where temperatures continue to rise.

Looking across all of the sectors discussed above, the evidence provides compelling support for finding that greenhouse gas air pollution endangers the public welfare of both current and ***66499** future generations. The risk and the severity of adverse impacts on public welfare are expected to increase over time.

The Administrator also finds that emissions of well-mixed greenhouse gases from the transportation sources covered under CAA section 202(a)[3] contribute to the total greenhouse gas air pollution, and thus to the climate change problem, which is reasonably anticipated to endanger public health and welfare. The Administrator is defining the air pollutant that contributes to climate change as the aggregate group of the well-mixed greenhouse gases. The definition of air pollutant used by the Administrator is based on the similar attributes of these substances. These attributes include the fact that they are sufficiently long-lived to be well mixed globally in the atmosphere, that they are directly emitted, and that they exert a climate warming effect by trapping outgoing, infrared heat that would otherwise escape to space, and that they are the focus of climate change science and policy.

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[3] Section 202(a) source categories include passenger cars, heavy-, medium and light-duty trucks, motorcycles, and buses.

In order to determine if emissions of the well-mixed greenhouse gases from CAA section 202(a) source categories contribute to the air pollution that endangers public health and welfare, the Administrator compared the emissions from these CAA section 202(a) source categories to total global and total U.S. greenhouse gas emissions, finding that these source categories are responsible for about 4 percent of total global well-mixed greenhouse gas emissions and just over 23 percent of total U.S. well-mixed greenhouse gas emissions. The Administrator found that these comparisons, independently and together, clearly establish that these emissions contribute to greenhouse gas concentrations. For example, the emissions of well-mixed greenhouse gases from CAA section 202(a) sources are larger in magnitude than the total well-mixed greenhouse gas emissions from every other individual nation with the exception of China, Russia, and India, and are the second largest emitter within the United States behind the electricity generating sector. As the Supreme Court noted, "[j]udged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations and hence, * * * to global warming." *Massachusetts* v. *EPA*, 549 U.S. 497, 525 (2007).

The Administrator's findings are in response to the Supreme Court's decision in *Massachusetts* v. *EPA*. That case involved a 1999 petition submitted by the International Center for Technology Assessment and 18 other environmental and renewable energy industry organizations requesting that EPA issue standards under CAA section 202(a) for the emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from new motor vehicles and engines. The Administrator's findings are in response to this petition and are for purposes of CAA section 202(a).

B. Background Information Helpful To Understand These Findings

This section provides some basic information regarding greenhouse gases and the CAA section 202(a) source categories, as well as the ongoing joint-rulemaking on greenhouse gases by EPA and the Department of Transportation. Additional technical and legal background, including a summary of the Supreme Court's *Massachusetts* v. *EPA* decision, can be found in the Proposed Endangerment and Contribution Findings (74 FR 18886, April 24, 2009).

1. Greenhouse Gases and Transportation Sources Under CAA Section 202(a)

Greenhouse gases are naturally present in the atmosphere and are also emitted by human activities. Greenhouse gases trap the Earth's heat that would otherwise escape from the atmosphere, and thus form the greenhouse effect that helps keep the Earth warm enough for life. Human activities are intensifying the naturally-occurring greenhouse effect by adding greenhouse gases to the atmosphere. The primary greenhouse gases of concern that are directly emitted by human activities include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Other pollutants (such as aerosols) and other human activities, such as land use changes that alter the reflectivity of the Earth's surface, also cause climatic warming and cooling effects. In these Findings, the term "climate change" generally refers to the global warming effect plus other associated changes (*e.g.*, precipitation effects, sea level rise, changes in the frequency and severity of extreme weather events) being induced by human activities, including activities that emit greenhouse gases. Natural causes also, contribute to climate change and climatic changes have occurred throughout the Earth's history. The concern now, however, is that the changes taking place in our atmosphere as a result of the well-documented buildup of greenhouse gases due to human activities are changing the climate at a pace and in a way that threatens human health, society, and the natural environment. Further detail on the state of climate change science can be found in Section III of these Findings as well as the technical support document (TSD) that accompanies this action (*www.epa.gov/climatechange/ endangerment.html*).

The transportation sector is a major source of greenhouse gas emissions both in the United States and in the rest of the world. The transportation sources covered under CAA section 202(a)-the section of the CAA under which these Findings occur-include passenger cars, light- and heavy-duty trucks, buses, and motorcycles. These transportation sources emit four key greenhouse gases: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. Together, these transportation sources are responsible for 23 percent of total annual U.S. greenhouse gas emissions, making this source the second largest in the United States behind electricity generation.[4]

Further discussion of the emissions data supporting the Administrator's cause or contribute finding can be found in Section V of these Findings, and the detailed greenhouse gas emissions data for section 202(a) source categories can be found in Appendix B of EPA's TSD.

2. Joint EPA and Department of Transportation Proposed Greenhouse Gas Rule

On September 15, 2009, EPA and the Department of Transportation's National Highway Safety Administration (NHTSA) proposed a National Program that would dramatically reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States. The combined EPA and NHTSA standards that make up this proposed National Program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They proposed to require these vehicles to meet an estimated combined average ***66500** emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these proposed standards would cut carbon dioxide emissions by an estimated 950 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The proposed rulemaking can be viewed at (74 FR 49454, September 28, 2009).

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[4] The units for greenhouse gas emissions in these findings are provided in carbon dioxide equivalent units, where carbon dioxide is the reference gas and every other greenhouse gas is converted to its carbon dioxide equivalent by using the 100-year global warming potential (as estimated by the Intergovernmental Panel on Climate Change (IPCC). assigned to each gas. The reference gas used is CO_2, and therefore Global Warming Potential (GWP)-weighted emissions are measured in teragrams of CO_2 equivalent (Tg CO_2 eq.). In accordance with UNFCCC reporting procedures, the United States quantifies greenhouse gas emissions using the 100-year time frame values for GWPs established in the IPCC Second Assessment Report.

C. Public Involvement

In response to the Supreme Court's decision, EPA has been examining the scientific and technical basis for the endangerment and cause or contribute decisions under CAA section 202(a) since 2007. The science informing the decision-making process has grown stronger since our work began. EPA's approach to evaluating the science, including comments submitted during the public comment period, is further discussed in Section III.A of these Findings. Public review and comment has always been a major component of EPA's process.

1. EPA's Initial Work on Endangerment

As part of the *Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act* (73 FR 44353) published in July 2008, EPA provided a thorough discussion of the issues and options pertaining to endangerment and cause or contribute findings under the CAA. The Agency also issued a TSD providing an overview of all the major scientific assessments available at the time and emission inventory data relevant to the contribution finding (Docket ID No. EPA-HQ-OAR-2008-0318). The comment period for that *Advance Notice* was 120 days, and it provided an opportunity for EPA to hear from the public with regard to the issues involved in endangerment and cause or contribute findings as well as the supporting science. EPA received, reviewed and considered numerous comments at that time and this public input was reflected in the Findings that the Administrator proposed in April 2009. In addition, many comments were received on the TSD released with the *Advance Notice* and reflected in revisions to the TSD released in April 2009 to accompany the Administrator's proposal. All public comments on the *Advance Notice* are contained in the public docket for this action (Docket ID No. EPA-HQ-OAR-2008-0318) accessible through *www.regulations.gov*.

2. Public Involvement Since the April 2009 Proposed Endangerment Finding

The Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases (Proposed Findings) was published on April 24, 2009 (74 FR

18886). The Administrator's proposal was subject to a 60-day public comment period, which ended June 23, 2009, and also included two public hearings. Over 380,000 public comments were received on the Administrator's proposed endangerment and cause or contribute findings, including comments on the elements of the Administrator's April 2009 proposal, the legal issues pertaining to the Administrator's decisions, and the underlying TSD containing the scientific and technical information.

A majority of the comments (approximately 370,000) were the result of mass mail campaigns, which are defined as groups of comments that are identical or very similar in form and content. Overall, about two-thirds of the mass-mail comments received are supportive of the Findings and generally encouraged the Administrator both to make a positive endangerment determination and implement greenhouse gas emission regulations. Of the mass mail campaigns in disagreement with the Proposed Findings most either oppose the proposal on economic grounds (*e.g.*, due to concern for regulatory measures following an endangerment finding) or take issue with the proposed finding that atmospheric greenhouse gas concentrations endanger public health and welfare. Please note that for mass mailer campaigns, a representative copy of the comment is posted in the public docket for this Action (Docket ID No. EPA-HQ-OAR-2009-0171) at *www.regulations.gov.*

Approximately 11,000 other public comments were received. These comments raised a variety of issues related to the scientific and technical information EPA relied upon in making the Proposed Findings, legal and procedural issues, the content of the Proposed Findings, and the implications of the Proposed Findings.

In light of the very large number of comments received and the significant overlap between many comments, EPA has not responded to each comment individually. Rather, EPA has summarized and provided responses to each significant argument, assertion and question contained within the totality of the comments. EPA's responses to some of the most significant comments are provided in these Findings. Responses to all significant issues raised by the comments are contained in the 11 volumes of the Response to Comments document, organized by subject area (found in docket EPA-HQ-OAR-2009-0171).

3. Issues Raised Regarding the Rulemaking Process

EPA received numerous comments on process-related issues, including comments urging the Administrator to delay issuing the final findings, arguing that it was improper for the Administrator to sever the endangerment and cause or contribute findings from the attendant section 202(a) standards, arguing the final decision was preordained by the President's May vehicle announcement, and questioning the adequacy of the comment period. Summaries of key comments and EPA's responses are discussed in this section. Additional and more detailed responses can be found in the Response to Comments document, Volume 11. As noted in the Response to Comments document, EPA also received comments supporting the overall process.

a. It Is Reasonable for the Administrator To Issue the Endangerment and Cause or Contribute Findings Now

Though the Supreme Court did not establish a specific deadline for EPA to act, more than two and a half years have passed since the remand from the Supreme Court, and it has been 10 years since EPA received the original petition requesting that EPA regulate greenhouse gas emissions from new motor vehicles. EPA has a responsibility to respond to the Supreme Court's decision and to fulfill its obligations under current law, and there is good reason to act now given the urgency of the threat of climate change and the compelling scientific evidence.

Many commenters urge EPA to delay making final findings for a variety of reasons. They note that the Supreme Court did not establish a deadline for EPA to act on remand. Commenters also argue that the Supreme Court's decision does not require that EPA make a final endangerment finding, and thus that EPA has discretionary power and may decline to issue an endangerment finding, not only if the science is too uncertain, but also if EPA can provide "some reasonable explanation" for exercising its discretion. These commenters interpret the Supreme Court decision not as rejecting all policy reasons for declining to undertake an endangerment finding, but rather as dismissing solely the policy reasons EPA set forth in 2003. Some commenters cite language in the ***66501** Supreme Court decision regarding EPA's discretion regarding "the manner, timing, content, and coordination of its regulations," and the Court's declining to rule on "whether policy concerns can inform EPA's actions in the event that it makes" a CAA section 202(a) finding to support their position.

Commenters then suggest a variety of policy reasons that EPA can and should make to support a decision not to undertake a finding of endangerment under CAA section 202(a)(1). For example, they argue that a finding of endangerment would trigger several other regulatory programs-such as the Prevention of Significant Deterioration (PSD) provisions-that would impose an unreasonable burden on the economy and government, without providing a benefit to the environment. Some commenters contend that EPA should defer issuing a final endangerment finding while Congress considers legislation. Many commenters note the ongoing international discussions regarding climate change and state their belief that unilateral EPA action would interfere with those negotiations. Others suggest deferring the EPA portion of the joint U.S. Department of Transportation (DOT)/EPA rulemaking because they argue that the new Corporate Average Fuel Economy (CAFE) standards will effectively result in lower greenhouse gas emissions from new motor vehicles, while avoiding the inevitable problems and concerns of regulating greenhouse gases under the CAA.

Other commenters argue that the endangerment determination has to be made on the basis of scientific considerations only. These commenters state that the Court was clear that "[t]he statutory question is whether sufficient information exists to make an endangerment finding," and thus, only if "the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming," may EPA avoid making a positive or negative endangerment finding. Many commenters urge EPA to take action quickly. They note that it has been 10 years since the original petition requesting that EPA regulate greenhouse gas emissions from motor vehicles was submitted to EPA. They argue that climate change is a serious problem that requires immediate action.

EPA agrees with the commenters who argue that the Supreme Court decision held that EPA is limited to consideration of science when undertaking an endangerment finding, and that we cannot delay issuing a finding due to policy concerns if the science is sufficiently certain (as it is here). The Supreme Court stated that "EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do" 549 U.S. at 533. Some commenters point to this last provision, arguing that the policy reasons they provide are a "reasonable explanation" for not moving forward at this time. However, this ignores other language in the decision that clearly indicates that the Court interprets the statute to allow for the consideration only of science. For example, in rejecting the policy concerns expressed by EPA in its 2003 denial of the rulemaking petition, the Court noted that "it is evident [the policy considerations] have nothing to do with whether greenhouse gas emissions contribute to climate change. Still less do they amount to a reasoned justification for declining to form a *scientific judgment*" *Id*. at 533-34 (emphasis added).

Moreover, the Court also held that "[t]he statutory question is whether sufficient information exists to make an endangerment finding" *Id.* at 534. Taken as a whole, the Supreme Court's decision clearly indicates that policy reasons do not justify the Administrator avoiding taking further action on the question here.

We also note that the language many commenters quoted from the Supreme Court decision about EPA's discretion regarding the manner, timing and content of Agency actions, and the ability to consider policy concerns, relate to the motor vehicle standards required in the event that EPA makes a positive endangerment finding, and not the finding itself. EPA has long taken the position that it does have such discretion in the standard-setting step under CAA section 202(a).

b. The Administrator Reasonably Proceeded With the Endangerment and Cause or Contribute Findings Separate From the CAA Section 202(a) Standard Rulemaking

As discussed in the Proposed Findings, typically endangerment and cause or contribute findings have been proposed concurrently with proposed standards under various sections of the CAA, including CAA section 202(a). EPA received numerous comments on its decision to propose the endangerment and cause or contribute findings separate from any standards under CAA section 202(a).

Commenters argue that EPA has no authority to issue an endangerment determination under CAA section 202(a) separate and apart from the rulemaking to establish emissions standards under CAA section 202(a). According to these commenters, CAA section 202(a) provides only one reason to issue an endangerment determination, and that is as the basis for promulgating emissions standards for new motor vehicles; thus, it does not authorize such a stand-alone endangerment finding, and EPA may not create its own procedural rules completely divorced from the statutory text. They continue by stating that while CAA section 202(a) says EPA may issue emissions standards conditioned on such a finding, it does not say EPA may first issue an endangerment determination and then issue emissions standards. In addition, they contend, the endangerment proposal and the emissions standards proposal need to be issued together so commenters can fully understand the implications of the endangerment determination. Failure to do so, they argue, deprives the commenters of the opportunity to assess the regulations that will presumably follow from an endangerment finding. They also argue that the expected overlap between reductions in emissions of greenhouse gases from CAA section 202(a) standards issued by EPA and CAFE standards issued by DOT calls into question the basis for the CAA section 202(a) standards and the related endangerment finding, and that EPA is improperly motivated by an attempt to trigger a cascade of regulations under the CAA and/or to promote legislation by Congress.

EPA disagrees with the commenters' claims and arguments. The text of CAA section 202(a) is silent on this issue. It does not specify the timing of an endangerment finding, other than to be clear that emissions standards may not be issued unless such a determination has been made. EPA is exercising the procedural discretion that is provided by CAA section 202(a)'s lack of specific direction. The text of CAA section 202(a) envisions two separate actions by the Administrator: (1) A determination on whether emissions from classes or categories of new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger, and (2) a separate decision on issuance of appropriate emissions standards for such classes or categories. The procedure followed in this rulemaking, and the companion rulemaking involving emissions standards for light duty motor vehicles, is consistent with CAA section 202(a). EPA will issue final emissions standards for new motor ***66502** vehicles only if affirmative findings are made concerning contribution and endangerment, and such emissions standards will not be finalized prior to making any such determinations. While it would also be consistent with CAA section 202(a) to issue the greenhouse gas endangerment and contribution findings and emissions standards for new light-duty vehicles in the same rulemaking, *e.g.*, a single proposal covering them and a single final rule covering them, nothing in CAA section 202(a) requires such a procedural approach, and nothing in the approach taken in this case violates the text of CAA section 202(a). Since Congress was silent on this issue, and more than one procedural approach may accomplish the requirements of CAA section 202(a), EPA has the discretion to use the approach considered appropriate in this case. Once the final affirmative contribution and endangerment findings are made, EPA has the authority to issue the final emissions standards for new light-duty motor vehicles; however, as the Supreme Court has noted, the agency has 'significant latitude as to the manner, timing, [and] content * * * of its regulations . * * *' *Massachusetts* v. *EPA*, 549 U.S. at 533. That includes the discretion to issue them in a separate rulemaking.

Commenters' argument would also lead to the conclusion that EPA could not make an endangerment finding for the entire category of new motor vehicles, as it is doing here, unless EPA also conducted a rulemaking that set emissions standards for all the classes and categories of new motor vehicles at the same time. This narrow procedural limitation would improperly remove discretion that CAA section 202(a) provides to EPA.

EPA has the discretion under CAA section 202(a) to consider classes or categories of new motor vehicles separately or together in making a contribution and endangerment determination. This discretion would be removed under commenters' interpretation, by limiting this to only those cases in which EPA was also ready to issue emissions standards for all of the classes or categories covered by the endangerment finding. However, nothing in the text of CAA section 202(a) places such a limit on EPA's discretion in determining how to group classes or categories of new motor vehicles for purposes of the contribution and endangerment findings. This limitation would not be appropriate, because the issues of contribution and endangerment are separate and distinct from the issues of setting emissions standards. EPA, in this case, is fully prepared to go forward with the contribution and endangerment determination, while it is not ready to proceed with rulemaking for each and every category of new motor vehicles in the first rulemaking to set emissions standards. Section 202(a) of the CAA provides EPA discretion with regard to when and how it conducts its rulemakings to make contribution and endangerment findings, and to set emissions standards, and the text of CAA section 202(a) does not support commenters attempt to limit such discretion.

Concerns have been raised that the failure to issue the proposed endangerment finding and the proposed emissions standard together preclude commenters from assessing and considering the implications of the endangerment finding and the regulations that would likely flow from such a finding. However, commenters have failed to explain how this interferes in any way with their ability to comment on the endangerment finding. In fact it does not interfere, because the two proposals address separate and distinct issues. The endangerment finding concerns the contribution of new motor vehicles to air pollution and the effect of that air pollution on public health or welfare. The emissions standards, which have been proposed (74 FR 49454, September 28, 2009), concern the appropriate regulatory emissions standards if affirmative findings are made on contribution and endangerment. These two proposals address different issues. While commenters have the opportunity to comment on the proposed emissions standards in that rulemaking, they have not shown, and cannot show, that they need to have the emissions standards proposal before them in order to provide relevant comments on the proposed contribution or endangerment findings. Further discussion of this issue can be found in Section II of these Findings, and discussion of the timing of this action and its relationship to other CAA provisions and Congressional action can be found in Section III of these Findings and Volume 11 of the Response to Comments document.

c. The Administrator's Final Decision Was Not Preordained by the President's May Vehicle Announcement

EPA received numerous comments arguing that the President's announcement of a new "National Fuel Efficiency Policy" on May 19, 2009 seriously undermines EPA's ability to provide objective consideration of and a legally adequate response to comments objecting to the previously proposed endangerment findings.

Commenters' conclusion is based on the view that the President's announced policy requires EPA to promulgate greenhouse gas emissions standards under CAA section 202(a), that the President's and Administrator Jackson's announcement indicated that the endangerment rulemaking was but a formality and that a final endangerment finding was a fait accompli. Commenters argue that this means the result of this rulemaking has been preordained and the merits of the issues have been prejudged.

EPA disagrees. Commenters' arguments wholly exaggerate and mischaracterize the circumstances. In the April 24, 2009 endangerment proposal EPA was clear that the two steps in the endangerment provision have to be satisfied in order for EPA to issue emissions standards for new motor vehicles under

CAA section 202(a) (74 FR at 18888, April 24, 2009). This was repeated when EPA issued the Notice of Upcoming Joint Rulemaking to Establish Vehicle GHG Emissions and CAFE Standards (74 FR 24007 May 22, 2009) (Notice of Intent or NOI). This was repeated again when EPA issued proposed greenhouse gas emissions standards for certain new motor vehicles (74 FR 49454, September 28, 2009). EPA has consistently made it clear that issuance of new motor vehicle standards requires and is contingent upon satisfaction of the two-part endangerment test.

On May 19, 2009 EPA issued the joint Notice of Intent, which indicated EPA's intention to propose new motor vehicle standards. All of the major motor vehicle manufacturers, their trade associations, the State of California, and several environmental organizations announced their full support for the upcoming rulemaking. Not surprisingly, on the same day the President also announced his full support for this action. Commenters, however, erroneously equate this Presidential support with a Presidential directive that requires EPA to prejudge and preordain the result of this rulemaking.

The only evidence they point to are simply indications of Presidential support. Commenters point to a press release, which unsurprisingly refers to the Agency's announcement as delivering on the President's commitment to enact more stringent fuel economy standards, by bringing "all stakeholders to the table and [coming] up with a plan" for solving a serious problem. The plan that was announced, of course, was a plan to conduct notice and comment ***66503** rulemaking. The press release itself states that President Obama "set in motion a new national policy," with the policy "aimed" at reducing greenhouse gas emissions for new cars and trucks. What was "set in motion" was a notice and comment rulemaking described in the NOI issued by EPA on the same day. Neither the President nor EPA announced a final rule or a final direction that day, but instead did no more than announce a plan to go forward with a notice and comment rulemaking. That is how the plan "delivers on the President's commitment" to enact more stringent standards. The announcement was that a notice and comment rulemaking would be initiated with the aim of adopting certain emissions standards.

That is no different from what EPA or any other agency states when it issues a notice of proposed rulemaking. It starts a process that has the aim of issuing final regulations if they are deemed appropriate at the end of the public process. The fact that an Agency proposes a certain result, and expects that a final rule will be the result of setting such a process in motion, is the ordinary course of affairs in notice and comment rulemakings. This does not translate into prejudging the final result or having a preordained result that de facto negates the public comment process. The President's press release of May 19, 2009 was a recognition that this notice and comment rulemaking process would be set in motion, as well as providing his full support for the Agency to go forward in this direction; it was no more than that.

The various stakeholders who announced their support for the plan that had been set in motion all recognized that full notice and comment rulemaking was part of the plan, and they all reserved their rights to participate in such notice and comment rulemaking. For example, see the letter of support from Ford Motor Company, which states that "Ford fully supports proposal and adoption of such a National Program, which we understand will be subject to full notice-and-comment rulemaking, affording all interested parties including Ford the right to participate fully, comment, and submit information, the results of which are not pre-determined but depend upon processes set by law."

d. The Notice and Comment Period Was Adequate

Many commenters argue that the 60-day comment period was inadequate. Commenters claim that a 60-day period was insufficient time to fully evaluate the science and other information that informed the Administrator's proposal. Some commenters assert that because the comment period for the Proposed Finding substantially overlapped with the comment period for the Mandatory Greenhouse Gas Reporting Rule, as well as Congress' consideration of climate legislation, their ability to fully participate in the notice and comment period was "seriously compromised." Moreover, they continue, because EPA had not yet proposed CAA section 202(a) standards, there was no valid reason to fail to extend the comment period. Several commenters and other entities had also requested that EPA extend the comment period.

Some commenters assert that the notice provided by this rulemaking was "defective" because the **Federal Register** notice announcing the proposal had an error in the e-mail address for the docket. At least one commenter suggests that this error deprives potential commenters of their Due Process under the Fifth Amendment of the Constitution, citing *Armstrong* v. *Manzo*, 380 U.S. 545, 552 (1965), and that failure to "correct" the minor typographical error in the e-mail address and extend the comment period would make the rule "subject to reversal" in violation of the CAA, Administrative Procedure Act (APA), the Due Process clause of the Constitution, and EO 12866.

Finally, for many of the same reasons that commenters argue a 60-day comment period was inadequate, several commenters request that EPA reopen and/or extend the comment period. One commenter requests that the comment period be reopened because there was new information regarding data used by EPA in the Proposed Findings. In particular, the commenter alleges that it recently became aware that one of the sources of global climate data had destroyed the raw data for its data set of global surface temperatures. The commenter argues that this alleged destruction of raw data violates scientific standards, calls into question EPA's reliance on that data in these Findings, and necessitates a reopening of the proceedings. Other commenters request that the comment period be extended and/or reopened due to the release of a Federal government document on the impact of climate change in the United States near the end of the comment period, as well as the release of an internal EPA staff document discussing the science.

The official public comment period on the proposed rule was adequate. First, a 60-day comment period satisfies the procedural requirements of CAA section 307 of the CAA, which requires a 30-day comment period, and that the docket be kept open to receive rebuttal or supplemental information as follow-up to any hearings for 30 days following the hearings. EPA met those obligations here-the comment period opened on April 24, 2009, the last hearing was on May 21, 2009 and the comment period closed June 23, 2009.

Second, as explained in letters denying requests to extend the comment period, a very large part of the information and analyses for the Proposed Findings had been previously released in July 30, 2008, as part of the *Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act (ANPR)* (73 FR 44353). The public comment period for the ANPR is discussed above in Section I.C.1 of these Findings. The Administrator explained that the comment period for that ANPR was 120 days and that the major recent scientific assessments that EPA relied upon in the TSD released with the ANPR had previously each gone through their own public review processes and have been publicly available for some time. In other words, EPA has provided ample time for review, particularly with regard to the technical support for the Findings. See, for example, EPA Letter to Congressman Issa dated June 17, 2009, a copy of which is available at *http://epa.gov/climatechange/endangerment.html*.

Moreover, the comment period was not rendered insufficient merely because other climate-related proceedings were occurring simultaneously.

While one commenter suggests that the convergence of several different climate-related activities has "seriously compromised" their ability to participate in the comment process, that commenter was able to submit an 89 page comment on this proposal alone. Moreover, it is hardly rare that more than one rule is out for comment at the same time. As noted above, EPA has received a substantial number of significant comments on the Proposed Findings, and has thoroughly considered and responded to significant comments.

EPA finds no evidence that a typographical error in the docket e-mail address of the **Federal Register** notice announcing the proposal prevented the public from having a meaningful opportunity to comment, and therefore deprived them of due process. Although the minor error-which involved a word processing auto-correction that turned a short dash into a long dash-appeared in the FR version of the Proposed Findings, the e-mail address is correct ***66504** in the signature version of the Proposed Findings posted on EPA's Web site until publication in the **Federal Register**, and in the "Instructions for Submitting Written Comments" document on the Web site for the rulemaking. EPA has received over 190,000 e-mails to the docket e-mail address to date, so the minor typographical error appearing in only one location has not been an impediment to interested parties' e-mailing comments. Moreover, EPA provided many other avenues for interested parties to submit comments in addition to the docket e-mail address, including via *www.regulations.gov*, mail, and fax; each of these options have been utilized by many commenters. EPA is confident that the minor typographical error did not prevent anyone from submitting written comments, by e-mail or otherwise, and that the public was provided "meaningful participation in the regulatory process" as mentioned in EO 12866.

Our response regarding the request to reopen the comment period due to concerns about alleged destruction of raw global surface data is discussed more fully in the Response to Comments document, Volume 11. The commenter did not provide any compelling reason to conclude that the absence of these data would materially affect the trends in the temperature records or conclusions drawn about them in the assessment literature and reflected in the TSD. The Hadley Centre/Climate Research Unit (CRU) temperature record (referred to as HadCRUT) is just one of three global surface temperature records that EPA and the assessment literature refer to and cite. National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA) also produce temperature records, and all three temperature records have been extensively peer reviewed. Analyses of the three global temperature records produce essentially the same long-term trends as noted in the Climate Change Science Program (CCSP) (2006) report "Temperature Trends in the Lower Atmosphere," IPCC (2007), and NOAA's study[5] "State of the Climate in 2008". Furthermore, the commenter did not demonstrate that the allegedly destroyed data would materially alter the HadCRUT record or meaningfully hinder its replication. The raw data, a small part of which has not been public (for reasons described at: *https://www.uea.ac.uk/mac/comm/media/press/2009/nov/CRUupdate*), are available in a quality-controlled (or homogenized, value-added) format and the methodology for developing the quality-controlled data is described in the peer reviewed literature (as documented at *http://www.cru.uea.ac.uk/cru/data/temperature/*).

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[5] Peterson, T.C., and M.O. Baringer (Eds.) (2009) State of the Climate in 2008. *Bull. Amer. Meteor. Soc.*, 90, S1-S196.

The release of the U.S. Global Climate Research Program (USGCRP) report on impacts of climate change in the United States in June 2009 also did not necessitate extending the comment period. This report was issued by the USGCRP, formerly the Climate Change Science Program (CCSP), and synthesized information contained in prior CCSP reports and other synthesis reports, many of which had already been published (and were included in the TSD for the Proposed Findings). Further, the USGCRP report itself underwent notice and comment before it was finalized and released.

Regarding the internal EPA staff paper that came to light during the comment period, several commenters submitted a copy of the EPA staff paper with their comments; EPA's response to the issues raised by the staff paper are discussed in the Response to Comments document, Volume 1. The fact that some internal agency deliberations were made public during the comment period does not in and of itself call into question those deliberations. As our responses to comments explain, EPA considered the concerns noted in the staff paper during the proposal stage, as well as when finalizing the Findings. There was nothing about those internal comments that required an extension or reopening of the comment period.

Thus, the opportunity for comment fully satisfies the CAA and Constitutional requirement of Due Process. Cases cited by commenters do not indicate otherwise. The comment period and thorough response to comment documents in the docket indicate that EPA has given people an opportunity to be heard in a "meaningful time and a meaningful matter." *Armstrong* v. *Manzo,* 380 U.S. 545, 552 (1965). Interested parties had full notice of the rulemaking proceedings and a significant opportunity to participate through the comment process and multiple hearings.

For all the above reasons, EPA's denial of the requests for extension or reopening of the comment period was entirely reasonable in light of the extensive opportunity for public comment and heavy amount of public participation during the comment period. EPA has fully complied with all applicable public participation requirements for this rulemaking.

e. These Findings Did Not Necessitate a Formal Rulemaking Under the Administrative Procedure Act

One commenter, with the support of others, requests that EPA undertake a formal rulemaking process for the Findings, on the record, in accordance with the procedures described in sections 556-557 of the Administrative Procedure Act (APA). The commenter requests a multi-step process, involving additional public notice, an on-the-record proceeding (*e.g.*, formal administrative hearing) with the right of appeal, utilization of the Clean Air Scientific Advisory Committee (CASAC) and its advisory proceedings, and designation of representatives from other executive branch agencies to participate in the formal proceeding and any CASAC advisory proceeding.

The commenter asserts that while EPA is not obligated under the CAA to undertake these additional procedures, the Agency nonetheless has the legal authority to engage in such a proceeding. The commenter believes this proceeding would show that EPA is "truly committed to scientific integrity and transparency." The commenter cites several cases to argue that refusal to proceed on the record would be "arbitrary and capricious" or would be an "abuse of discretion." The allegation at the core of the commenter's argument is that profound and wide-ranging scientific uncertainties exist in the Proposed Findings and in the impacts on health and welfare discussed in the TSD. To support this argument, the commenter provides lengthy criticisms of the science. The commenter also argues that the regulatory cascade that would be "unleashed" by a positive endangerment finding warrants the more formal proceedings.

Finally, the commenter suggests that EPA engage in "formal rulemaking" procedures in part due to the Administrative Conference of the United States' (ACUS) recommended factors for engaging in formal rulemaking. The commenter argues that the current action is "complex," "open-ended," and the costs that errors in the action may pose are "significant."

EPA is denying the request to undertake an "on the record" formal rulemaking. EPA is under no obligation to follow the extraordinarily rarely used formal rulemaking provisions of the APA. First, CAA section

307(d) of the CAA clearly states that the rulemaking provisions of CAA section 307(d), *not* APA sections 553 through 557, apply to certain specified actions, such as this ***66505** one. EPA has satisfied all the requirements of CAA section 307(d). Indeed, the commenter itself "is not asserting that the Clean Air Act expressly requires" the additional procedures it requests. Moreover, the commenter does not discuss how the suggested formal proceeding would fit into the informal rulemaking requirements of CAA section 307(d) that do apply.

Formal rulemaking is very rarely used by Federal agencies. The formal rulemaking provisions of the APA are only triggered when the statute explicitly calls for proceedings "on the record after opportunity for an agency hearing." *United States* v. *Florida East Coast Ry. Co.*, 410 U.S. 224, 241 (1973). The mere mention of the word "hearing" does not trigger the formal rulemaking provisions of the APA. *Id.* The CAA does not include the statutory phrase required to trigger the formal rulemaking provisions of the APA (and as noted above the APA does not apply in the first place). Congress specified that certain rulemakings under the CAA follow the rulemaking procedures outlined in CAA section 307(d) rather than the APA "formal rulemaking" commenter suggests.

Despite the inapplicability of the formal rulemaking provisions to this action, commenters suggest that to refuse to voluntarily undertake rulemaking provisions not preferred by Congress would make EPA's rulemaking action an "abuse of discretion." EPA disagrees with this claim, and cases cited by the commenter do not indicate otherwise. To support the idea that an agency decision to engage in informal rulemaking could be an abuse of discretion, commenter cites *Ford Motor Co.* v. *FTC*, 673 F.2d 1008 (9th Cir. 1981). In *Ford Motor Co.*, the court ruled that the FTC's decision regarding an automobile dealership should have been resolved through a rulemaking rather than an individualized adjudication. *Id.* at 1010. In that instance, the court favored "rulemaking" over adjudication-not "formal rulemaking" over the far more common "informal rulemaking." The case stands only for the non-controversial proposition that sometimes agency use of *adjudications* may rise to an abuse of discretion where a *rulemaking* would be more appropriate-whether formal or informal. The Commenter does not cite a single judicial opinion stating that an agency abused its discretion by following the time-tested and Congressionally-favored informal rulemaking provisions of the CAA or the APA instead of the rarely used formal APA rulemaking provisions.

The commenter also alludes to the possibility that the choice of informal rulemaking may be "arbitrary and capricious. EPA disagrees that the choice to follow the frequently used, and CAA required, informal rulemaking procedures is arbitrary and capricious. The commenter cites *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519 (1978) for the proposition that "extremely compelling circumstances" could lead to a court overturning agency action for declining to follow extraneous procedures. As the commenter notes, in *Vermont Yankee* the Supreme Court overturned a lower court decision for imposing additional requirements not required by applicable statutes. Even if the dicta in *Vermont Yankee* could be applied contrary to the holding of the case in the way the commenter suggests, EPA's decision to follow frequently used informal rulemaking procedures for this action is highly reasonable.

As for the ACUS factors the commenter cites in support of its request, as the commenter notes, the ACUS factors are mere recommendations. While EPA certainly respects the views of ACUS, the recommendations are not binding on the Agency. In addition, EPA has engaged in a thorough, traditional rulemaking process that ensures that any concerns expressed by the commenter have been addressed. EPA has fully satisfied all applicable law in their consideration of this rulemaking.

Finally, as explained in Section III of these Findings and the Response to Comments document, EPA's approach to evaluating the evidence before it was entirely reasonable, and did not require a formal hearing. EPA relied primarily on robust synthesis reports that have undergone peer review and comment. The Agency also carefully considered the comments received on the Proposed Findings and TSD, including review of attached studies and documents. The public has had ample opportunity to provide its views on the science, and the record supporting these final findings indicates that EPA carefully considered and responded to significant public comments. To the extent the commenter's concern is that a formal proceeding will help ensure the *right* action in response to climate change is taken, that is not an issue for these Findings. As discussed in Section III of these Findings, this science-based judgment is not the forum for considering the potential mitigation options or their impact.

II. Legal Framework for This Action

As discussed in the Proposed Findings, two statutory provisions of the CAA govern the Administrator's Findings. Section 202(a) of the CAA sets forth a two-part test for regulatory action under that provision: Endangerment and cause or contribute. Section 302 of the CAA contains definitions of the terms "air pollutant" and "effects on welfare". Below is a brief discussion of these statutory provisions and how they govern the Administrator's decision, as well as a summary of significant legal comments and EPA's responses to them.

A. Section 202(a) of the CAA-Endangerment and Cause or Contribute

1. The Statutory Framework

Section 202(a)(1) of the CAA states that:

> The Administrator shall by regulation prescribe (and from time to time revise) standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [her] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

Based on the text of CAA section 202(a) and its legislative history, the Administrator interprets the two-part test as follows. Further discussion of this two-part test can be found in Section II of the preamble for the Proposed Findings. First, the Administrator is required to protect public health and welfare, but she is not asked to wait until harm has occurred. EPA must be ready to take regulatory action to prevent harm before it occurs. Section 202(a)(1) requires the Administrator to "anticipate" "danger" to public health or welfare. The Administrator is thus to consider both current and future risks. Second, the Administrator is to exercise judgment by weighing risks, assessing potential harms, and making reasonable projections of future trends and possibilities. It follows that when exercising her judgment the Administrator balances the likelihood and severity of effects. This balance involves a sliding scale; on one end the severity of the effects may be of great concern, but the likelihood low, while on the other end the severity may be less, but the likelihood high. Under either scenario, the Administrator is permitted to find endangerment. If the harm would be catastrophic, the Administrator is permitted to find endangerment even if the likelihood is small.

Because scientific knowledge is constantly evolving, the Administrator may be called upon to make decisions while recognizing the uncertainties and ***66506** limitations of the data or information available, as risks to public health or welfare may involve the frontiers of scientific or medical knowledge. At the same time, the Administrator must exercise reasoned decision making, and avoid speculative inquiries. Third, as discussed further below, the Administrator is to consider the cumulative impact of sources of a pollutant in assessing the risks from air pollution, and is not to look only at the risks attributable to a single source or class of sources. Fourth, the Administrator is to consider the risks to all parts of our population, including those who are at greater risk for reasons such as increased susceptibility to adverse health effects. If vulnerable subpopulations are especially at risk, the Administrator is entitled to take that point into account in deciding the question of endangerment. Here too, both likelihood and severity of adverse effects are relevant, including catastrophic scenarios and their probabilities as well as the less severe effects. As explained below, vulnerable subpopulations face serious health risks as a result of climate change.

In addition, by instructing the Administrator to consider whether emissions of an air pollutant cause or contribute to air pollution, the statute is clear that she need not find that emissions from any one sector or group of sources are the sole or even the major part of an air pollution problem. The use of the term "contribute" clearly indicates a lower threshold than the sole or major cause. Moreover, the statutory language in CAA section 202(a) does not contain a modifier on its use of the term contribute. Unlike other CAA provisions, it does not require "significant" contribution. See, *e.g.*, CAA sections 111(b); 213(a)(2), (4). To be sure, any finding of a "contribution" requires some threshold to be met; a truly trivial or de minimis "contribution" might not count as such. The Administrator therefore has ample discretion in exercising her reasonable judgment in determining whether, under the circumstances presented, the cause or contribute criterion has been met. Congress made it clear that the Administrator is to exercise her judgment in determining contribution, and authorized regulatory controls to address air pollution even if the air pollution problem results from a wide variety of sources. While the endangerment test looks at the entire air pollution problem and the risks it poses, the cause or contribute test is designed to authorize EPA to identify and then address what may well be many different sectors or groups of sources that are each part of-and thus contributing to-the problem.

This framework recognizes that regulatory agencies such as EPA must be able to deal with the reality that "[m]an's ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations." See *Ethyl Corp* v. *EPA*, 541 F.2d 1, 6 (DC Cir.), *cert. denied* 426 U.S. 941 (1976). Both "the Clean Air Act 'and common sense * * * demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable.' " See *Massachusetts* v. *EPA*, 549 U.S. at 506, n.7 (citing *Ethyl Corp.*).

The Administrator recognizes that the context for this action is unique. There is a very large and comprehensive base of scientific information that has been developed over many years through a global consensus process involving numerous scientists from many countries and representing many disciplines. She also recognizes that there are varying degrees of uncertainty across many of these scientific issues. It is in this context that she is exercising her judgment and applying the statutory framework. As discussed in the Proposed Findings, this interpretation is based on and supported by the language in CAA section

202(a), its legislative history and case law.

2. Summary of Response to Key Legal Comments on the Interpretation of the CAA Section 202(a) Endangerment and Cause or Contribute Test

EPA received numerous comments regarding the interpretation of CAA section 202(a) set forth in the Proposed Findings. Below is a brief discussion of some of the key adverse legal comments and EPA's responses. Other key legal comments and EPA's responses are provided in later sections discussing the Administrator's findings.

Additional and more detailed summaries and responses can be found in the Response to Comments document. As noted in the Response to Comments document, EPA also received comments supporting its legal interpretations.

a. The Administrator Properly Interpreted the Precautionary and Preventive Nature of the Statutory Language

Various commenters argue either that the endangerment test under CAA section 202(a) is not precautionary and preventive in nature, or that EPA's interpretation and application is so extreme that it is contrary to what Congress intended in 1977, and effectively guarantees an affirmative endangerment finding. Commenters also argue that the endangerment test improperly shifts the burdens to the opponents of an endangerment finding and is tantamount to assuming the air pollution is harmful unless it is shown to be safe.

EPA rejects the argument that the endangerment test in CAA section 202(a) is not precautionary or preventive in nature. As discussed in more detail in the proposal, Congress relied heavily on the en banc decision in Ethyl when it revised section 202(a) and other CAA provisions to adopt the current language on endangerment and contribution. 74 FR 18886, 18891-2. The *Ethyl* court could not have been clearer on the precautionary nature of a criteria based on endangerment. The court rejected the argument that EPA had to find actual harm was occurring before it could make the required endangerment finding. The court stated that:

> *The Precautionary Nature of "Will Endanger."* Simply as a matter of plain meaning, we have difficulty crediting petitioners' reading of the "will endanger" standard. The meaning of "endanger" is not disputed. Case law and dictionary definition agree that endanger means something less than actual harm. When one is endangered, harm is *threatened*; no actual injury need ever occur. Thus, for example, a town may be "endangered" by a threatening plague or hurricane and yet emerge from the danger completely unscathed. A statute allowing for regulation in the face of danger is, necessarily, a precautionary statute. Regulatory action may be taken before the threatened harm occurs; indeed, the very existence of such precautionary legislation would seem to *demand* that regulatory action precede, and, optimally, prevent, the

> perceived threat. As should be apparent, the "will endanger" language of Section 211(c)(1)(A) makes it such a precautionary statute. *Ethyl* at 13 (footnotes omitted).

Similarly, the court stated that "[i]n sum, based on the plain meaning of the statute, the juxtaposition of CAA section 211 with CAA sections 108 and 202, and the *Reserve Mining* precedent, we conclude that the "will endanger" standard is precautionary in nature and does not require proof of actual harm before regulation is appropriate." *Ethyl* at 17. It is this authority to act before harm has occurred that makes it a preventive, precautionary provision.

It is important to note that this statement was in the context of rejecting an argument that EPA had to prove actual harm before it could adopt fuel control regulations under then CAA section 211(c)(1). The court likewise rejected the argument that EPA had to show that such harm was "probable." ***66507** The court made it clear that determining endangerment entails judgments involving both the risk or likelihood of harm and the severity of the harm if it were to occur. Nowhere did the court indicate that the burden was on the opponents of an endangerment finding to show that there was no endangerment. The opinion focuses on describing the burden the statute places on EPA, rejecting *Ethyl's* arguments of a burden to show actual or probable harm.

Congress intentionally adopted a precautionary and preventive approach. It stated that the purpose of the 1977 amendments was to "emphasize the preventive or precautionary nature of the act, *i.e.*, to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominate value of protection to public health."[6] Congress also stated that it authorized the Administrator to weigh risks and make projections of future trends, a "middle road between those who would impose a nearly impossible standard of proof on the Administrator before he may move to protect public health and those who would shift the burden of proof for all pollutants to make the pollutant source prove the safety of its emissions as a condition of operation." Leg. His. at 2516.

Thus, EPA rejects commenters' arguments. Congress intended this provision to be preventive and precautionary in nature, however it did not shift the burden of proof to opponents of an endangerment finding to show safety or no endangerment. Moreover, as is demonstrated in the following, EPA has not shifted the burden of proof in the final endangerment finding, but rather is weighing the likelihood and severity of harms to arrive at the final finding. EPA has not applied an exaggerated or dramatically expanded precautionary principle, and instead has exercised judgment by weighing and balancing the factors that are relevant under this provision.

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[6] The Supreme Court recognized that the current language in section 202(a), adopted in 1977, is "more protective" than the 1970 version that was similar to the section 211 language before the DC Circuit in *Ethyl*. *Massachusetts v. EPA*, 549 U.S. at 506, fn 7.

b. The Administrator Does Not Need To Find That the Control Measures Following an Endangerment Finding Would Prevent at Least a Substantial Part of the Danger in Order To Find Endangerment

Several commenters argue that it is unlawful for EPA to make an affirmative endangerment finding unless EPA finds that the regulatory control measures contemplated to follow such a finding would prevent at least a substantial part of the danger from the global climate change at which the regulation is aimed. This hurdle is also described by commenters as the regulation "achieving the statutory objective of preventing damage", or "fruitfully attacking" the environmental and public health danger at hand by meaningfully and substantially reducing it. Commenters point to *Ethyl Corp.* v. *EPA*, 541 F.2d 1 (DC Cir. 1976) (en banc) as support for this view, as well as portions of the legislative history of this provision.

Commenters contend that EPA has failed to show that this required degree of meaningful reduction of endangerment would be achieved through regulation of new motor vehicles based on an endangerment finding. In making any such showing, commenters argue that EPA would need to account for the following: (1) The fact that any regulation would be limited to *new* motor vehicles, if not the subset of new motor vehicles discussed in the President's May 2009 announcement, (2) any increase in emissions from purchasers delaying purchases of new vehicles subject to any greenhouse gas emissions standards, or increasing the miles traveled of new vehicles with greater fuel economy, (3) the fact that only a limited portion of the new motor vehicle emissions of greenhouse gases would be controlled, (4) the fact that CAFE standards would effectively achieve the same reductions, and (5) the fact that any vehicle standards would not themselves reduce global temperatures. Some commenters refer to EPA's proposal for greenhouse gas emissions standards for new motor vehicles as support for these arguments, claiming the proposed new motor vehicle emission standards are largely duplicative of the standards proposed by the National Highway Traffic Safety Administration (NHTSA), and the estimates of the impacts of the proposed standards confirm that EPA's proposed standards cannot "fruitfully attack" global climate change (74 FR 49454, September 28, 2009).

Commenters attempt to read into the statute a requirement that is not there. EPA interprets the endangerment provision of CAA section 202(a) as not requiring any such finding or showing as described by commenters. The text of CAA section 202(a) does not support such an interpretation. The endangerment provision calls for EPA, in its judgment, to determine whether air pollution is reasonably anticipated to endanger public health or welfare, and whether emissions from certain sources cause or contribute to such air pollution. If EPA makes an affirmative finding, then it shall set emissions standards applicable to emissions of such air pollutants from new motor vehicles. There is no reference in the text of the endangerment or cause or contribute provision to anything concerning the degree of reductions that would be achieved by the emissions standards that would follow such a finding. The Administrator's judgment is directed at the issues of endangerment and cause or contribute, not at how effective the resulting emissions control standards will be.

As in the several other similar provisions adopted in the 1977 amendments, in CAA section 202(a) Congress explicitly separated two different decisions to be made, providing different criteria for them. The first decision involves the air pollution and the endangerment criteria, and the contribution to the air pollution by the sources. The second decision involves how to regulate the sources to control the emissions if an affirmative endangerment and contribution finding are made. In all of the various provisions, there is broad similarity in the phrasing of the endangerment and contribution decision. However, for the decision on how to regulate, there are a wide variety of different approaches adopted by Congress. In some case, EPA has discretion whether to issue standards or not, while in other cases, as in CAA section 202(a), EPA is required to issue standards. In some cases, the regulatory criteria are general, as in CAA section 202(a); in others, they provide significantly more direction as to how standards are to be set, as in CAA section 213(a)(4).

As the Supreme Court made clear in *Massachusetts* v. *EPA*, EPA's judgment in making the endangerment and contribution findings is constrained by the statute, and EPA is to decide these issues based solely on the scientific and other evidence relevant to that decision. EPA may not "rest[] on reasoning divorced from the statutory text," and instead EPA's exercise of judgment must relate to whether an air pollutant causes or contributes to air pollution that endangers. *Massachusetts* v. *EPA*, 549 U.S. at 532. As the Supreme Court noted, EPA must "exercise discretion within defined statutory limits." Id. at 533. EPA's belief one way or the other regarding whether regulation of greenhouse gases from new motor vehicles would be "effective" is irrelevant in making the endangerment and contribution decisions before EPA. Id. Instead "[t]he statutory question is *66508 whether sufficient information exists to make an endangerment finding" Id. at 534.

The effectiveness of a potential future control strategy is not relevant to deciding whether air pollution levels in the atmosphere endanger. It is also not relevant to deciding whether emissions of greenhouse gases from new motor vehicles contribute to such air pollution. Commenters argue that Congress implicitly imposed a third requirement, that the future control strategy have a certain degree of effectiveness in reducing the endangerment before EPA could make the affirmative findings that would authorize such regulation. There is no statutory text that supports such an interpretation, and the Supreme Court makes it clear that EPA has no discretion to read this kind of additional factor into CAA section 202(a)'s endangerment and contribution criteria. In fact, the Supreme Court rejected similar arguments that EPA had the discretion to consider various other factors besides endangerment and contribution in deciding whether to deny a petition. *Massachusetts* v. *EPA*, 549 U.S. at 532-35.

Commenters point to language from the *Ethyl* case to support their position, noting that the DC Circuit referred to the emissions control regulation adopted by EPA under CAA section 211(c) as one that would "fruitfully attack" the environmental and public health danger by meaningfully and substantially reducing the danger. It is important to understand the context for this discussion in *Ethyl*. The petitioner *Ethyl Corp.* argued that EPA had to show that the health threat from the emissions of lead from the fuel additive being regulated had to be considered in isolation, and the threat "in and of itself" from the additive had to meet the test of endangerment in CAA section 211(c). EPA had rejected this approach, and had interpreted CAA section 211(c)(1) as calling for EPA to look at the cumulative impact of lead, and to consider the impact of lead from emissions related to use of the fuel additive in the context all other human exposure to lead. The court rejected *Ethyl's* approach and supported EPA's interpretation. The DC Circuit noted that Congress was fully aware that the burden of lead on the body was caused by multiple sources and that it would be of no value to try and determine the effect on human health from the lead automobile emissions by themselves. The court specifically noted that "the incremental effect of lead emissions on the total body lead burden is of no practical value in determining whether health is endangered," but recognized that this incremental effect is of value "in deciding whether the lead exposure problem can fruitfully be attacked through control of lead additives." *Ethyl*, 541 F.2d at 31 fn 62. The court made clear that the factor that was critically important to determining the effectiveness of the resulting control strategy-the incremental effect of automobile lead emissions on total body burden-was irrelevant and of no value in determining whether the endangerment criteria was met. Thus it is clear that the court in *Ethyl* did not interpret then CAA section 211(c)(1)(A) as requiring EPA to make a showing of the effectiveness of the resulting emissions control strategy, and instead found just the opposite, that the factors that would determine effectiveness are irrelevant to determining endangerment.

Commenters also cite to the legislative history, noting that Congress referred to the "preventive or precautionary nature of the Act, *i.e.*, to assure that regulatory action can effectively prevent harm before it occurs." Leg. Hist. at 2516. However, this statement by Congress is presented as an answer to the question on page 2515, "Should the Administrator act to prevent harm before it occurs or should he be authorized to regulate an air pollutant only if he finds actual harm has already occurred." Leg. Hist. at 2515. In this context, the discussion on page 2516 clearly indicates that there is no opportunity for prevention or precaution if the test is one of actual harm already occurring. This discussion does not say or imply that even if the harm has not occurred, you can not act unless you also show that your action will effectively address it. This discussion concerns the endangerment test, not the criteria for standard setting. The criteria for standard setting address how the agency should act to address the harm, and as the *Ethyl* case notes, the factors relevant to how to "fruitfully attack" the harm are irrelevant to determining whether the harm is one that endangers the public health or welfare.

As with current CAA section 202(a), there is no basis to conflate these two separate decisions and to read into the endangerment criteria an obligation that EPA show that the resulting emissions control strategy or strategies will have some significant degree of harm reduction or effectiveness in addressing the endangerment. The conflating of the two decisions is not supported in the text of this provision, by the Supreme Court in *Massachusetts* v. *EPA*, by the DC Circuit in *Ethyl*, or by Congress in the legislative history of this provision. It would be an unworkable interpretation, calling for EPA to project out the result of perhaps not one, but even several, future rulemakings stretching over perhaps a decade or decades. Especially in the context of global climate change, the effectiveness of a control strategy for new motor vehicles would have to be viewed in the context of a number of future motor vehicle regulations, as well as in the larger context of the CAA and perhaps even global context. That would be an unworkable and speculative requirement to impose on EPA as a precondition to answering the public health and welfare issues before it, as they are separate and apart from the issues involved with developing, implementing and evaluating the effectiveness of emissions control strategies.

c. The Administrator Does Not Need To Find There Is Significant Risk of Harm

Commenters argue that Congress established a minimum requirement that there be a "significant risk of harm" to find endangerment. They contend that this requirement stemmed from the *Ethyl* case, and that Congress adopted this view. According to the commenters, the risk is the function of two variables: the nature of the hazard at issue and the likelihood of its occurrence. Commenters argue that Congress imposed a requirement that this balance demonstrate a "significant risk of harm" to strike a balance between the precautionary nature of the CAA and the burdensome economic and societal consequences of regulation.

There are two basic problems with the commenters' arguments. First, commenters equate "significant risk of harm" as the overall test for endangerment, however the *Ethyl* case and the legislative history treat the risk of harm as only one of the two components that are to be considered in determining endangerment.-, The two components are the likelihood or risk of a harm occurring, and the severity of harm if it were to occur. Second, commenters equate it to a minimum statutory requirement. However, while the court in the *Ethyl* case made it clear that the facts in that case met the then applicable endangerment criteria, it also clearly said it was not determining what other facts or circumstances might amount to endangerment, including cases where the likelihood of a harm occurring was less than a significant risk of the harm.

In the EPA rulemaking that led to the *Ethyl* case, EPA stated that the requirement to reduce lead in gasoline "is based on the finding that lead ***66509** particle emissions from motor vehicles present a significant risk of harm to the health of urban populations, particularly to the health of city children" (38 FR 33734, December 6, 1973). The court in *Ethyl* supported EPA's determination, and addressed a variety of issues. First, it determined that the "will endanger" criteria of then CAA section 211(c) was intended to be precautionary in nature. It rejected arguments that EPA had to show proof of actual harm, or probable harm. *Ethyl*, 541 F.2d at 13-20. It was in this context, evaluating petitioner's arguments on whether the likelihood of a harm occurring had to rise to the level of actual or probable harm, that the court approved of EPA's view that a significant risk of harm could satisfy the statutory criteria. The precautionary nature of the provision meant that EPA did not need to show that either harm was actually occurring or was probable.

Instead, the court made it clear that the concept of endangerment is "composed of reciprocal elements of risk and harm," *Ethyl* at 18. This means "the public health may properly be found endangered both by a lesser risk of a greater harm and by a greater risk of lesser harm. Danger depends upon the relation between the risk and harm presented by each case, and cannot legitimately be pegged to 'probable' harm, regardless of whether that harm be great or small." The *Ethyl* court pointed to the decision by the 8th Circuit in *Reserve Mining Co.* v. *EPA*, 514 F.2d 492 (8th Cir, 1975), which interpreted similar language under the Federal Water Pollution Control Act, where the 8th Circuit upheld an endangerment finding in a case involving "reasonable medical concern," or a "potential" showing of harm. This was further evidence that a minimum "probable" likelihood of harm was not required.

The *Ethyl* court made it clear that there was no specific magnitude of risk of harm occurring that was required. "Reserve Mining convincingly demonstrates that the magnitude of risk sufficient to justify regulation is inversely proportional to the harm to be avoided." *Ethyl* at 19. This means there is no minimum requirement that the magnitude of risk be "significant" or another specific level of likelihood of occurrence. You need to evaluate the risk of harm in the context of the severity of the harm if it were to occur. In the case before it, the *Ethyl* court noted that "the harm caused by lead poisoning is severe." Even with harm as severe as lead poisoning, EPA did not rely on "potential" risk or a "reasonable medical concern." Instead, EPA found that there was a significant risk of this harm to health. This finding of a significant risk was less than the level of "probable" harm called for by the petitioner Ethyl Corporation but was "considerably more certain than the risk that justified regulation in Reserve Mining of a comparably 'fright-laden' harm." *Ethyl* at 19-20. The *Ethyl* court concluded that this combination of risk (likelihood of harm) and severity of harm was sufficient under CAA section 211(c). "Thus we conclude that however far the parameters of risk and harm inherent in the 'will endanger' standard might reach in an appropriate case, they certainly present a 'danger' that can be regulated when the harm to be avoided is widespread lead poisoning and the risk of that occurrence is 'significant'." *Ethyl* at 20.

Thus, the court made it clear that the endangerment criteria was intended to be precautionary in nature, that the risk of harm was one of the elements to consider in determining endangerment, and that the risk of harm needed to be considered in the context of the severity of the potential harm. It also concluded that a significant risk of harm coupled with an appropriate severity of the potential harm would satisfy the statutory criteria, and in the case before it the Administrator was clearly authorized to determine endangerment where there was a significant risk of harm that was coupled with a severe harm such as lead poisoning.

Importantly, the court also made it clear that it was not determining a minimum threshold that always had to be met. Instead, it emphasized that the risk of harm and severity of the potential harm had to be evaluated on a case by case basis. The court specifically said it was not determining "however far the parameters of risk and harm * * * might reach in an appropriate case." *Ethyl* at 20. Also see *Ethyl* fn 17 at 13. The court recognized that this balancing of risk and harm "must be confined to reasonable limits" and even absolute certainty of a de minimis harm might not justify government action. However, "whether a particular combination of slight risk and great harm, or great risk and slight harm constitutes a danger must depend on the facts of each case." *Ethyl* at fn 32 at 18.[7]

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[7] Commenters point to *Amer. Farm Bureau Ass'n v. EPA*, 559 F.3d 512, 533 (DC Cir. 2009) as supporting their argument. However, in that case the Court made clear that EPA's action was not subject to the endangerment criterion in CAA section 108 but instead was subject to CAA section 109's requirement that the primary NAAQS be requisite to protect the public health with an adequate margin of safety. Under that provision and its case law, the Court upheld EPA's reasoned balancing of the uncertainty regarding the link between non-urban thoracic coarse PM and adverse health effects, the large population groups potentially exposed to these particles, and the nature and degree of the health effects at issue. Citing to EPA's reasoning at 71 FR 61193 in the final PM rule, the court explained that EPA need not wait for conclusive proof of harm before setting a NAAQS under section 109 for this kind of coarse PM. The Court's reference to EPA's belief that there may be a significant risk to public

In some cases, commenters confuse matters by switching the terminology, and instead refer to effects that "significantly harm" the public health or welfare. As with the reference to "significant risk of harm," commenters fail to recognize that there are two different aspects that must be considered, risk of harm and severity of harm, and neither of these aspects has a requirement that there be a finding of "significance." The DC Circuit in *Ethyl* makes clear that it is the combination of these two aspects that must be evaluated for purposes of endangerment, and there is no requirement of "significance" assigned to either of the two aspects that must instead be evaluated in combination. Congress addressed concerns over burdensome economic and societal consequences in the various statutory provisions that provide the criteria for standard setting or other agency action if there is an affirmative endangerment finding. Those statutory provisions, for example, make standard setting discretionary or specify how cost and other factors are to be taken into consideration in setting standards. However, the issues of risk of harm and severity of harm if it were to occur are separate from the issues of the economic impacts of any resulting regulatory provisions (*see* below).

As is clear in the prior summary of the endangerment findings and the more detailed discussion later, the breadth of the sectors of our society that are affected by climate change and the time frames at issue

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health is not stated as any sort of statutory minimum, but instead refers to the Agency's reasoning at 71 FR 61193, which displays a reasoned balancing of possibility of harm and severity of harm if it were to occur.

mean there is a very wide range of risks and harms that need to be considered, from evidence of various harms occurring now to evidence of risks of future harms. The Administrator has determined that the body of scientific evidence compellingly supports her endangerment finding.

B. Air Pollutant, Public Health and Welfare

The CAA defines both "air pollutant" and "effects on welfare." We provide both definitions here again for convenience.

Air pollutant is defined as:

***66510** "Any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used." CAA section 302(g). As the Supreme Court held, greenhouse gases fit well within this capacious definition. *See Massachusetts* v. *EPA*, 549 U.S. at 532. They are "without a doubt" physical chemical substances emitted into the ambient air. *Id.* at 529.

"Regarding 'effects on welfare', the CAA states that [a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants." CAA section 302(h).

As noted in the Proposed Findings, this definition is quite broad. Importantly, it is not an exclusive list due to the use of the term "includes, but is not limited to, * * * ." Effects other than those listed here may also be considered effects on welfare. Moreover, the terms contained within the definition are themselves expansive.

Although the CAA defines "effects on welfare" as discussed above, there are no definitions of "public health" or "public welfare" in the CAA. The Supreme Court has discussed the concept of public health in the context of whether costs of implementation can be considered when setting the health based primary National Ambient Air Quality Standards. *Whitman* v. *American Trucking Ass'n*, 531 U.S. 457 (2001). In *Whitman*, the Court imbued the term with its most natural meaning: "the health of the public." *Id*. at 466. In the past, when considering public health, EPA has looked at morbidity, such as impairment of lung function, aggravation of respiratory and cardiovascular disease, and other acute and chronic health effects, as well as mortality. *See, e.g.*, *Final National Ambient Air Quality Standard for Ozone*, (73 FR 16436, 2007).

EPA received numerous comments regarding its proposed interpretations of air pollutant and public health and welfare. Summaries of key comments and

EPA's responses are discussed in Sections IV and V of these Findings. Additional and more detailed summaries and responses can be found in the Response to Comments document. As noted in the Response to Comments document, EPA also received comments supporting its legal interpretations.

III. EPA's Approach for Evaluating the Evidence Before It

This section discusses EPA's approach to evaluating the evidence before it, including the approach taken to the scientific evidence, the legal framework for this decision making, and several issues critical to determining the scope of the evaluation performed.

A. The Science on Which the Decisions Are Based

In 2007, EPA initiated its assessment of the science and other technical information to use in addressing the endangerment and cause or contribute issues before it under CAA section 202(a). This scientific and technical information was developed in the form of a TSD in 2007. An earlier draft of this document was released as part of the ANPR published July 30, 2008 (73 FR 44353). That earlier draft of the TSD relied heavily on the IPCC Fourth Assessment Report of 2007, key NRC reports, and a limited number of then-available synthesis and assessment products of the U.S. Climate Change Science Program (CCSP; now encompassed by USGCRP). EPA received a number of comments specifically focused on the TSD during the 120-day public comment period for the ANPR.

EPA revised and updated the TSD in preparing the Proposed Findings on endangerment and cause or contribute. Many of the comments received on the ANPR were reflected in the draft TSD released in April 2009 that served as the underlying scientific and technical basis for the Administrator's Proposed Findings, published April 24, 2009 (74 FR 18886). The draft TSD released in April 2009 also reflected the findings of 11 new synthesis and assessment products under the U.S. CCSP that had been published since July 2008.

The TSD that summarizes scientific findings from the major assessments of the USGCRP, the IPCC, and the NRC accompanies these Findings. The TSD is available at *www.epa.gov/climatechange/endangerment.html* and in the docket for this action. It also includes the most recent comprehensive assessment of the USGCRP, *Global Climate Change Impacts in the United States*,[8] published in June 2009. In addition, the TSD incorporates up-to-date observational data for a number of key climate variables from the NOAA, and the most up-to-date emissions data from EPA's annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, published in April, 2009.[9] And finally, as discussed in Section I.B of these Findings, EPA received a large number of public comments on the Administrator's Proposed

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[8] Karl, T., J. Melillo, and T. Peterson (Eds.) (2009) Global Climate Change Impacts in the United States. Cambridge University Press, Cambridge, United Kingdom.

[9] U.S. EPA (2009) *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*. EPA-430-R-09-004, Washington, DC.

Findings, many of which addressed science issues either generally or specifically as reflected in the draft TSD released with the April 2009 proposal. A number of edits and updates were made to the draft TSD as a result of these comments.[10]

EPA is giving careful consideration to all of the scientific and technical information in the record, as discussed below. However, the Administrator is relying on the major assessments of the USGCRP, IPCC, and NRC as the primary scientific and technical basis of her endangerment decision for a number of reasons.

First, these assessments address the scientific issues that the Administrator must examine for the endangerment analysis. When viewed in total, these assessments address the issue of greenhouse gas endangerment by providing data and information on: (1) The amount of greenhouse gases being emitted by human activities; (2) how greenhouse gases have been and continue to accumulate in the atmosphere as a result of human activities; (3) changes to the Earth's energy balance as a result of the buildup of atmospheric greenhouse gases; (4) observed temperature and other climatic changes at the global and regional scales; (5) observed changes in other climate-sensitive sectors and systems of the human and natural environment; (6) the extent to which observed climate change and other changes in climate-sensitive systems can be attributed to the human-induced buildup of atmospheric greenhouse gases; (7)

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[10] EPA has placed within the docket a separate memo "Summary of Major Changes to the Technical Support Document" identifying where within the TSD such changes were made relative to the draft TSD released in April 2009.

future projected climate change under a range of different scenarios of changing greenhouse gas emission rates; and (8) the projected risks and impacts to ***66511** human health, society and the environment.

Second, as indicated above, these assessments are recent and represent the current state of knowledge on the key elements for the endangerment analysis. It is worth noting that the June 2009 assessment of the USGCRP incorporates a number of key findings from the 2007 IPCC Fourth Assessment Report; such findings include the attribution of observed climate change to human emissions of greenhouse gases, and the future projected scenarios of climate change for the global and regional scales. This demonstrates that much of the underlying science that EPA has been utilizing since 2007 has not only been in the public domain for some time, but also has remained relevant and robust.

Third, these assessments are comprehensive in their coverage of the greenhouse gas and climate change problem, and address the different stages of the emissions-to-potential-harm chain necessary for the endangerment analysis. In so doing, they evaluate the findings of numerous individual peer-reviewed studies in order to draw more general and overarching conclusions about the state of science. The USGCRP, IPCC, and NRC assessments synthesize literally thousands of individual studies and convey the consensus conclusions on what the body of scientific literature tells us.

Fourth, these assessment reports undergo a rigorous and exacting standard of peer review by the expert community, as well as rigorous levels of U.S. government review and acceptance. Individual studies that appear in scientific journals, even if peer reviewed, do not go through as many review stages, nor are they reviewed and commented on by as many scientists. The review processes of the IPCC, USGCRP, and NRC (explained in fuller detail in the TSD and the Response to Comments document, Volume 1) provide EPA with strong assurance that this material has been well vetted by both the climate change research community and by the U.S. government. These assessments therefore essentially represent the U.S. government's view of the state of knowledge on greenhouse gases and climate change. For example, with regard to government acceptance and approval of IPCC assessment reports, the USGCRP Web site states that: "When governments accept the IPCC reports and approve their Summary for Policymakers, they acknowledge the legitimacy of their scientific content."[11] It is the Administrator's view that such review and acceptance by the U.S. Government lends further support for placing primary weight on these major assessments.

It is EPA's view that the scientific assessments of the IPCC, USGRCP, and the NRC represent the best reference materials for determining the general state of knowledge on the scientific and technical issues before the agency in making an endangerment decision. No other source of information provides such a comprehensive and in-depth analysis across such a large body of scientific studies, adheres to such a high and exacting standard of peer review, and synthesizes the resulting consensus view of a large body of scientific experts across the world. For these reasons, the Administrator is placing primary and significant weight on these assessment reports in making her decision on endangerment.

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[11] *http://www.globalchange.gov/publications/reports/ipcc-reports.*

A number of commenters called upon EPA to perform a new and independent assessment of all of the underlying climate change science, separate and apart from USGCRP, IPCC, and NRC. In effect, commenters suggest that EPA is either required to or should ignore the attributes discussed above concerning these assessment reports, and should instead perform its own assessment of all of the underlying studies and information.

In addition to the significant reasons discussed above for relying on and placing primary weight on these assessment reports, EPA has been a very active part of the U.S. government climate change research enterprise, and has taken an active part in the review, writing, and approval of these assessments. EPA was the lead agency for three significant reports under the USGCRP,[12] and recently completed an assessment addressing the climate change impacts on U.S. air quality-a report on which the TSD heavily relies for that particular issue. EPA was also involved in review of the IPCC Fourth Assessment Report, and in particular took part in the approval of the summary for policymakers for the Working Group II Volume, *Impacts, Adaptation and Vulnerability.*[13] The USGCRP, IPCC, and NRC assessments have been reviewed and formally accepted by, commissioned by, or in some cases authored by, U.S. government agencies and individual government scientists. These reports already reflect significant input from EPA's scientists and the scientists of many other government agencies.

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[12] CCSP (2009) *Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region*. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [James G. Titus (Coordinating Lead Author), K. Eric Anderson, Donald R. Cahoon, Dean B. Gesch, Ste phen K. Gill, Benjamin T. Gutierrez, E. Robert Thieler, and S. Jeffress Williams(Lead Authors)], U.S. Environmental Protection Agency, Washington DC, USA, 320 pp. CCSP (2008) *Prelimi nary review of adaptation options for climate-sensitive ecosystems and resources*. A Report by the U.S. Climate Change Science Program and the Subcommittee on

EPA has no reason to believe that the assessment reports do not represent the best source material to determine the state of science and the consensus view of the world's scientific experts on the issues central to making an endangerment decision with respect to

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Global Change Research. [Julius, S.H., J.M. West (eds.), J.S. Baron, B. Griffith, L.A. Joyce, P. Kareiva, B.D. Keller, M.A. Palmer, C.H. Peterson, and J.M. Scott (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA, 873 pp. CCSP (2008) *Analyses of the effects of global change on human health and welfare and human systems*. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [Gamble, J.L. (ed.), K.L. Ebi, F.G. Sussman, T.J. Wilbanks, (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA.

[13] IPCC (2007) Climate Change 2007: *Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 976pp.

greenhouse gases. EPA also has no reason to believe that putting this significant body of work aside and attempting to develop a new and separate assessment would provide any better basis for making the endangerment decision, especially because any such new assessment by EPA would still have to give proper weight to these same consensus assessment reports.

In summary, EPA concludes that its reliance on existing and recent synthesis and assessment reports is entirely reasonable and allows EPA to rely on the best available science.[14] EPA also recognizes that scientific research is very active in many areas addressed in the TSD (*e.g.*, aerosol effects on climate, climate feedbacks such as water vapor, and internal and external climate forcing mechanisms), as well as for some emerging issues (*e.g.*, ocean acidification and climate change effects on water quality). EPA recognizes the potential importance of new scientific research, and the value of an ongoing process to take more recent science into account. EPA reviewed new literature in ***66512** preparation of this TSD to evaluate its consistency with recent scientific assessments. We also considered public comments received and studies incorporated by reference. In a number of cases, the TSD was updated based on such information to add context for assessment literature findings, which includes supporting information and/or qualifying statements. In other cases, material that was not incorporated into the TSD is discussed within the Response to Comments document.

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[14] It maintains the highest level of adherence to Agency and OMB guidelines for data and scientific integrity and transparency. This is discussed in greater detail in EPA's Response to Comments document.

EPA reviewed these individual studies that were not considered or reflected in these major assessments to evaluate how they inform our understanding of how greenhouse gas emissions affect climate change, and how climate change may affect public health and welfare. Given the very large body of studies reviewed and assessed in developing the assessment reports, and the rigor and breadth of that review and assessment, EPA placed limited weight on the much smaller number of individual studies that were not considered or reflected in the major assessments. EPA reviewed them largely to see if they would lead EPA to change or place less weight on the judgments reflected in the assessment report. While EPA recognizes that some studies are more useful or informative than others, and gave each study it reviewed the weight it was due, the overall conclusion EPA drew from its review of studies submitted by commenters was that the studies did not change the various conclusions or judgments EPA would draw based on the assessment reports.

Many comments focus on the scientific and technical data underlying the Proposed Findings, such as climate change science and greenhouse gas emissions data. These comments cover a range of topics and are summarized and responded to in the Response to Public Comments document. The responses note those cases where a technical or scientific comment resulted in an editorial or substantive change to the TSD. The final TSD reflects all changes made as a result of public comments.

B. The Law on Which the Decisions Are Based

In addition to grounding these determinations on the science, they are also firmly grounded in EPA's legal authority. Section II of these Findings provides an in-depth discussion of the legal framework for the endangerment and cause or contribute decisions under CAA section 202(a), with additional discussion in Section II of the Proposed Finding (74 FR 18886, 18890, April 24, 2009). A variety of important legal issues are also discussed in Sections III, IV, and V of these Findings, as well as in the Response to Comments document, Volume 11. Section IV and V of these Findings explain the Administrator's decisions, and how she exercised her judgment in making the endangerment and contribution determinations, based on the entire scientific record before her and the legal framework structuring her decision making.

C. Adaptation and Mitigation

Following the language of CAA section 202(a), in which the Administrator, in her judgment, must determine if greenhouse gases constitute the air pollution that may be reasonably anticipated to endanger public health or welfare, EPA evaluated, based primarily on the scientific reports discussed above, how greenhouse gases and other climate-relevant substances are affecting the atmosphere and climate, and how these climate changes affect public health and welfare, now and in the future. Consistent with EPA's scientific approach underlying the Administrator's Proposed Findings, EPA did not undertake a separate analysis to evaluate potential societal and policy responses to any threat (*i.e.*, the endangerment) that may exist due to anthropogenic emissions of greenhouse gases. Risk reduction through adaptation and greenhouse gas mitigation measures is of course a strong focal area of scientists and policy makers, including EPA; however, EPA considers adaptation and mitigation to be potential responses to endangerment, and as such has determined that they are outside the scope of the endangerment analysis.

The Administrator's position is not that adaptation will not occur or cannot help protect public health and welfare from certain impacts of climate change, as some commenters intimated. To the contrary, EPA recognizes that some level of autonomous adaptation[15] will occur, and commenters are correct that autonomous adaptation can affect the severity of climate change impacts. Indeed, there are some cases in the TSD in which some degree of adaptation is accounted for; these cases occur where the literature on which the TSD relies already uses assumptions about autonomous adaptation when projecting the future effects of climate change. Such cases are noted in the TSD. We also view planned adaptation as an important near-term risk-minimizing strategy given that some degree of climate change will continue to occur as a result of past and current emissions of greenhouse gases that remain in the atmosphere for decades to centuries.

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[15] The IPCC definition of adaptation: "Adaptation to climate change takes place through adjustments to reduce vulnerability or enhance resilience in response to observed or expected changes in climate and associated extreme weather events. Adaptation occurs in physical, ecological and human systems. It involves changes in social and environmental processes, perceptions of climate risk, practices and functions to reduce potential damages or to realize new opportunities." The IPCC defines autonomous adaptation as "Adaptation that does not constitute a conscious response to climatic stimuli but is triggered by ecological changes in natural systems and by market or welfare changes in human systems."

However, it is the Administrator's position that projections of adaptation and mitigation in response to risks and impacts associated with climate change are not appropriate for EPA to consider in making a decision on whether the air pollution endangers. The issue before EPA involves evaluating the risks to public health and welfare from the air pollution if we do not take action to address it. Adaptation and mitigation address an important but different issue-how much risk will remain assuming some projection of how people and society will respond to the threat.

Several commenters argue that it is arbitrary not to consider adaptation in determining endangerment. They contend that because endangerment is a forward-looking exercise, the fundamental inquiry concerns the type and extent of harm that is believed likely to occur in the future. Just as the Administrator makes projections of potential harms in the future, these commenters contend that the Administrator needs to consider the literature on adaptation that addresses the likelihood and the severity of potential effects. Commenters also note that since adaption is one of the likely impacts of climate change, it is irrational to exclude it from consideration when the goal is to evaluate the risks and harms in the real world in the future, not the risks and harms in the hypothetical scenario that result if you ignore adaptation.

According to commenters, the Administrator must consider both autonomous adaptation and anticipatory adaptation. They contend that literature on adaptation makes it clear there is a significant potential for adaptation, and that it can reduce the likelihood or severity of various effects, including health effects, and could even avert what might otherwise constitute endangerment. Commenters note that EPA considered the adaptation of species in nature, and it is arbitrary to not also consider adaptation by humans. Moreover, they argue that there is great ***66513** certainty that adaptation will occur, and thus EPA is required to address it and make projections. They recommend that EPA look to historic responses to changes in conditions as an analogue in making projections, recognizing that life in the United States is likely to be quite different 50 or 100 years from now, irrespective of climate change.

Commenters argue that adaption needs to be considered because it is central to the statutory requirements governing the endangerment inquiry. EPA is charged to determine the type and extent of harms that are likely to occur, and they argue that this can not rationally be considered without considering adaptation. Since some degree of adaptation is likely to occur, they continue that such a projection of future actual conditions requires consideration of adaption to evaluate whether the future conditions amount to endangerment from the air pollution.

According to commenters, the issue therefore is focused on human and societal adaptation, which can come in a wide variety of forms, ranging from changes in personal behavioral patterns to expenditures of resources to change infrastructure, such as building and maintaining barriers to protect against sea level rise.

With regard to mitigation, commenters argue that EPA should consider mitigation strategies and their potential to alleviate harm from greenhouse gas emissions. They contend that it is unreasonable for EPA to assume that society will not undertake mitigation.

Section 202(a) of the CAA reflects the basic approach of many CAA sections—the threshold inquiry is whether the endangerment and cause or contribute criteria are satisfied, and only if they are met do the criteria for regulatory action go into effect. This reflects the basic separation of two different decisions—is this a health and welfare problem that should be addressed, and if so what are the appropriate mechanisms to address it? There is a division between identifying the health and welfare problem associated with the air pollution, and identifying the mechanisms used to address or solve the problem.

In evaluating endangerment, EPA is determining whether the risks to health and welfare from the air pollution amount to endangerment. As commenters recognize, that calls for evaluating and projecting the nature and types of risks from the air pollution, including the probability or likelihood of the occurrence of an impact and the degree of adversity (or benefit) of such an impact. This issue focuses on how EPA makes such an evaluation in determining endangerment—does EPA look at the risks assuming no planned adaptation and/or mitigation, although EPA projects some degree is likely to occur, or does EPA look at the risks remaining after some projection of adaptation and/or mitigation?

These two approaches reflect different views of the core question EPA is trying to answer. The first approach most clearly focuses on just the air pollution and its impacts, and aims to separate this from the human and societal responses that may or should be taken in response to the risks from the air pollution. By its nature, this separation means this approach may not reflect the actual conditions in the real world in the future, because adaptation and/or mitigation may occur and change the risks. For example, adaptation would not change the atmospheric concentrations, or the likelihood or probability of various impacts occurring (*e.g.*, it would not change the degree of sea level rise), but adaptation has the potential to reduce the adversity of the effects that do occur from these impacts. Mitigation could reduce the atmospheric concentrations that would otherwise occur, having the potential to reduce the likelihood or probability of various impacts occurring. Under this approach, the evaluation of risk is focused on the risk if we do not address the problem. It does not answer the question of how much risk we project will remain after we do address the problem, through either adaptation or mitigation or some combination of the two.

The second approach, suggested by commenters, would call for EPA to project into the future adaptation and/or mitigation, and the effect of these measures in reducing the risks to health or welfare from the air pollution. Commenters argue this will better reflect likely real world conditions, and therefore is needed to allow for an appropriate determination of whether EPA should, at this time, make an affirmative endangerment finding. However, this approach would not separate the air pollution and its impacts from the human and societal responses to the air pollution. It would intentionally and inextricably intertwine them. It would inexorably change the focus from how serious is the air pollution problem we need to address to how good a job are people and society likely to do in addressing or solving the problem. In addition it would dramatically increase the complexity of the issues before EPA.

The context for this endangerment finding is a time span of several decades into the future. It involves a wide variety of differing health and welfare effects, and almost every sector in our society. This somewhat unique context tends to amplify the differences between the two different approaches. It also means that it is hard to cleanly implement either approach. For example, it is hard under the first approach to clearly separate impacts with and without adaption, given the nature of the scientific studies and information before us. Under the second approach it would be extremely hard to make a reasoned projection of human and societal adaptation and mitigation responses, because these are basically not scientific or technical judgments, but are largely political judgments for society or individual personal judgments.

However, the context for this endangerment finding does not change the fact that at their core the two different approaches are aimed at answering different questions. The first approach is focused on answering the question of what are the risks to public health and welfare from the air pollution if we do not take action to address it. The second approach is focused on answering the question of how much risk will remain assuming some projection of how people and society will respond.

EPA believes that it is appropriate and reasonable to interpret CAA section 202(a) as calling for the first approach. The structure of CAA section 202(a) and the various other similar provisions indicate an intention by Congress to separate the question of what is the problem we need to address from the question of what is the appropriate way to address it. The first approach is clearly more consistent with this statutory structure. The amount of reduction in risk that might be achieved through adaptation and/or mitigation is closely related to the way to address a problem, and is not focused on what is the problem that needs to be addressed. It helps gauge the likelihood of success in addressing a problem, and how good a job society may do in reducing risk; it is not at all as useful in determining the severity of the problem that needs to be addressed.

The endangerment issue at its core is a decision on whether there is a risk to health and welfare that needs to be addressed, and the second approach would tend to indicate that the more likely a society is to solve a problem, the less likely there is a problem that needs to be addressed. This would mask the issue and provide a directionally wrong signal. Assume two different situations, both presenting the same serious risks to ***66514** public health or welfare without consideration of adaptation or mitigation. The more successful society is projected to be in solving the serious problem in the future would mean the less likely we would be to make an endangerment finding at the inception identifying it as a problem that needs to be addressed. This is much less consistent with the logic embodied in CAA section 202(a), which separates the issue of whether there is a problem from the issue of what can be done to successfully address it.

In addition, the second approach would dramatically increase the complexity of the issues to resolve, and would do this by bringing in issues that are not the subject of the kind of scientific or technical judgments that Congress envisioned for the endangerment test. The legislative history indicates Congress was focused on issues of science and medicine, including issues at the frontiers of these fields. It referred to data, research resources, science and medicine, chemistry, biology, and statistics. There is no indication Congress envisioned exercising judgment on the very different types of issues involved in projecting the political actions likely to be taken by various local, State, and Federal governments, or judgments on the business or other decisions that are likely to be made by companies or other organizations, or the changes in personal behavior that may be occasioned by the adverse impacts of air pollution. The second approach would take EPA far away from the kind of judgments Congress envisioned for the endangerment test.

D. Geographic Scope of Impacts

It is the Administrator's view that the primary focus of the vulnerability, risk, and impact assessment is the United States. As described in Section IV of these Findings, the Administrator gives some consideration to climate change effects in world regions outside of the United States. Given the global nature of climate change, she has also examined potential impacts in other regions of the world. Greenhouse gases, once emitted, become well mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment, but other regions of the world as well. Likewise, emissions in other countries can affect the United States. Furthermore, impacts in other regions of the world may have consequences that in turn raise humanitarian, trade, and national security concerns for the United States.

Commenters argue that EPA does not have the authority to consider international effects. They contend that the burden is on EPA is to show endangerment based on impacts in the United States. They note that EPA proposed this approach, which is the only relevant issue for EPA. The purpose of CAA section 202(a), as the stated purpose of the CAA, commenters note, is to protect the quality of the nation's air resources and to protect the health and welfare of the U.S. population. Thus, they continue, international public health and welfare are not listed or stated, and are not encompassed by these provisions. Moreover, they argue that Congress addressed international impacts expressly in two other provisions of the CAA. They note that under CAA section 115, EPA considers emissions of pollutants that cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare in a foreign country, and that CAA section 179B addresses emissions of air pollutants in foreign countries that interfere with attainment of a National Ambient Air Quality Standards (NAAQS) in the United States. Because Congress intentionally addressed international impacts in those provision, commenters argue that the absence of this direction in CAA section 202(a) means that EPA is not to consider international effects when assessing endangerment under this provision.

Commenters fail to recognize that EPA's consideration of international effects is directed at evaluating their impact on the public health and welfare of the U.S. population. EPA is not considering international effects to determine whether the health and welfare of the public in a foreign country is endangered. Instead, EPA's consideration of international effects for purposes of determining endangerment is limited to how those international effects impact the health and welfare of the U.S. population.

The Administrator looked first at impacts in the United States itself, and determined that these impacts are reasonably anticipated to endanger the public health and the welfare of the U.S. population. That remains the Administrator's position, and by itself supports her determination of endangerment. The Administrator also considered the effects of global climate change outside the borders of the United States and evaluated them to determine whether these international effects impact the U.S. population, and if so whether it impacts the U.S. population in a manner that supports or does not support endangerment to the health and welfare of the U.S. public. She is not evaluating international effects to determine whether populations in a foreign country are endangered. The Administrator is looking at international effects solely for the purpose of evaluating their effects on the U.S. population.

For example, the U.S. population can be impacted by effects in other countries. These international effects can impact U.S. economic, trade, and humanitarian and national security interests. These would be potential effects on the U.S. population, brought about by the effects of climate change occurring outside the United States. It is fully reasonable and rational to expect that events occurring outside our borders can affect the U.S. population.

Thus, commenters misunderstand the role that international effects played in the proposal. The Administrator is not evaluating the impact of international effects on populations outside the United States; she is considering what impact these international effects could have on the U.S. population. That is fully consistent with the CAA's stated purpose of protecting the health and welfare of this nation's population.

E. Temporal Scope of Impacts

An additional parameter of the endangerment analysis is the timeframe. The Administrator's view is that the timeframe over which vulnerabilities, risks, and impacts are considered should be consistent with the timeframe over which greenhouse gases, once emitted, have an effect on climate. Thus the relevant time frame is decades to centuries for the primary greenhouse gases of concern. Therefore, in addition to reviewing recent observations, the underlying science upon which the Administrator is basing her findings generally considers the next several decades-the time period out to around 2100, and for certain impacts, the time period beyond 2100. How the accumulation of atmospheric greenhouse gases and resultant climate change may affect current and future generations is discussed in section IV in these Findings. By current generations we mean a near-term time frame of approximately the next 10 to 20 years; by future generations we mean a longer-term time frame extending beyond that. Some public comments were received that questioned making an endangerment finding based on current conditions, while others questioned EPA's ability to make an endangerment finding based on future projected conditions. Some of these comments are likewise addressed in Section IV in these Findings; and all comments on these temporal issues are addressed in the Response to Comments document.

*66515 *F. Impacts of Potential Future Regulations and Processes That Generate Greenhouse Gas Emissions*

This action is a stand-alone set of findings regarding endangerment and cause or contribute for greenhouse gases under CAA section 202(a), and does not contain any regulatory requirements. Therefore, this action does not attempt to assess the impacts of any future regulation. Although EPA would evaluate any future proposed regulation, many commenters argue that such a regulatory analysis should be part of the endangerment analysis.

Numerous commenters argue that EPA must fully consider the adverse and beneficial impacts of regulation together with the impacts of inaction, and describe this balancing as "risk-risk analysis," "health-health analysis," and most predominantly "risk tradeoff analysis." Commenters argue that EPA's final endangerment finding would be arbitrary unless EPA undertakes this type of risk trade-off analysis.

Commenters specifically argue that EPA must consider the economic impact of regulation, including the Prevention of Significant Deterioration (PSD) permitting program for major stationary sources because it is triggered by a CAA section 202(a) standard, when assessing whether there is endangerment to public welfare. In other words, they argue that the Administrator should determine if finding endangerment and regulating greenhouse gases under the CAA would be worse for public health and welfare than not regulating. Commenters also argue that the reference to "public" health or welfare in CAA section 202, as well as the fact that impacts on the economy should be considered impacts to welfare, especially requires EPA to consider the full range of possible impacts of regulation. Commenters provide various predictions regarding how regulating greenhouse gases under the CAA more broadly will impact the public, industry, states the overall economy, and thus, they conclude, public health and welfare. Examples of commenters' predictions include potential adverse impacts on (1) the housing industry and the availability of affordable housing, (2) jobs and income due to industry moving overseas, (3) the agriculture industry and its ability to provide affordable food, and (4) the nation's energy supply. They also cite to the letter from the Office of Management and Budget provided with the ANPR, as well as interagency comments on the draft

Proposed Findings, in support of their argument.

At least one commenter argues that EPA fails to discuss the public health or welfare benefits of the processes that produce the emissions. The commenter contends that for purposes of CAA section 202(a), this process would be the combustion of gasoline or other transportation fuel in new motor vehicles, and that for purposes of other CAA provisions with similar endangerment finding triggers, the processes would be the combustion of fossil fuel for electric generation and other activities. The commenter continues that EPA's decision to limit its analysis to the perceived detrimental aspects of emissions after they enter the atmosphere-as opposed to the possible positive aspects of emissions because of the processes that create the emissions-is based on EPA's overly narrow interpretation of both the meaning of the term "emission" in CAA section 202(a) (and therefore in other endangerment finding provisions) and the intent of these provisions. The commenter states that logically, it makes little sense to limit the definition of the term "emission" to only the "air pollutants" that are emitted. The commenter concludes that when EPA assesses whether the emission of greenhouse gases endanger public health and welfare, EPA must assess the dangers and benefits on both sides of the point where the emissions occur: in the atmosphere where the emissions lodge and, on the other side of the emitting stack or structure, in the processes that create the emissions. Otherwise, EPA will not be able to accurately assess whether the fact that society emits greenhouse gases is a benefit or a detriment. The commenter states that because greenhouse gas emissions, particularly carbon dioxide emissions, are so closely tied with all facets of modern life, a finding that greenhouse gas emissions endanger public health and welfare is akin to saying that modern life endangers public health or welfare. The commenter states that simply cannot be true because the lack of industrial activity that causes greenhouse gas emissions would pose other, almost certainly more serious health and welfare consequences.

Finally, some commenters argue that the impact of regulating under CAA section 202(a) supports making a final, negative endangerment finding. These commenters contend that the incredible costs associated with using the inflexible regulatory structure of the CAA will harm public health and welfare, and therefore EPA should exercise its discretion and find that greenhouse gases do not endanger public health and welfare because once EPA makes an endangerment finding under CAA section 202(a), it will be forced to regulate greenhouse gases under a number of other sections of the CAA, resulting in regulatory chaos.

At their core, these comments are not about whether commenters believe greenhouse gases may reasonably be anticipated to endanger public health or welfare, but rather about commenters' dissatisfaction with the decisions that Congress made regarding *the response* to any endangerment finding that EPA makes under CAA section 202(a). These comments do not discuss the science of greenhouse gases or climate change, or the impacts of climate change on public health or welfare. Instead they muddle the rather straightforward scientific judgment about whether there may be endangerment by throwing the potential impact of responding to the danger into the initial question. To use an analogy, the question of whether the cure is worse than the illness is different than the question of whether there is an illness in the first place. The question of whether there is endangerment is like the question of whether there is an illness. Once one knows there is an illness, then the next question is what to do, if anything, in response to that illness.

What these comments object to is that Congress has already made some decisions about next steps after a finding of endangerment, and commenters are displeased with the results. But if this is the case, commenters should take up their concerns with Congress, not EPA. EPA's charge is to issue new motor vehicle standards under CAA section 202(a) applicable to emissions of air pollutants that cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. It is not to find that there is no endangerment in order to avoid issuing those standards, and dealing with any additional regulatory impact.

Indeed, commenters' argument would insert policy considerations into the endangerment decision, an approach already rejected by the Supreme Court. First, as discussed in Section I.B of these Findings, in *Massachusetts* v. *EPA*, the court clearly indicated that the Administrator's decision must be a "scientific judgment." 549 U.S. at 534. She must base her decision about endangerment on the science, and not on policy considerations about the repercussions or impact of such a finding.

Second, in considering whether the CAA allowed for economic considerations to play a role in the promulgation of the NAAQS, the ***66516** Supreme Court rejected arguments that because many more factors than air pollution might affect public health, EPA should consider compliance costs that produce health losses in setting the NAAQS. *Whitman* v. *ATA*, 531 U.S. at 457, 466 (2001). To be sure, the language in CAA section 109(b) applicable to the setting of a NAAQS is different than that in CAA section 202(a) regarding endangerment. But the concepts are similar-the NAAQS are about setting standards at a level requisite to protect public health (with an adequate margin of safety) and public welfare, and endangerment is about whether the current or projected future levels may reasonably be anticipated to endanger public health or welfare. In other words, both decisions essentially are based on assessing the harm associated with a certain level of air pollution.

Given this similarity in purpose, as well as the Court's instructions in *Massachusetts* v. *EPA* that the Administrator should base her decision on the science, EPA reasonably interprets the statutory endangerment language to be analogous to setting the NAAQS. Therefore, it is reasonable to interpret the endangerment test as not requiring the consideration of the impacts of implementing the statute in the event of an endangerment finding as part of the endangerment finding itself.[16]

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[16] Indeed, some persons may argue that due to the similarities between setting a NAAQS and making an endangerment finding, EPA cannot consider the impacts of implementation of the statute.

Moreover, EPA does not believe that the impact of regulation under the CAA as a whole, let alone that which will result from this particular endangerment finding, will lead to the panoply of adverse consequences that commenters predict. EPA has the ability to fashion a reasonable and common-sense approach to address greenhouse gas emissions and climate change. The Administrator thinks that EPA has and will continue to take a measured approach to address greenhouse gas emissions. For example, the Agency's recent Mandatory Greenhouse Gas Reporting Rule focuses on only the largest sources of greenhouse gases in order to reduce the burden on smaller facilities.[17]

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[17] Note that it is EPA's current position that these Final Findings do not make well-mixed greenhouse gases "subject to regulation" for purposes of the CAA's Prevention of Significant Deterioration (PSD) and title V programs. *See, e.g.*, memorandum entitled "EPA's Interpretation of Regulations that Determine Pollutants Covered By Federal Prevention of Significant Deterioration (PSD) Permit Program" (Dec. 18, 2008). While EPA is reconsidering this memorandum and is seeking public comment on the issues raised in it generally, including whether a final endangerment finding should trigger PSD, the effectiveness of the positions provided in the memorandum was not stayed pending that reconsideration. Prevention of Significant Deterioration (PSD): Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD Permit Program, 74 FR 515135, 51543-44 (Oct. 7, 2009). In addition, EPA has proposed new temporary thresholds for greenhouse gas emissions that define when PSD and title V permits are required for new or existing facilities. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule (74 FR 55292, October 27, 2009). The proposed thresholds would "tailor" the permit programs to limit which facilities would be required to obtain PSD and title V permits. As noted in the preamble for the tailoring rule proposal, EPA also in-

We also note that commenters' approach also is another version of the argument that EPA must consider adaptation and mitigation in the endangerment determination. Just as EPA should consider whether mitigation would *reduce* endangerment, commenters argue we should consider whether mitigation would *increase* endangerment. But as discussed previously, EPA disagrees and believes its approach better achieves the goals of the statute.

Finally, EPA simply disagrees with the commenter who argues that because we are better off now than before the industrial revolution, greenhouse gases cannot be found to endanger public health or welfare. As the DC Circuit noted in the *Ethyl* decision, "[m]an's ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations." See *Ethyl Corp.*, 541 F.2d at 6. The fact that we as a society are better off now than 100 years ago, and that processes that produce greenhouse gases are a large part of this improvement, does not mean that those processes do not have unintended adverse impacts. It also was entirely reasonable for EPA to look at "emissions" as the pollution once it is emitted from the source into the air, and not also as the process that generates the pollution. Indeed, the definition of "air pollutant" talks in terms of substances "emitted into or otherwise enter[ing] the ambient air" (CAA section 302(g)).

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tends to evaluate ways to streamline the process for identifying GHG emissions control requirements and issuing permits. See the Response to Comments Document, Volume 11, and the Tailoring Rule, for more information.

It is entirely appropriate for EPA to consider only the substance being emitted as the air pollution or air pollutant.

IV. The Administrator's Finding That Greenhouse Gases Endanger Public Health and Welfare

The Administrator finds that elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations. The Administrator is making this finding specifically with regard to six key directly-emitted, long-lived and well-mixed greenhouse gases: Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The Administrator is making this judgment based on both current observations and projected risks and impacts into the future. Furthermore, the Administrator is basing this finding on impacts of climate change within the United States. However, the Administrator finds that when she considers the impacts on the U.S. population of risks and impacts occurring in other world regions, the case for endangerment to public health and welfare is only strengthened.

A. The Air Pollution Consists of Six Key Greenhouse Gases

The Administrator must define the scope and nature of the relevant air pollution for the endangerment finding under CAA section 202(a). In this final action, the Administrator finds that the air pollution is the combined mix of six key directly-emitted, long-lived and well-mixed greenhouse gases (henceforth "well-mixed greenhouse gases"), which together, constitute the root cause of human-induced climate change and the resulting impacts on public health and welfare. These six greenhouse gases are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

EPA received public comments on this definition of air pollution from the Proposed Findings, and summarizes responses to some of those key comments below; fuller responses to public comments can be found in EPA's Response to Comments document, Volume 9. The Administrator acknowledges that other anthropogenic climate forcers also play a role in climate change. Many public comments either supported or opposed inclusion of other substances in addition to the six greenhouse gases for the definition of air pollution. EPA's responses to those comments are also summarized below, and in volume 9 of the Response to Comments document.

The Administrator explained her rationale for defining air pollution under CAA section 202(a) as the combined mix of the six greenhouse gases in the Proposed Findings. After review of the public comments, the Administrator is using the same definition of the air pollution in the *66517 final finding, for the following reasons: (1) These six greenhouse gas share common properties regarding their climate effects; (2) these six greenhouse gases have been estimated to be the primary cause of human-induced climate change, are the best understood drivers of climate change, and are expected to remain the key driver of future climate change; (3) these six greenhouse gases are the common focus of climate change science research and policy analyses and discussions; (4) using the combined mix of these gases as the definition (versus an individual gas-by-gas approach) is consistent with the science, because risks and impacts associated with greenhouse gas-induced climate change are not assessed on an individual gas approach; and (5) using the combined mix of these gases is consistent with past EPA practice, where separate substances from different sources, but with common properties, may be treated as a class (*e.g.*, oxides of nitrogen).

1. Common Physical Properties of the Six Greenhouse Gases

The common physical properties relevant to the climate change problem shared by the six greenhouse gases include the fact that they are long-lived in the atmosphere. "Long-lived" is used here to mean that the gas has a lifetime in the atmosphere sufficient to become globally well mixed throughout the entire atmosphere, which requires a minimum atmospheric lifetime of about one year.[18] Thus, this definition of air pollution is global in nature because the greenhouse gas emissions emitted from the United States (or from any other region of the world) become globally well mixed, such that it would not be meaningful to define the air pollution as the greenhouse gas concentrations over the United States as somehow being distinct from the greenhouse gas concentrations over other regions of the world.

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[18] The IPCC also refers to these six GHGs as long-lived. Methane has an atmospheric lifetime of roughly a decade. One of the most commonly used hydrofluorocarbons (HFC-134a) has a lifetime of 14 years. Nitrous oxide has a lifetime of 114 years; sulfur hexafluoride over 3,000 years; and some PFCs up to 10,000 to 50,000 years. Carbon dioxide in the atmosphere is sometimes approximated as having a lifetime of roughly 100 years, but for a given amount of carbon dioxide emitted a better description is that some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a num-

It is also well established that each of these gases can exert a warming effect on the climate by trapping in heat that would otherwise escape to space. These six gases are directly emitted as greenhouse gases rather than forming as a greenhouse gas in the atmosphere after emission of a pre-cursor gas. Given these properties, the magnitude of the warming effect of each of these gases is generally better understood than other climate forcing agents that do not share these same properties (addressed in more detail below). The ozone-depleting substances that include chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HFCs) also share the same physical attributes discussed here, but for reasons discussed throughout the remainder of this section are not being included in the Administrator's definition of air pollution for this finding.

2. Evidence That the Six Greenhouse Gases Are the Primary Driver of Current and Projected Climate Change

a. Key Observations Driven Primarily by the Six

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ber of years, and a small portion of the increase will remain for many centuries or more.

Greenhouse Gases

The latest assessment of the USGCRP, as summarized in EPA's TSD, confirms the evidence presented in the Proposed Findings that current atmospheric greenhouse gas concentrations are now at elevated and essentially unprecedented levels as a result of both historic and current anthropogenic emissions. The global atmospheric carbon dioxide concentration has increased about 38 percent from pre-industrial levels to 2009, and almost all of the increase is due to anthropogenic emissions. The global atmospheric concentration of methane has increased by 149 percent since pre-industrial levels (through 2007); and the nitrous oxide concentration has increased 23 percent (through 2007). The observed concentration increase in these gases can also be attributed primarily to anthropogenic emissions. The industrial fluorinated gases have relatively low concentrations, but these concentrations have also been increasing and are almost entirely anthropogenic in origin.

Historic data show that current atmospheric concentrations of the two most important directly emitted, long-lived greenhouse gases (carbon dioxide and methane) are well above the natural range of atmospheric concentrations compared to at least the last 650,000 years. Atmospheric greenhouse gas concentrations have been increasing because anthropogenic emissions are outpacing the rate at which greenhouse gases are removed from the atmosphere by natural processes over timescales of decades to centuries. It also remains clear that these high atmospheric concentrations of greenhouse gases are the unambiguous result of human activities.

Together the six well-mixed greenhouse gases constitute the largest anthropogenic driver of climate change.[19] Of the total anthropogenic heating effect caused by the accumulation of the six well-mixed greenhouse gases plus other warming agents (that do not meet all of the Administrator's criteria that pertain to the six greenhouse gases) since pre-industrial times, the combined heating effect of the six well-mixed greenhouses is responsible for roughly 75 percent, and it is expected that this share may grow larger over time, as discussed below.

Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Global mean surface temperatures have risen by 0.74 °C (1.3 °F) (±0.18 °C) over the last 100 years. Eight of the 10 warmest years on record have occurred since 2001. Global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries.

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[19] As summarized in EPA's TSD, the global average net effect of the increase in atmospheric greenhouse gas concentrations, plus other human activities (*e.g.*, land use change and aerosol emissions), on the global energy balance since 1750 has been one of warming. This total net heating effect, referred to as forcing, is estimated to be +1.6(+0.6 to +2.4) Watts per square meter ($W/m\text{-}T^2$), with much of the range surrounding this estimate due to uncertainties about the cooling and warming effects of aerosols. The combined radiative forcing due to the cumulative (*i.e.*, 1750 to 2005) increase in atmospheric concentrations of CO_2, CH_4, and N_2O is estimated to be +2.30 (+2.07 to +2.53) $W/m\text{-}T^2$. The rate of increase in positive radiative forcing due to these three GHGs during the industrial era is very likely to have been unprecedented in more than 10,000 years.

The global surface temperature record relies on three major global temperature datasets, developed by NOAA, NASA, and the United Kingdom's Hadley Center. All three show an unambiguous warming trend over the last 100 years, with the greatest warming occurring over the past 30 years.[20] Furthermore, all three datasets show that eight of the 10 warmest years on record have occurred since 2001; that the 10 warmest years have all occurred in the past 12 years; and that the 20 warmest years have all occurred since 1981. Though most of the warmest years on record have occurred in the last decade in all available datasets, the rate of warming has, for a short time in the ***66518** Hadley Center record, slowed. However, the NOAA and NASA trends do not show the same marked slowdown for the 1999-2008 period. Year-to-year fluctuations in natural weather and climate patterns can produce a period that does not follow the long-term trend. Thus, each year may not necessarily be warmer than every year before it, though the long-term warming trend continues.[21]

The scientific evidence is compelling that elevated concentrations of heat-trapping greenhouse gases are the root cause of recently observed climate change. The IPCC conclusion from 2007 has been reconfirmed by the June 2009 USGCRP assessment that most of the observed increase in global average temperatures since the mid-20th century is very likely[22] due to the observed increase in anthropogenic greenhouse gas concentrations. Climate model simulations suggest natural forcing alone (*e.g.*, changes in solar irradiance) cannot explain the observed warming.

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[20] *See* section 4 of the TSD for more detailed information about the three global temperature datasets.

[21] Karl T. *et al.*, (2009).

The attribution of observed climate change to anthropogenic activities is based on multiple lines of evidence. The first line of evidence arises from our basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system. The second line of evidence arises from indirect, historical estimates of past climate changes that suggest that the changes in global surface temperature over the last several decades are unusual.[23] The third line of evidence arises from the use of computer-based climate models to simulate the likely patterns of response of the climate system to different forcing mechanisms (both natural and anthropogenic).

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[22] The IPCC Fourth Assessment Report uses specific terminology to convey likelihood and confidence. Likelihood refers to a probability that the statement is correct or that something will occur. "Virtually certain" conveys greater than 99 percent probability of occurrence; "very likely" 90 to 99 percent; "likely" 66 to 90 percent. IPCC assigns confidence levels as to the correctness of a statement. "Very high confidence" conveys at least 9 out of 10 chance of being correct; "high confidence" about 8 out of 10 chance; "medium confidence" about 5 out of 10 chance. The USGCRP uses the same or similar terminology in its reports. See also Box 1.2 of the TSD. Throughout this document, this terminology is used in conjunction with statements from the IPCC and USGCRP reports to convey the same meaning that those reports intended. In instances where a word such as "likely" may appear outside the context of a specific IPCC or USGCRP statement, it is not meant to necessarily convey the same quantitative meaning as the IPCC terminology.

[23] Karl T. *et al.* (2009).

The claim that natural internal variability or known natural external forcings can explain most (more than half) of the observed global warming of the past 50 years is inconsistent with the vast majority of the scientific literature, which has been synthesized in several assessment reports. Based on analyses of widespread temperature increases throughout the climate system and changes in other climate variables, the IPCC has reached the following conclusions about external climate forcing: "It is extremely unlikely (<5 percent) that the global pattern of warming during the past half century can be explained without external forcing, and very unlikely that it is due to known natural external causes alone" (Hegerl *et al.*, 2007). With respect to internal variability, the IPCC reports the following: "The simultaneous increase in energy content of all the major components of the climate system as well as the magnitude and pattern of warming within and across the different components supports the conclusion that the cause of the [20th century] warming is extremely unlikely (<5 percent) to be the result of internal processes" (Hegerl *et al.*, 2007). As noted in the TSD, the observed warming can only be reproduced with models that contain both natural and anthropogenic forcings, and the warming of the past half century has taken place at a time when known natural forcing factors alone (solar activity and volcanoes) would likely have produced cooling, not warming.

United States temperatures also warmed during the 20th and into the 21st century; temperatures are now approximately 0.7 °C (1.3 °F) warmer than at the start of the 20th century, with an increased rate of warming over the past 30 years. Both the IPCC and CCSP reports attributed recent North American warming to elevated greenhouse gas concentrations. The CCSP (2008g) report finds that for North America, "more than half of this warming [for the period 1951-2006] is likely the result of human-caused greenhouse gas forcing of climate change."

Observations show that changes are occurring in the amount, intensity, frequency, and type of precipitation. Over the contiguous United States, total annual precipitation increased by 6.1 percent from 1901-2008. It is likely that there have been increases in the number of heavy precipitation events within many land regions, even in those where there has been a reduction in total precipitation amount, consistent with a warming climate.

There is strong evidence that global sea level gradually rose in the 20th century and is currently rising at an increased rate. It is very likely that the response to anthropogenic forcing contributed to sea level rise during the latter half of the 20th century. It is not clear whether the increasing rate of sea level rise is a reflection of short-term variability or an increase in the longer-term trend. Nearly all of the Atlantic Ocean shows sea level rise during the last 50 years with the rate of rise reaching a maximum (over 2 mm per year) in a band along the U.S. east coast running east-northeast.

Satellite data since 1979 show that annual average Arctic sea ice extent has shrunk by 4.1 percent per decade. The size and speed of recent Arctic summer sea ice loss is highly anomalous relative to the previous few thousands of years.

Widespread changes in extreme temperatures have been observed in the last 50 years across all world regions including the United States. Cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.

Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. However, directly attributing specific regional changes in climate to emissions of greenhouse gases from human activities is difficult, especially for precipitation.

Ocean carbon dioxide uptake has lowered the average ocean pH (increased the acidity) level by approximately 0.1 since 1750. Consequences for marine ecosystems may include reduced calcification by shell-forming organisms, and in the longer term, the dissolution of carbonate sediments.

Observations show that climate change is currently affecting U.S. physical and biological systems in significant ways. The consistency of these observed changes in physical and biological systems and the observed significant warming likely cannot be explained entirely due to natural variability or other confounding non-climate factors.

b. Key Projections Based Primarily on Future Scenarios of the Six Greenhouse Gases

There continues to be no reason to expect that, without substantial and near-term efforts to significantly reduce emissions, atmospheric levels of greenhouse gases will not continue to climb, and thus lead to ever greater rates of climate change. Given the long atmospheric lifetime of the six greenhouse gases, which range from roughly a decade to centuries, future atmospheric greenhouse gas ***66519** concentrations for the remainder of this century and beyond will be influenced not only by future emissions but indeed by present-day and near-term emissions. Consideration of future plausible scenarios, and how our current greenhouse gas emissions essentially commit present and future generations to cope with an altered atmosphere and climate, reinforces the Administrator's judgment that it is appropriate to define the combination of the six key greenhouse gases as the air pollution.

Most future scenarios that assume no explicit greenhouse gas mitigation actions (beyond those already enacted) project increasing global greenhouse gas emissions over the century, which in turn result in climbing greenhouse gas concentrations. Under the range of future emission scenarios evaluated by the assessment literature, carbon dioxide is expected to remain the dominant anthropogenic greenhouse gas, and thus driver of climate change, over the course of the 21st century. In fact, carbon dioxide is projected to be the largest contributor to total radiative forcing in all periods and the radiative forcing associated with carbon dioxide is projected to be the fastest growing. For the year 2030, projections of the six greenhouse gases show an increase of 25 to 90 percent compared with 2000 emissions. Concentrations of carbon dioxide and the other well-mixed gases increase even for those scenarios where annual emissions toward the end of the century are assumed to be lower than current annual emissions. The radiative forcing associated with the non-carbon dioxide well-mixed greenhouse gases is still important and increasing over time. Emissions of the ozone-depleting substances are projected to continue decreasing due to the phase-out schedule under the Montreal Protocol on Substances that Deplete the Ozone Layer. Considerable uncertainties surround the estimates and future projections of anthropogenic aerosols; future atmospheric concentrations of aerosols, and thus their respective heating or cooling effects, will depend much more on assumptions about future emissions because of their short atmospheric lifetimes compared to the six well-mixed greenhouse gases.

Future warming over the course of the 21st century, even under scenarios of low emissions growth, is very likely to be greater than observed warming over the past century. According to climate model simulations summarized by the IPCC, through about 2030, the global warming rate is affected little by the choice of different future emission scenarios. By the end of the century, projected average global warming (compared to average temperature around 1990) varies significantly depending on emissions scenario and climate sensitivity assumptions, ranging from 1.8 to 4.0 °C (3.2 to 7.2 °F), with an uncertainty range of 1.1 to 6.4 °C (2.0 to 11.5 °F).

All of the United States is very likely to warm during this century, and most areas of the United States are expected to warm by more than the global average. The largest warming is projected to occur in winter over northern parts of Alaska. In western, central and eastern regions of North America, the projected warming has less seasonal variation and is not as large, especially near the coast, consistent with less warming over the oceans.

3. The Six Greenhouse Gases Are Currently the Common Focus of the Climate Change Science and Policy Communities

The well-mixed greenhouse gases are currently the common focus of climate science and policy analyses and discussions. For example, the United Nations Framework Convention on Climate Change (UNFCCC), signed and ratified by the United States in 1992, requires its signatories to "develop, periodically update, publish and make available * * * national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies * * *"[24] [25] To date, the focus of

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[24] Due to the cumulative purpose of the statutory language, even if the Administrator were to look at the atmospheric concentration of each greenhouse gas individually, she would still consider the impact of the concentration of a single greenhouse gas in combination with that caused by the other greenhouse gases.

[25] The range of uncertainty in the current magnitude of black carbon's climate forcing effect is evidenced by the ranges presented by the IPCC Fourth Assessment Report (2007) and the more recent study by Ramanathan, V. and Carmi-

UNFCCC actions and discussions has been on the six greenhouse gases that are the same focus of these Findings.

Because of these common properties, it has also become common practice to compare these gases on a carbon dioxide equivalent basis, based on each gas's warming effect relative to carbon dioxide (the designated reference gas) over a specified timeframe. For example, both the annual *Inventory of U.S. Greenhouse Gases and Sinks* published by EPA and the recently finalized EPA Mandatory Greenhouse Gas Reporting Rule (74 FR 56260), use the carbon dioxide equivalent metric to sum and compare these gases, and thus accept the common climate-relevant properties of these gases for their treatment as a group. This is also common practice internationally as the UNFCCC reporting guidelines for developed countries, and the Clean Development Mechanism procedures for developing countries both require the use of global warming potentials published by the IPCC to convert the six greenhouse gases into their respective carbon dioxide equivalent units.

4. Defining Air Pollution as the Aggregate Group of Six Greenhouse Gases Is Consistent With Evaluation of Risks and Impacts Due to Human-Induced Climate Change

Because the well-mixed greenhouse gases are collectively the primary driver of current and projected human-induced climate change, all current and fu-

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chael, G. (2008) Global and regional climate changes due to black carbon. Nature Geoscience, 1(4): 221-227.

ture risks due to human-induced climate change-whether these risks are associated with increases in temperature, changes in precipitation, a rise in sea levels, changes in the frequency and intensity of weather events, or more directly with the elevated greenhouse gas concentrations themselves-can be associated with this definition of air pollution.

5. Defining the Air Pollution as the Aggregate Group of Six Greenhouse Gases Is Consistent With Past EPA Practice

Treating the air pollution as the aggregate of the well-mixed greenhouse gases is consistent with other provisions of the CAA and previous EPA practice under the CAA, where separate emissions from different sources but with common properties may be treated as a class (*e.g.*, particulate matter (PM)). This approach addresses the total, cumulative effect that the elevated concentrations of the six well-mixed greenhouse gases have on climate, and thus on different elements of health, society and the environment.[24]

EPA treats, for example, PM as a common class of air pollution; PM is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles.

6. Other Climate Forcers Not Being Included in the Definition of Air Pollution for This Finding

Though the well-mixed greenhouse gases that make up the definition of air pollution for purposes of making the endangerment decision under CAA section 202(a) constitute the primary ***66520** driver of human-induced climate change, there are other substances emitted from human activities that contribute to climate change and deserve careful attention, but are not being included in the air pollution definition for this particular action. These substances are discussed immediately below.

a. Black Carbon

Several commenters request that black carbon be included in the definition of air pollution because of its warming effect on the climate. Black carbon is not a greenhouse gas, rather, it is an aerosol particle that results from the incomplete combustion of carbon contained in fossil fuels and biomass, and remains in the atmosphere for only about a week. Unlike any of the greenhouse gases being addressed by this action, black carbon is a component of particulate matter (PM), where PM is a criteria air pollutant under section 108 of the CAA. The extent to which black carbon makes up total PM varies by emission source, where, for example, diesel vehicle PM emissions contain a higher fraction of black carbon compared to most other PM emission sources. Black carbon causes a warming effect primarily by absorbing incoming and reflected sunlight (whereas greenhouse gases cause warming by trapping outgoing, infrared heat), and by darkening bright surfaces such as snow and ice, which reduces reflectivity. This latter effect, in particular, has been raising concerns about the role black carbon may be playing in observed warming and ice melt in the Arctic.

As stated in the April 2009 Proposed Findings, there remain some significant scientific uncertainties about black carbon's total climate effect,[25] as well as concerns about how to treat the short-lived black carbon emissions alongside the long-lived, well-mixed greenhouse gases in a common framework (*e.g.*, what are the appropriate metrics to compare the warming and/or climate effects of the different substances, given that, unlike greenhouse gases, the magnitude of aerosol effects can vary immensely with location and season of emissions). Nevertheless, the Administrator recognizes that black carbon is an important climate forcing agent and takes very seriously the emerging science on black carbon's contribution to global climate change in general and the high rates of observed climate change in the Arctic in particular. As noted in the Proposed Findings, EPA has various pending petitions under the CAA calling on the Agency to make an endangerment finding and regulate black carbon emissions.

b. Other Climate Forcers

There are other climate forcers that play a role in human-induced climate change that were mentioned in the Proposed Findings, and were the subject of some public comments. These include the stratospheric ozone-depleting substances, nitrogen trifluoride (NF_3), water vapor, and tropospheric ozone.

As mentioned above, the ozone-depleting substances (CFCs and HCFCs) do share the same physical, climate-relevant attributes as the six well-mixed greenhouse gases; however, emissions of these substances are playing a diminishing role in human-induced climate change. They are being controlled and phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer. Because of this, the major scientific assessment reports such as those from IPCC focus primarily on the same six well-mixed greenhouse gases included in the definition of air pollution in these Findings. It is also worth noting that the UNFCCC, to which the United States is a signatory, addresses "all greenhouse gases not controlled by the Montreal Protocol."[26] One commenter noted that because the Montreal Protocol controls production and consumption of ozone-depleting substances, but not existing banks of the substances, that CFCs should be included in the definition of air pollution in this finding, which might, in turn, create some future action under the CAA to address the banks of ozone-depleting substances as a climate issue. However, the primary criteria for defining the air pollution in this finding is the focus on the core of the climate change problem, and concerns over future actions to control depletion of stratospheric ozone are separate from and not central to the air pollution causing climate change.

Nitrogen trifluoride also shares the same climate-relevant attributes as the six well-mixed greenhouse gases, and it is also included in EPA's Mandatory Greenhouse Gas Reporting Rule (FR 74 56260). However, the Administrator is maintaining the reasoning laid out in the Proposed Findings to not include NF_3 in the definition of air pollution for this finding because the overall magnitude of its forcing effect on climate is not yet well quantified. EPA will continue to track the science on NF_3 .

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[26] UNFCCC, Art. 4.1(b).

A number of public comments question the exclusion of water vapor from the definition of air pollution because it is the most important greenhouse gas responsible for the natural, background greenhouse effect. The Administrator's reasoning for excluding water vapor, was described in the Proposed Findings and is summarized here with additional information in Volume 10 of the Response to Comments document. First, climate change is being driven by the buildup in the atmosphere of greenhouse gases. The direct emissions primarily responsible for this are the six well-mixed greenhouse gases. Direct anthropogenic emissions of water vapor, in general, have a negligible effect and are thus not considered a primary driver of human-induced climate change. EPA plans to further evaluate the issues of emissions of water that are implicated in the formation of contrails and also changes in water vapor due to local irrigation. At this time, however, the findings of the IPCC state that the total forcing from these sources is small and that the level of understanding is low.

Water produced as a byproduct of combustion at low altitudes has a negligible contribution to climate change. The residence time of water vapor is very short (days) and the water content of the air in the long term is a function of temperature and partial pressure, with emissions playing no role. Additionally, the radiative forcing of a given mass of water at low altitudes is much less than the same mass of carbon dioxide. Water produced at higher altitudes could potentially have a larger impact. The IPCC estimated the contribution of changes in stratospheric water vapor due to methane and other sources, as well as high altitude contributions from contrails, but concluded that both contributions were small, with a low level of understanding. The report also addressed anthropogenic contributions to water vapor arising from large scale irrigation, but assigned it a very low level of understanding, and suggested that the cooling from evaporation might outweigh the warming from its small radiative contribution.

Increases in tropospheric ozone concentrations have exerted a significant anthropogenic warming effect since pre-industrial times. However, as explained in the Proposed Findings, tropospheric ozone is not a long-lived, well-mixed greenhouse gas, and it is not directly emitted. Rather it forms in the atmosphere from emissions of pre-cursor gases. There is increasing attention in climate change research and the policy community about the extent to which further reductions in tropospheric ozone levels may help ***66521** slow down climate change in the near term. The Administrator views this issue seriously but maintains that tropospheric ozone is sufficiently different such that it deserves an evaluation and treatment separate from this finding.

7. Summary of Key Comments on Definition of Air Pollution

a. It Is Reasonable for the Administrator To Define the Air Pollution as Global Concentrations of the Well-Mixed Greenhouse Gases

Many commenters argue that EPA does not have the authority to establish domestic rights and obligations based on environmental conditions that are largely attributed to foreign nations and entities that are outside the jurisdiction of EPA under the CAA. They contend that in this case, the bulk of emissions that would lead to mandatory emissions controls under the CAA would not and could not be regulated under the CAA. They state that CAA requirements cannot be enforced against foreign sources of air pollution, and likewise domestic obligations under the CAA cannot be caused by foreign emissions that are outside the United States. The commenters argue that EPA committed procedural error by not addressing this legal issue of authority in the proposal.

Commenters cite no statutory text or judicial authority for this argument, and instead rely entirely on an analogy to the issues concerning the exercise of extra-territorial jurisdiction. The text of CAA section 202(a), however, does not support this claim. Nothing in CAA section 202(a) limits the term air pollution to those air pollution matters that are caused solely or in large part by domestic emissions. The only issue under CAA section 202(a) is whether the air pollution is reasonably anticipated to endanger, and whether emissions from one domestic source category—new motor vehicles—cause or contribute to this air pollution. Commenters would read into this an additional cause or contribute test—whether foreign sources cause or contribute to the air pollution in such a way that the air pollution is largely attributable to the foreign emissions, or the bulk of emissions causing the air pollution are from foreign sources. There is no such provision in CAA section 202(a). Congress was explicit about the contribution test it imposed, and the only source that is relevant for purposes of contribution is new motor vehicles. Commenters suggest an ill-defined criterion that is not in the statute.

In addition, as discussed in Section II of these Findings, Congress intentionally meant the agency to judge the air pollution endangerment criteria based on the "cumulative impact of all sources of a pollutant," and not an incremental look at just the endangerment from a subset of sources. Commenters' arguments appear to lead to this result. Under the commenters' approach, in those cases where the bulk of emissions which form the air pollution come from foreign sources, EPA apparently would have no authority to make an endangerment finding. Logically, EPA would be left with the option of identifying and evaluating the air pollution attributable to domestic sources alone, and determining whether that narrowly defined form of air pollution endangers public health or welfare. This is the kind of unworkable, incremental approach that was rejected by the court in *Ethyl* and by Congress in the 1977 amendments adopting this provision.

The analogy to extra-territorial jurisdiction is also not appropriate. The endangerment finding itself does not exercise jurisdiction over any source, domestic or foreign. It is a judgment that is a precondition for exercising regulatory authority. Under CAA section 202(a), any exercise of regulatory authority following from this endangerment finding would be for new motor vehicles either manufactured in the United States or imported into the United States. There would be no extra-territorial exercise of jurisdiction. The core issues for endangerment focus on impacts inside the United States, not outside the United

States. In addition, the contribution finding is based solely on the contribution from new motor vehicles built in or imported to the United States. The core judgments that need to be made under CAA section 202(a) are all focused on actions and impacts inside the United States. This does not raise any concerns about an extra-territorial exercise of jurisdiction. The basis for the endangerment and contribution findings is fully consistent with the principles underlying the desire to avoid exercises of extra-territorial jurisdiction. Any limitations on the ability to exercise control over foreign sources of emissions does not, however, call into question the authority under CAA section 202 to exercise control over domestic sources of emissions based on their contribution to an air pollution problem that is judged to endanger public health or welfare based on impacts occurring in the United States or otherwise affecting the United States and its citizens.

In essence, commenters are concerned about the effectiveness of the domestic control strategies that can be adopted to address a global air pollution problem that is caused only in part by domestic sources of emissions. While that is a quite valid and important policy concern, it does not translate into a legal limitation on EPA's authority to make an endangerment finding. Neither the text nor the legislative history of CAA section 202(a) support such an interpretation and Congress explicitly separated the decision on endangerment from the decision on what controls are required or appropriate once an affirmative endangerment finding has been made. The effectiveness of the resulting regulatory controls is not a relevant factor to determining endangerment.

EPA also committed no procedural flaw as argued by commenters. The proposal fully explored the interpretation of endangerment and cause or contribution under CAA section 202(a), and was very clear that EPA was considering air pollution to mean the elevated global concentration of greenhouse gases in the atmosphere, recognizing that these atmospheric concentrations were the result of world wide emissions, not just or even largely U.S. emissions. The separation of the effectiveness of the control strategy from the endangerment criteria, and the need to consider the cumulative impact of all sources in evaluating endangerment was clearly discussed. Commenters received fair notice of EPA's proposal and the basis for it.

Similarly, some commenters argue that EPA's proposal defines air pollution as global air pollution, but EPA is limited to evaluating domestic air only; in other words that EPA may only regulate domestic emissions with localized effects. They argue this limitation derives from the purpose of the CAA—to enhance the quality of the Nation's air resources, recognizing that air pollution prevention and control focus on the sources of the emissions, and are the primary responsibility of States and local governments. Therefore, commenters continue, that "air pollution" has to be air pollution that originates domestically and is to be addressed only at the domestic source. Sections 115 and 179B of the CAA, as discussed below, reflect this intention as well. The result, they conclude, is that "air pollution" as used in CAA section 202(a), includes only pollution that originates domestically, where the effects occur locally. They argue EPA has improperly circumvented this by a "local-global-local" analysis that injects ***66522** global air pollution into the middle of the endangerment test.

The statutory arguments made by the commenters attempt to read an unrealistic limitation into the general provisions discussed. The issues are similar in nature to those raised by the commenters arguing that EPA has no authority to establish domestic rights and obligations based on environmental conditions that are largely attributable to emissions from foreign nations and entities that are outside the jurisdiction of EPA under the CAA. In both cases, the question is whether EPA has authority to make an endangerment finding when the air pollution of concern is a relatively homogenous atmospheric concentration of greenhouse gases. According to the commenters, although this global pool includes the air over the United States, and leads to impacts in the United States and on the U.S. population, Congress prohibited EPA from addressing this air pollution problem because of its global aspects.

The text of the CAA does not specifically address this, as the term air pollution is not defined. EPA interprets this term as including the air pollution problem involved in this case-elevated atmospheric concentration of greenhouse gases that occur in the air above the United States as well as across the globe, and where this pool of global gases leads to impacts in the United States and on the U.S. population. This is fully consistent with the statutory provisions discussed by commenters. This approach seeks to protect the Nation's air resources, as clearly the Nation's air resources are an integral part of this global pool.

The Nation's air resources by definition are not an isolated atmosphere that only contains molecules emitted within the United States, or an atmosphere that bears no relationship to the rest of the globe's atmosphere. There is no such real world body of air. Protecting the Nation's resources of clean air means to protect the air in the real world, not an artificial construct of "air" that ignores the many situations where the air over our borders includes compounds and pollutants emitted outside our borders, and in this case to ignore the fact that the air over our borders will by definition have elevated concentrations of greenhouse gases only when the air around the globe also has such concentrations. The suggested narrow view of "air pollution" does not further the protection of the Nation's air resources, but instead attempts to limit such protection by defining these resources in a scientifically artificial way that does not comport with how the air in the atmosphere is formed or changes over time, how it relates to and interacts with air around the globe, and how the result of this can affect the U.S. population.

The approach suggested by commenters fails to provide an actual definition for EPA to follow—for example, would U.S. or domestic "air pollution" be limited to only those air concentrations composed of molecules that originated in the United States? Is there a degree of external gases or compounds that could be allowed? Would it ignore the interaction and relationship between the air over the U.S. borders and the air around the rest of the globe? The latter approach appears to be the one suggested by commenters. Commenters' approach presumably would call for EPA to only consider the effects that derive solely from the air over our borders, and to ignore any effects that occur within the United States that are caused by air around the globe. However the air over the United States will by definition affect climate change only in circumstances where the air around the world is also doing so. The impacts of the air over the United States cannot be assessed separately from the impacts from the global pool, as they occur together and work together to affect the climate. Ignoring the real world nature of the Nation's air resources, in the manner presumably suggested by the commenters, would involve the kind of unworkable, incremental, and artificially isolating approach that was rejected by the court in *Ethyl* and by Congress in 1977. Congress intended EPA to interpret this provision by looking at air pollutants and air pollution problems in a broad manner, not narrowly, to evaluate problems within their broader context and not to attempt to isolate matters in an artificial way that fails to account for the real world context that lead to health and welfare impacts on the public. Commenters' suggested interpretation fails to implement this intention of Congress.

Commenters in various places refer to the control of the pollution, and the need for it to be aimed at local sources. That is addressed in the standard setting portion of CAA section 202(a), as in other similar provisions. The endangerment provision does not address how the air pollution problem should be addressed—who should be regulated and how they should be regulated. The endangerment provision addresses a different issue—is there an air pollution problem that should be addressed? In that context, EPA rejects the artificially narrow interpretation suggested by the commenters, and believes its broader interpretation in this case is reasonable and consistent with the intention of Congress.

b. Consideration of Greenhouse Gases as Air Pollution Given Their Impact Is Through Climate Rather Than Direct Toxic Effects

A number of commenters argue that carbon dioxide and the other greenhouse gases should not be defined as the air pollution because these gases do not cause direct human health effects, such as through inhalation. Responses to such comments are summarized in Section IV.B.1 of these Findings in the discussion of the public health and welfare nature of the endangerment finding.

c. The Administrator's Reliance on the Global Temperature Data Is a Reasonable Indicator of Human-Induced Climate Change

We received many comments suggesting global temperatures have stopped warming. The commenters base this conclusion on temperature trends over only the last decade. While there have not been strong trends over the last seven to ten years in global surface temperature or lower troposphere temperatures measured by satellites, this pause in warming should not be interpreted as a sign that the Earth is cooling or that the science supporting continued warming is in error. Year-to-year variability in natural weather and climate patterns make it impossible to draw any conclusions about whether the climate system is warming or cooling from such a limited analysis. Historical data indicate short-term trends in long-term time series occasionally run counter to the overall trend. All three major global surface temperature records show a continuation of long-term warming. Over the last century, the global average temperature has warmed at the rate of about 0.13 °F (0.072 °C) per decade in all three records. Over the last 30 years, the global average surface temperature has warmed by about 0.30 °F (0.17 °C) per decade. Eight of the 10 warmest years on record have occurred since 2001 and the 20 warmest years have all occurred since 1981. Satellite measurements of the troposphere also indicate warming over the last 30 years at a rate of 0.20 to 0.27 °F (0.11 °C to 0.15 °C) per decade. Please see the relevant volume of the Response to Comments document for more detailed responses.

Some commenters indicate the global surface temperature records are biased by urbanization, poor siting of instruments, observation methods, and ***66523** other factors. Our review of the literature suggests that these biases have in many cases been corrected for, are largely random where they remain, and therefore cancel out over large regions. Furthermore, we note that though the three global surface temperature records use differing techniques to analyze much of the same data, they produce almost the same results, increasing our confidence in their legitimacy. The assessment literature has concluded that warming of the climate system is unequivocal. The warming trend that is evident in all of the temperature records is confirmed by other independent observations, such as the melting of Arctic sea ice, the retreat of mountain glaciers on every continent, reductions in the extent of snow cover, earlier blooming of plants in the spring, and increased melting of the Greenland and Antarctic ice sheets. Please see the relevant volume of the Response to Comments document for more detailed responses.

A number of commenters argue that the warmth of the late 20th century is not unusual relative to the past 1,000 years. They maintain temperatures were comparably warm during the Medieval Warm Period (MWP) centered around 1000 A.D. We agree there was a Medieval Warm Period in many regions but find the evidence is insufficient to assess whether it was globally coherent. Our review of the available evidence suggests that Northern Hemisphere temperatures in the MWP were probably between 0.1 °C and 0.2 °C below the 1961-1990 mean and significantly below the level shown by instrumental data after 1980. However, we note significant uncertainty in the temperature record prior to 1600 A.D. Please see the relevant volume of the Response to Comments document for more detailed responses.

d. Ability To Attribute Observed Climate Change to Anthropogenic, Well-Mixed Greenhouse Gases

Many commenters question the link between observed temperatures and anthropogenic greenhouse gas emissions. They suggest internal variability of the climate system and natural forcings explain observed temperature trends and that anthropogenic greenhouse gases play, at most, a minor role. However, the attribution of most of the recent warming to anthropogenic activities is based on multiple lines of evidence. The first line of evidence arises from our basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system. Greenhouse gas concentrations have indisputably increased and their radiative properties are well established. The second line of evidence arises from indirect, historical estimates of past climate changes that suggest that the changes in global surface temperature over the last several decades are unusual. The third line of evidence arises from the use of computer-based climate models to simulate the likely patterns of response of the climate system to different forcing mechanisms (both natural and anthropogenic). These models are unable to replicate the observed warming unless anthropogenic emissions of greenhouse gases are included in the simulations. Natural forcing alone cannot explain the observed warming. In fact, the assessment literature[27] indicates the sum of solar and volcanic forcing in the past half century would likely have produced cooling, not warming. Please see the relevant volume of the Response to Comments for more detailed responses.

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[27] Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C. Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F. Stocker, P. Whetton, R.A. Wood and D. Wratt (2007) Technical Summary. In: *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Karl, T. et al. (2009).

B. The Air Pollution Is Reasonably Anticipated To Endanger Both Public Health and Welfare

The Administrator finds that the elevated atmospheric concentrations of the well-mixed greenhouse gases may reasonably be anticipated to endanger the public health and welfare of current and future generations. This section describes the major pieces of scientific evidence supporting the Administrator's endangerment finding, discusses both the public health and welfare nature of the endangerment finding, and addresses a number of key issues the Administrator considered when evaluating the state of the science as well as key public comments on the Proposed Findings. Additional detail can be found in the TSD and the Response to Comments document.

As described in Section II of these Findings, the endangerment test under CAA section 202(a) does not require the Administrator to identify a bright line, quantitative threshold above which a positive endangerment finding can be made. The statutory language explicitly calls upon the Administrator to use her judgment. This section describes the general approach used by the Administrator in reaching the judgment that a positive endangerment finding should be made, as well as the specific rationale for finding that the greenhouse gas air pollution may reasonably be anticipated to endanger both public health and welfare.

First, the Administrator finds the scientific evidence linking human emissions and resulting elevated atmospheric concentrations of the six well-mixed greenhouse gases to observed global and regional temperature increases and other climate changes to be sufficiently robust and compelling. This evidence is briefly explained in more detail in Section V of these Findings. The Administrator recognizes that the climate change associated with elevated atmospheric concentrations of carbon dioxide and the other well-mixed greenhouse gases have the potential to affect essentially every aspect of human health, society and the natural environment. The Administrator is therefore not limiting her consideration of potential risks and impacts associated with human emissions of greenhouse gases to any one particular element of human health, sector of the economy, region of the country, or to any one particular aspect of the natural environment. Rather, the Administrator is basing her finding on the total weight of scientific evidence, and what the science has to say regarding the nature and potential magnitude of the risks and impacts across all climate-sensitive elements of public health and welfare, now and projected out into the foreseeable future.

The Administrator has considered the state of the science on how human emissions and the resulting elevated atmospheric concentrations of well-mixed greenhouse gases may affect each of the major risk categories, *i.e.*, those that are described in the TSD, which include human health, air quality, food production and agriculture, forestry, water resources, sea level rise and coastal areas, the energy sector, infrastructure and settlements, and ecosystems and wildlife. The Administrator understands that the nature and potential severity of impacts can vary across these different elements of public health and welfare, and that they can vary by region, as well as over time.

The Administrator is therefore aware that, because human-induced climate change has the potential to be far-reaching and multi-dimensional, not all ***66524** risks and potential impacts can be characterized with a uniform level of quantification or understanding, nor can they be characterized with uniform metrics. Given this variety in not only the nature and potential magnitude of risks and impacts, but also in our ability to characterize, quantify and project into the future such impacts, the Administrator must use her judgment to weigh the threat in each of the risk categories, weigh the potential benefits where relevant, and ultimately judge whether these risks and benefits, when viewed in total, are judged to be endangerment to public health and/or welfare.

This has a number of implications for the Administrator's approach in assessing the nature and magnitude of risk and impacts across each of the risk categories. First, the Administrator has not established a specific threshold metric for each category of risk and impacts. Also, the Administrator is not necessarily placing the greatest weight on those risks and impacts which have been the subject of the most study or quantification.

Part of the variation in risks and impacts is the fact that climbing atmospheric concentrations of greenhouse gases and associated temperature increases can bring about some potential benefits to public health and welfare in addition to adverse risks. The current understanding of any potential benefits associated with human-induced climate change is described in the TSD and is taken into consideration here. The potential for both adverse and beneficial effects are considered, as well as the relative magnitude of such effects, to the extent that the relative magnitudes can be quantified or characterized. Furthermore, given the multiple ways in which the buildup of atmospheric greenhouse gases can cause effects (*e.g.*, via elevated carbon dioxide concentrations, via temperature increases, via precipitation increases, via sea level rise, and via changes in extreme events), these multiple pathways are considered. For example, elevated carbon dioxide concentrations may be beneficial to crop yields, but changes in temperature and precipitation may be adverse and must also be considered. Likewise, modest temperature increases may have some public health benefits as well as harms, and other pathways such as changes in air quality and extreme events must also be considered.

The Administrator has balanced and weighed the varying risks and effects for each sector. She has judged whether there is a pattern across the sector that supports or does not support an endangerment finding, and if so whether the support is of more or less weight. In cases where there is both a potential for benefits and risks of harm, the Administrator has balanced these factors by determining whether there appears to be any directional trend in the overall evidence that would support placing more weight on one than the other, taking into consideration all that is known about the likelihood of the various risks and effects and their seriousness. In all of these cases, the judgment is largely qualitative in nature, and is not reducible to precise metrics or quantification.

Regarding the timeframe for the endangerment test, it is the Administrator's view that both current and future conditions must be considered. The Administrator is thus taking the view that the endangerment period of analysis extend from the current time to the next several decades, and in some cases to the end of this century. This consideration is also consistent with the timeframes used in the underlying scientific assessments. The future timeframe under consideration is consistent with the atmospheric lifetime and climate effects of the six well-mixed greenhouse gases, and also with our ability to make reasonable and plausible projections of future conditions.

The Administrator acknowledges that some aspects of climate change science and the projected impacts are more certain than others. Our state of knowledge is strongest for recently observed, large-scale changes. Uncertainty tends to increase in characterizing changes at smaller (regional) scales relative to large (global) scales. Uncertainty also increases as the temporal scales move away from present, either backward, but more importantly forward in time. Nonetheless, the current state of knowledge of observed and past climate changes and their causes enables projections of plausible future changes under different scenarios of anthropogenic forcing for a range of spatial and temporal scales.

In some cases, where the level of sensitivity to climate of a particular sector has been extensively studied, future impacts can be quantified whereas in other instances only a qualitative description of a directional change, if that, may be possible. The inherent uncertainty in the direction, magnitude, and/or rate of certain future climate change impacts opens up the possibility that some changes could be more or less severe than expected, and the possibility of unanticipated outcomes. In some cases, low probability, high impact outcomes (*i.e.*, known unknowns) are possibilities but cannot be explicitly assessed.

1. The Air Pollution Is Reasonably Anticipated To Endanger Public Health

The Administrator finds that the well-mixed greenhouse gas air pollution is reasonably anticipated to endanger public health, for both current and future generations. The Administrator finds that the public health of current generations is endangered and that the threat to public health for both current and future generations will likely mount over time as greenhouse gases continue to accumulate in the atmosphere and result in ever greater rates of climate change.

After review of public comments, the Administrator continues to believe that climate change can increase the risk of morbidity and mortality and that these public health impacts can and should be considered when determining endangerment to public health under CAA section 202(a). As described in Section IV.B.1 of these Findings, the Administrator is not limited to only considering whether there are any direct health effects such as respiratory or toxic effects associated with exposure to greenhouse gases.

In making this public health finding, the Administrator considered direct temperature effects, air quality effects, the potential for changes in vector-borne diseases, and the potential for changes in the severity and frequency of extreme weather events. In addition, the Administrator considered whether and how susceptible populations may be particularly at risk. The current state of science on these effects from the major assessment reports is described in greater detail in the TSD, and our responses to public comments are provided in the Response to Comments Documents.

a. Direct Temperature Effects

It has been estimated that unusually hot days and heat waves are becoming more frequent, and that unusually cold days are becoming less frequent, as noted above. Heat is already the leading cause of weather-related deaths in the United States. In the future, severe heat waves are projected to intensify in magnitude and duration over the portions of the United States where these events already occur. Heat waves are associated with marked short-term increases in mortality. Hot temperatures have also been associated with increased morbidity. The projected warming is therefore projected to increase heat related mortality and ***66525** morbidity, especially among the elderly, young and frail. The populations most sensitive to hot temperatures are older adults, the chronically sick, the very young, city-dwellers, those taking medications that disrupt thermoregulation, the mentally ill, those lacking access to air conditioning, those working or playing outdoors, and socially isolated persons. As warming increases over time, these adverse effects would be expected to increase as the serious heat events become more serious.

Increases in temperature are also expected to lead to some reduction in the risk of death related to extreme cold. Cold waves continue to pose health risks in northern latitudes in temperature regions where very low temperatures can be reached in a few hours and extend over long periods. Globally, the IPCC projects reduced human mortality from cold exposure through 2100. It is not clear whether reduced mortality in the United States from cold would be greater or less than increased heat-related mortality in the United States due to climate change. However, there is a risk that projections of cold-related deaths, and the potential for decreasing their numbers due to warmer winters, can be overestimated unless they take into account the effects of season and influenza, which is not strongly associated with monthly winter temperature. In addition, the latest USGCRP report refers to a study that analyzed daily mortality and weather data in 50 U.S. cities from 1989 to 2000 and found that, on average, cold snaps in the United States increased death rates by 1.6 percent, while heat waves triggered a 5.7 percent increase in death rates. The study concludes that increases in heat-related mortality due to global warming in the United States are unlikely to be compensated for by decreases in cold-related mortality.

b. Air Quality Effects

Increases in regional ozone pollution relative to ozone levels without climate change are expected due to higher temperatures and weaker circulation in the United States relative to air quality levels without climate change. Climate change is expected to increase regional ozone pollution, with associated risks in respiratory illnesses and premature death. In addition to human health effects, tropospheric ozone has significant adverse effects on crop yields, pasture and forest growth, and species composition. The directional effect of climate change on ambient particulate matter levels remains less certain.

Climate change can affect ozone by modifying emissions of precursors, atmospheric chemistry, and transport and removal. There is now consistent evidence from models and observations that 21st century climate change will worsen summertime surface ozone in polluted regions of North America compared to a future with no climate change.

Modeling studies discussed in EPA's Interim Assessment[28] show that simulated climate change causes increases in summertime ozone concentrations over substantial regions of the country, though this was not uniform, and some areas showed little change or decreases, though the decreases tend to be less pronounced than the increases. For those regions that showed climate-induced increases, the increase in maximum daily 8-hour average ozone concentration, a key metric for regulating U.S. air quality, was in the range of 2 to 8 ppb, averaged over the summer season. The increases were substantially greater than this during the peak pollution episodes that tend to occur over a number of days each summer. The overall effect of climate change was projected to increase ozone levels, compared to what would occur without this climate change, over broad areas of the country, especially on the highest ozone days and in the largest metropolitan areas with the worst ozone problems. Ozone decreases are projected to be less pronounced, and generally to be limited to some regions of the country with smaller population.

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[28] U.S. EPA (2009) ***Assessment of the Impacts of Global Change on Regional U.S. Air Quality: A Synthesis of Climate Change Impacts on Ground-Level Ozone***. An Interim Report of the U.S. EPA Global Change Research Program. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-07/094.

c. Effects on Extreme Weather Events

In addition to the direct effects of temperature on heat- and cold-related mortality, the Administrator considers the potential for increased deaths, injuries, infectious diseases, and stress-related disorders and other adverse effects associated with social disruption and migration from more frequent extreme weather. The Administrator notes that the vulnerability to weather disasters depends on the attributes of the people at risk (including where they live, age, income, education, and disability) and on broader social and environmental factors (level of disaster preparedness, health sector responses, and environmental degradation). The IPCC finds the following with regard to extreme events and human health:

Increases in the frequency of heavy precipitation events are associated with increased risk of deaths and injuries as well as infectious, respiratory, and skin diseases. Floods are low-probability, high-impact events that can overwhelm physical infrastructure, human resilience, and social organization. Flood health impacts include deaths, injuries, infectious diseases, intoxications, and mental health problems.

Increases in tropical cyclone intensity are linked to increases in the risk of deaths, injuries, waterborne and food borne diseases, as well as post-traumatic stress disorders. Drowning by storm surge, heightened by rising sea levels and more intense storms (as projected by IPCC), is the major killer in coastal storms where there are large numbers of deaths. Flooding can cause health impacts including direct injuries as well as increased incidence of waterborne diseases due to pathogens such as *Cryptosporidium and Giardia*.

d. Effects on Climate-Sensitive Diseases and Aeroallergens

According to the assessment literature, there will likely be an increase in the spread of several food and water-borne pathogens among susceptible populations depending on the pathogens' survival, persistence, habitat range and transmission under changing climate and environmental conditions. Food borne diseases show some relationship with temperature, and the range of some zoonotic disease carriers such as the Lyme disease carrying tick may increase with temperature.

Climate change, including changes in carbon dioxide concentrations, could impact the production, distribution, dispersion and allergenicity of aeroallergens and the growth and distribution of weeds, grasses, and trees that produce them. These changes in aeroallergens and subsequent human exposures could affect the prevalence and severity of allergy symptoms. However, the scientific literature does not provide definitive data or conclusions on how climate change might impact aeroallergens and subsequently the prevalence of allergenic illnesses in the United States.

It has generally been observed that the presence of elevated carbon dioxide concentrations and temperatures stimulate plants to increase photosynthesis, biomass, water use efficiency, and reproductive effort. The IPCC concluded that pollens are likely to increase with elevated temperature and carbon dioxide.

***66526** e. Summary of the Administrator's Finding of Endangerment to Public Health

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public health by evaluating the risks associated with changes in air quality, increases in temperatures, changes in extreme weather events, increases in food and water borne pathogens, and changes in aeroallergens. The evidence concerning adverse air quality impacts provides strong and clear support for an endangerment finding. Increases in ambient ozone are expected to occur over broad areas of the country, and they are expected to increase serious adverse health effects in large population areas that are and may continue to be in nonattainment. The evaluation of the potential risks associated with increases in ozone in attainment areas also supports such a finding.

The impact on mortality and morbidity associated with increases in average temperatures which increase the likelihood of heat waves also provides support for a public health endangerment finding. There are uncertainties over the net health impacts of a temperature increase due to decreases in cold-related mortality, but there is some recent evidence that suggests that the net impact on mortality is more likely to be adverse, in a context where heat is already the leading cause of weather-related deaths in the United States.

The evidence concerning how human-induced climate change may alter extreme weather events also clearly supports a finding of endangerment, given the serious adverse impacts that can result from such events and the increase in risk, even if small, of the occurrence and intensity of events such as hurricanes and floods. Additionally, public health is expected to be adversely affected by an increase in the severity of coastal storm events due to rising sea levels.

There is some evidence that elevated carbon dioxide concentrations and climate changes can lead to changes in aeroallergens that could increase the potential for allergenic illnesses. The evidence on pathogen borne disease vectors provides directional support for an endangerment finding. The Administrator acknowledges the many uncertainties in these areas. Although these adverse effects, provide some support for an endangerment finding, the Administrator is not placing primary weight on these factors.

Finally, the Administrator places weight on the fact that certain groups, including children, the elderly, and the poor, are most vulnerable to these climate-related health effects.

f. Key Comments on the Finding of Endangerment to Public Health

EPA received many comments on public health issues and the proposed finding of endangerment to public health.

i. EPA's Consideration of the Climate Impacts as Public Health Issues Is Reasonable

Several commenters argue that EPA may only consider the health effects from direct exposure to pollutants in determining whether a pollutant endangers public health. The commenters state that EPA's proposal acknowledges that there is no evidence that greenhouse gases directly cause health effects, citing 74 FR 18901. To support their claim that EPA can only consider health effects that result from direct exposure to a pollutant, commenters cite several sources, discussed below.

Clean Air Act and Legislative History. Several commenters argue that the text of the CAA and the legislative history of the 1977 amendments demonstrate that Congress intended public health effects to relate to risks from direct exposure to a pollutant. They also argue that by considering health effects that result from welfare effects, EPA was essentially combining the two categories into one, contrary to the statute and Congressional intent.

Commenters state that the CAA, including CAA section 202(a)(1), requires EPA to consider endangerment of public health separately from endangerment of public welfare. Commenters note that while the CAA does not provide a definition of public health, CAA section 302(h) addresses the meaning of "welfare," which includes weather and climate. Thus, they argue, Congress has instructed that effects on weather and climate are to be considered as potentially endangering welfare-not human health. They continue that Congress surely knew that weather and climatic events such as flooding and heat waves could affect human health, but Congress nonetheless classified air pollutants' effects on weather and climate as effects on welfare.

Commenters also argue that the legislative history confirms that Congress intended for the definition of "public health" to only include the consequences of direct human exposure to ambient air pollutants. They note an early version of section 109(b) would have required only a single NAAQS standard to protect "public health," with the protection of "welfare" being a co-benefit of the single standard. Commenters note that the proponents of this early bill explained, "[i]n many cases, a level of protection of health would take care of the welfare situation" Sen. Hearing, Subcommittee on Air and Water Pollution, Comm. On Public Works (Mar. 17, 1970) (statement of Dr. Middleton, Comm'r, Nat'l Air Pollution Control Admin., HEW), 1970 Leg. Hist. 1194. Commenters state that the Senate bill that ultimately passed rejected this combined standard, requiring separate national ambient air quality standards and national ambient air quality goals. Commenters contend that Congress intended that the national ambient air quality goals be set "to protect the public health and welfare from any known or anticipated effects associated with" air pollution, including the list of "welfare" effects currently found in CAA section 302(h), such as effects on water, vegetation, animals, wildlife, weather and climate. Commenters note the Senate Committee Report stated that the national ambient air quality *standards* were created to protect public health, while the national ambient air quality *goals* were intended to address broader issues because "the Committee also recognizes that man's natural and man-made environment must be preserved and protected. Therefore, the bill provides for the setting of national ambient air quality goals at levels necessary to protect public health and welfare from any known or anticipated adverse effects of air pollution-including effects on soils, water, vegetation, man-made materials, animals, wildlife, visibility, climate, and economic values." Commenters argue this statement is clearly the source of the current definition of welfare effects in CAA section 302(h), which also includes "personal comfort and well being." They argue the Senate bill contemplated the NAAQS would include only direct health effects, while the *goals* would encompass effects on both the public health and welfare. Commenters continue that considering both public health effects and welfare effects under a combined standard, as the Administrator attempts to do in the proposed endangerment finding, would resurrect the combined approach to NAAQS that the Senate emphatically rejected.

The commenters also cite language from the House Report in support of their view that Congress only intended that EPA consider direct health effects ***66527** when assessing endangerment to public health: "By the words 'cause or contribute to air pollution,' the committee intends to require the Administrator to consider all sources of the contaminant which contributes to air pollution and to consider all sources of exposure to the contaminant-food, water, air, etc.-in determining health risks" 7 H.R. Rep. No. 95-294, at 49-50 (1977). Commenters also cite language in the Senate Report: "Knowledge of the relationship between the exposure to many air pollution agents and acute and chronic health effects is sufficient to develop air quality criteria related to such effects" S. Rep. No. 91-1196, at 7 (1970).

The specific issue here is whether an effect on human health that results from a change in climate should be considered when EPA determines whether the air pollution of well-mixed greenhouse gases is reasonably anticipated to endanger public health. In this case, the air pollution has an effect on climate. For example the air pollution raises surface, air, and water temperatures. Among the many effects that flow from this is the expectation that there will be an increase in the risk of mortality and morbidity associated with increased intensity of heat waves. In addition, there is an expectation that there will be an increase in levels of ambient ozone, leading to increased risk of morbidity and mortality from exposure to ozone. All of these are effects on human health, and all of them are associated with the effect on climate from elevated atmospheric concentrations of greenhouse gases. None of these human health effects are associated with direct exposure to greenhouse gases.

In the past, EPA has not had to resolve the issue presented here, as it has been clear whether the effects relate to public health or relate to public welfare, with no confusion over what category was at issue. In those cases EPA has routinely looked at what effect the air pollution has on people. If the effect on people is to their health, we have considered it an issue of public health. If the effect on people is to their interest in matters other than health, we have considered it public welfare.

For example, there are serious health risks associated with inhalation of ozone, and they have logically been considered as public health issues. Ambient levels of ozone have also raised the question of indirect health benefits through screening of harmful UVB rays. EPA has also considered this indirect health effect of ozone to be a public health issue.[29][FN29] Ozone pollution also affects people by impacting their interests in various vegetation through foliar damage to trees, reduced crop yield, adverse impacts on horticultural plants, and the like. EPA has consistently considered these issues when evaluating the public welfare based NAAQS standards under CAA section 109.

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[29] As discussed later, in the past EPA took the position that this kind of potential indirect beneficial impact on public health should not be considered when setting the primary health based NAAQS for ozone. This was not based on the view that it was not a potential public health impact, or that it was a public welfare impact instead of a public health impact. Instead EPA was interpreting the NAAQS standard setting provisions of section 109, and argued that they were intended to address only certain public health impacts, those that were adverse, and were not intended to address indirect, beneficial public health impacts. This interpretation of section 109 was rejected in *ATA* v. *EPA*, 175 F.3d 1027 (1999)*reh'g granted in part and denied in part*, 195 F.3d 4 (DC Cir. 1999). The court made it clear that the potential indirect beneficial impact of ambient ozone on public health from screening UVB rays needed to be considered when setting the NAAQS to protect public health.

In all of these situations the use of the term "public" has focused EPA on how people are affected by the air pollution. If the effect on people is to their health then we have considered it a public health issue. If the effect on people is to their interest in matters other than health, then we have treated it as a public welfare issue.

The situation presented here is somewhat unique. The focus again is on the effect the air pollution has on people. Here the effect on people is to their health. However this effect flows from the change in climate and effects on climate are included in the definition of effects on welfare. That raises the issue of how to categorize the health effects-should we consider them when evaluating endangerment to public health? When we evaluate endangerment to public welfare? Or both?

The text of the CAA does not resolve this question. While Congress defined "effects on welfare," it did not define either "public health" or "public welfare". In addition, the definition of "effects on welfare" does not clearly address how to categorize health effects that flow from effects on soils, water, crops, vegetation, weather, climate, or any of the other factors listed in CAA section 302(h). It is clear that effects on climate are an effect on welfare, but the definition does not address whether health impacts that are caused by these changes in climate are also effects on welfare. The health effects at issue are not themselves effects on soils, water, crops, vegetation, weather, or climate. They are instead effects on health. They derive from the effects on climate, but they are not themselves effects on climate or on anything else listed in CAA section 302(h). So the definition of effects on welfare does not address whether an effect on health, which is not itself listed in CAA section 302(h), is also an effect on welfare if it results from an effect on welfare. The text of the CAA also does not address the issue of direct and indirect health effects. Contrary to commenters' assertions, the legislative history does not address or resolve this issue.

In this context, EPA is interpreting the endangerment provision in CAA section 202(a) as meaning that the effects on peoples' health from changes to climate can and should be included in EPA's evaluation of whether the air pollution at issue endangers public health. EPA is not deciding whether these health effects also could or should be considered in evaluating endangerment to public welfare.

The stating of the issue makes the answer seem straightforward. If air pollution causes sickness or death, then these health effects should be considered when evaluating whether the air pollution endangers public health. The term public health is undefined, and by itself this is an eminently reasonable way to interpret it. This focuses on the actual effect on people, as compared to ignoring that and focusing on the pathway from the air pollution to the effect. The question then becomes whether there is a valid basis in the CAA to take the different approach suggested by commenters, an approach contrary to the common sense meaning of public health.

Notably, the term "public welfare" is undefined. While it clearly means something other than public health, there is no obvious indication whether Congress intended there to be a clear boundary between the two terms or whether there might be some overlap where some impacts could be considered both a public health and a public welfare impact. Neither the text nor the legislative history resolves this issue. Under either approach, EPA believes the proper interpretation is that these effects on health should be considered when evaluating endangerment to public health.

If we assume Congress intended that effects on public welfare could not include effects on public health and vice versa, then the effects at issue here should most reasonably be considered in the public health category. Indisputably they are health effects, and the plain meaning of the term public health would call for their inclusion in that term. The term public welfare is ***66528** undefined. If Congress intended that public welfare not include matters included in the public health category, then a reasonable interpretation of this undefined term would include those effects on welfare that impact people in ways other than impacting their health.

The definition of "effects on welfare" does not clearly address how to categorize health effects that flow from effects on water, soil, land, climate, or weather. As noted above, the definition does not address whether health impacts that are caused by these changes in climate are also "effects on welfare." Certainly effects on health are not included in the list in

CAA section 302(h). The lack of clarity in the definition of effects on welfare, combined with the lack of definition of public welfare, do not warrant interpreting the term public health differently from its straightforward and common sense meaning.

The inclusion of the phrase "effects on * * * personal comfort and well-being" as an effect on welfare supports this view. The term would logically mean something other than the different term public health. The term "well-being" is not defined, and generally has a broader and different connotation of positive physical, emotional, and mental status. The most straightforward meaning of this term, in a context where Congress used the different term public health in a wide variety of other provisions, would be to include effects on people that do not rise to the level of health effects, but otherwise impact their physical, emotional, and mental status. This gives full meaning to both terms.

The term well-being is a general term, and in isolation arguably could include health effects. However there is no textual basis to say it would include some health effects but not others, as argued by commenters. If sickness impacts your well-being, then it impacts your well-being whether it results directly or indirectly from the pollution in the air. Nothing in CAA section 302(h) limits the term well-being to indirect impacts on people, or to health effects that occur because of other welfare effects, such as climate change. It is listed as its own effect on welfare. Instead of interpreting well-being as including all health effects, or some health effects, the much more logical way to interpret this provision in the context of all of the other provisions of the CAA is to interpret it as meaning effects on people other than health effects.

Thus, if Congress intended to draw a strict line between the two categories of public health and public welfare, for purposes of determining endangerment under CAA section 202(a), then EPA believes that its interpretation is a reasonable and straightforward way to categorize the health effects at issue here. This gives weight to the common sense meaning of the term public health, where the terms public health and public welfare are undefined and the definition of effects on welfare is at best ambiguous on this issue.

In the alternative, if Congress did not intend any such bright line between these two categories and there could be an overlap, then it is also reasonable for EPA to include these health effects in its consideration of whether the air pollution endangers public health. Neither approach condenses or conflates the two different terms. Under either approach EPA's interpretation, as demonstrated in this rulemaking, would still consider numerous and varied effects from climate change as indisputable impacts on public welfare and not impacts on public health. In addition, this interpretation will not change the fact that in almost all cases impacts on public health would not also be considered impacts on public welfare.

Prior EPA actions. Several commenters argue that EPA's decision to include health impacts that occur because of climate change is inconsistent with its past approach, which has been to treat indirect health effects as welfare effects. Commenters contend that in the latest Criteria Document for ozone EPA listed tropospheric ozone's effects on UVB-induced human diseases, as well as its effects on climate change, as welfare effects, even though the agency acknowledged significant health effects such as sunburn and skin cancer. Commenters also argue that EPA listed "risks to human health" from toxins released by algal blooms due to excess nitrogen as "ecological and other welfare effects" in the recent Criteria Document for oxides of nitrogen and sulfur. Finally, commenters argue that EPA's proposed action was contrary to the Agency decision to list new municipal solid waste landfills as a source category under CAA section 111. Commenters state that EPA listed climate change as a welfare effect in that action, (citing 56 FR 24469).

The Agency's recent approach regarding UVB-induced health effects is consistent with the endangerment findings, and demonstrates that the Agency considers indirect effects on human health as public health issues rather than public welfare issues. While the ozone Criteria Document may have placed the discussion of UV-B related health effects among chapters on welfare effects, in evaluating the evidence presented in the Criteria Document for purposes of preparing the policy assessment document, EPA staff clearly viewed UVB-induced effects as human health effects that were relevant in determining the public health based primary NAAQS for ozone, rather than welfare effects, regardless of which chapter in the Criteria Document described those effects. The evaluation of the UVB-related evidence is discussed with other human health effects evidence. The policy assessment document noted that Chapter 10 of the

Criteria Document, "provides a thorough analysis of the current understanding of the relationship between reducing tropospheric [ozone] concentrations and the potential impact these reductions might have on UV-B surface fluxes and *indirectly contributing to increased UV-B related health effects.*" *See, Review of the National Ambient Air Quality Standards for Ozone: Policy Assessment of Scientific and Technical Information,* p 3-36 (January 2007) (emphasis added).

EPA repeated this view in the 2007 proposed ozone NAAQS rule. In presenting its evaluation of the human health evidence for purposes of setting the public health based primary NAAQS, EPA stated: "This section also summarizes the uncertainty about the *potential indirect effects on public health* associated with changes due to increases in UV-B radiation exposure, such as UV-B radiation-related skin cancers, that may be associated with reductions in ambient levels of ground-level [ozone], as discussed in chapter 10 of the Criteria Document and chapter 3 of the Staff Paper." 72 FR 37818, 37827. See also, 72 FR 37837 ("* * * the Criteria Document also assesses the potential indirect effects related to the presence of [ozone] in the ambient air by considering the role of ground-level [ozone] in mediating human health effects that may be directly attributable to exposure to solar ultraviolet radiation (UV-B).")

Thus, EPA's approach to UV-B related health effects clearly shows the Agency has treated indirect health effects not as welfare effects, as commenters suggest, but as human health effects that need to be evaluated when setting the public health based primary NAAQS. In this ozone NAAQS rulemaking, EPA did not draw a line between direct and indirect health effects for purposes of evaluating UV-B related health effects and the public health based primary NAAQS.

***66529** Similarly, the NO$_X$ /SO$_X$ criteria document does not establish a precedent that indirect human health effects are welfare effects. Toxic algal blooms themselves are a welfare effect, so it is not surprising a discussion of algal blooms appears in sections dealing with welfare effects. The more relevant question is how EPA evaluated information regarding human health risks resulting from algal blooms. In the case of the Criteria Document, the role of nitrogen in causing algal blooms was unclear. As a result, the Agency did not have occasion to evaluate any resulting human health effects and the Criteria Document does not support the view that EPA treats indirect health effects as anything other than a public health issue.

Finally, EPA disagrees that its action here is at odds with the listing of municipal solid waste landfills under CAA section 111. In the landfills New Source Performance Standard (NSPS) EPA did not consider health effects resulting from climate change much less draw any conclusions about health effects from climate change being health or welfare effects. If anything, the landfills NSPS is consistent with EPA's approach. In the proposed rule, EPA stated: "The EPA has documented many cases of acute injury and death caused by explosions and fires related to municipal landfill gas emissions. In addition to these health effects, the associated property damage is a welfare effect" (56 FR 24474). EPA considered injury and death from fires resulting from landfill gasses to be health effects. Yet the injury did not result from direct exposure to the pollutant (landfill gas). Instead, the injury resulted from the combustion of the pollutant-the injury is essentially an indirect effect of the pollutant. Yet, as with this action, EPA considered the injury as a human health effect.

Case law. Several commenters argue that EPA's proposed endangerment finding was inconsistent with *NRDC* v. *EPA*, 902 F.2d 962 (DC Cir 1990). Commenters argue that in rejecting the argument that EPA must consider the health effects of increased unemployment that could result from a more stringent primary NAAQS standard, the DC Circuit explained that, "[i]t is only the health effects relating to pollutants in the air that EPA may consider." *Id*. at 973. Several commenters further argue that EPA later relied on that holding to defend its decision to set a primary NAAQS for ozone based solely on direct health effects of ozone. Citing, *EPA Pet'n for Rehearing, Am. Trucking Ass'n* v. *EPA*, No. 97-1440 (DC Cir. June 28, 1999) ("ATA I") (arguing that the primary NAAQS should be set through consideration of only "direct adverse effects on public health, and not indirect, allegedly beneficial effects.")

The *NRDC* case is not contrary to EPA's endangerment finding. In *NRDC*, petitioner American Iron and Steel Institute argued that EPA had to consider the costs of health consequences that might arise from increased unemployment. The court ruled that, "[c]onsideration of costs associated with alleged health risks from unemployment would be flatly inconsistent with the statute, legislative history and case law on this point." 902 F.2d at 973. The cases cited by the court in support of its decision all hold that EPA may not consider economic or technological feasibility in establishing a NAAQS. The *NRDC* decision does not establish a precedent that the CAA prohibits EPA from considering indirect health effects as a public health issue rather than a public welfare issue.

EPA also believes reliance on the Agency's petition for rehearing in noted above is misplaced. In that case, EPA did not argue that indirect beneficial health effects were not public health issues. Instead EPA argued that under the CAA, it did not have to consider such indirect beneficial health effects of an air pollutant when setting the health based primary NAAQS. EPA was interpreting the NAAQS standard setting provisions of CAA section 109, and argued that they were intended to address only certain public health impacts, those that were adverse, and were not intended to address indirect, beneficial public health impacts. The issue in the case was not whether indirect health effects are relevant for purposes of making an endangerment decision concerning public health, but rather whether EPA must consider such beneficial health effects in establishing a primary NAAQS under CAA section 109. EPA's interpretation of CAA section 109 was rejected in *ATA* v. *EPA*, 175 F.3d at 1027 (1999)*reh'g granted in part and denied in part*, 195 F.3d at 4 (DC Cir. 1999). The court made it clear that the potential indirect beneficial impact of ambient ozone on public health from screening UVB rays needed to be considered when setting the NAAQS to protect public health. As discussed above, EPA has done just that as noted above in the UV-B context. Moreover, as discussed in Section II of these

Findings, EPA is doing that here as well (*e.g.*, considering any benefits from reduced cold weather related deaths).

ii. EPA's Treatment and Balancing of Heat- vs. Cold-Related Public Health Risks Was Reasonable

A number of public commenters maintain that the risk of heat waves in the future will be modulated by adaptive measures. The Administrator is aware of the potential benefits of adaptation in reducing heat-related morbidity and mortality and recognizes most heat-related deaths are preventable. Nonetheless, the Administrator notes the assessment literature[30] indicates heat is the leading weather-related killer in the United States even though countermeasures have been employed in many vulnerable areas. Given projections for heat waves of greater frequency, magnitude, and duration coupled with a growing population of older adults (among the most vulnerable groups to this hazard), the risk of adverse health outcomes from heat waves is expected to increase. Intervention and response measures could certainly reduce the risk, but as we have noted, the need to adapt supports an increase in risk or endangerment. For a general discussion about EPA's treatment of adaptation see Section III.C of these Findings.

Several commenters also suggest cold-related mortality will decrease more than heat-related mortality will increase, which indicates a net reduction in temperature-related mortality. Some commenters point to research suggesting migration to warmer climates has contributed to the increased longevity of some Americans, implying climate warming will have benefits for health. The Administrator is very clear that the exact balance of how heat- versus cold-related mortality will change in the future is uncertain; however, the assessment literature points to evidence suggesting that the increased risk from heat would exceed the decreased risk from cold in a warming climate. The Administrator does not dispute research indicating the benefits of migration to a warmer climate and nor that average climate warming may indeed provide health benefits in some areas. These points are reflected in the TSD's statement projecting less cold-related health effects. The Administrator considers these potential warming benefits independent of the potential negative effects of extreme heat events which are projected to increase under future climate change scenarios affecting vulnerable groups and communities.

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[30] Karl *et al.* (2009).

***66530** iii. EPA Was Reasonable To Find That the Air Quality Impacts of Climate Change Contribute to the Endangerment of Public Health

Several commenters suggest that air quality effects of climate change will be addressed through the CAA's NAAQS process, as implemented by the State Implementation Plans (SIP) and national regulatory programs. According to these commenters, these programs will ensure no adverse impact on public health due to climate change. Though climate change may cause certain air pollutant ambient concentrations to increase, States will continue to be compelled to meet the standards. So, while additional measures may be necessary, and result in increased costs, these commenters assert that, ultimately, public health will be protected by the continued existence of the NAAQS and therefore no endangerment with respect to this particular climate change-related impact will occur. One commenter states that EPA inappropriately assigns air quality risk to climate change that will be addressed through other programs. The CAA provides a mechanism to meet the standards and additional control measures consistent with the CAA will be adopted in the future, keeping pollution below unhealthy levels. The commenters state that the fact that NAAQS are in place that require EPA to fulfill its legal obligation to prevent this particular form of endangerment to public health.

EPA does have in place NAAQS for ozone, which are premised on the harmfulness of ozone to public health and welfare. These standards and their accompanying regulatory regime have helped to reduce the dangers from ozone in the United States. However, substantial challenges remain with respect to achieving the air quality protection promised by the NAAQS for ozone. It is the Administrator's view that these challenges will be exacerbated by climate change.

In addition, the control measures to achieve attainment with a NAAQS are a mitigation measure aimed at reducing emissions of ozone precursors. As discussed in Section III.C of these Findings, EPA is not considering the impacts of mitigation with respect to future reductions in emissions of greenhouse gases. For the same reasons, EPA is reasonably not considering mitigation in the form of the control measures that will need to be adopted in the future to reduce emissions of ozone precursors and thereby address the increased ambient ozone levels that can occur because of climate change.

It is important to note that controls to meet the NAAQS are typically put in place only *after* air quality concentrations exceeding the standard are detected. Furthermore, implementation of controls to reduce ambient concentrations of pollutants occurs over an extended time period, ranging from three years to more than twenty years depending on the pollutant and the seriousness of the nonattainment problem. Thus, while the CAA provides mechanisms for addressing adverse health effects and the underlying air quality exacerbation over time, it will not prevent the adverse impacts in the interim. Given the serious nature of the health effects at issue-including respiratory and cardiovascular disease leading to hospital admissions, emergency department visits, and premature mortality-this increase in adverse impacts during the time before additional controls can be implemented is a serious public health concern. Historically, a large segment of the U.S. population has lived in areas exceeding the NAAQS, despite the CAA and its implementation efforts. Half of all Americans, 158 million people, live in counties where air pollution exceeds national health standards.[31] Where attainment of the NAAQS is especially difficult, leading to delays in meeting attainment deadlines, the health effects of increased ozone due to climate change may be substantial.

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[31] U.S. EPA (2008) National Air Quality: Status and Trends Through 2007. EPA-454/R-08-006, November 2008.

It is also important to note that it may not be possible for States and Tribes to plan accurately for the impacts of climate change in developing control strategies for nonattainment areas. As noted in the TSD and EPA's 2009 Interim Assessment report (IA), climate change is projected to lead to an increase in the variability of weather, and this may increase peak pollution events including increases in ozone exceedances. While the modeling studies in the IA all show significant future changes in meteorological quantities, there is also significant variability across the simulations in the spatial patterns of these future changes, making it difficult to select a set of future meteorological data for planning purposes. At this time, models used to develop plans to attain the NAAQS do not take potential changes in future meteorology into consideration. Inability to predict the frequency and magnitude of such events could lead to an underestimation of the controls needed to bring areas into attainment, and a prolonged period during which adverse health impacts continue to occur.

Even in areas that meet the NAAQS currently, air quality may deteriorate sufficiently to cause adverse health effects for some individuals. Some at-risk individuals, for example those with preexisting health conditions or other characteristics which increase their risk for adverse effects upon exposure to PM or ozone, may experience health effects at levels below the standard. Current evidence suggests that there is no threshold for PM or ozone concentrations below which no effects can be observed. Therefore, increases in ozone or PM in locations that currently meet the standards would likely result in additional adverse health effects for some individuals, even though the pollution increase might not be sufficient to cause the area to be designated nonattainment. While the NAAQS is set to protect public health with an adequate margin of safety, it is recognized that in attainment areas there may be individuals who remain at greater risk from an increase in ozone levels. The clear risk to the public from ozone increases in nonattainment areas, in combination with the risk to some individuals in attainment areas, supports the finding that overall the public health is endangered by increases in ozone resulting from climate change.

Finally, it is also important to note that not all air pollution events are subject to CAA controls under the NAAQS implementation provisions. "Exceptional events" are events for which the normal planning and regulatory process established by the CAA is not appropriate (72 FR 13561). Emissions from some events, including some wildfires, are not reasonably controllable or preventable. Such emissions, however, can adversely impact public health and welfare and are expected to increase due to climate change. As described in the TSD, PM emissions from wildfires can contribute to acute and chronic illnesses of the respiratory system, particularly in children, including pneumonia, upper respiratory diseases, asthma and chronic obstructive pulmonary disease. The IPCC (Field et al., 2007) reported with very high confidence that in North America, disturbances like wildfires are increasing and are likely to intensify in a warmer future with drier soils and longer growing seasons.

2. The Air Pollution Is Reasonably Anticipated to Endanger Public Welfare

The Administrator also finds that the well-mixed greenhouse gas air pollution may reasonably be anticipated to ***66531** endanger public welfare, both for current and future generations.

As with public health, the Administrator considered the multiple pathways in which the greenhouse gas air pollution and resultant climate change affect climate-sensitive sectors, and the impact this may have on public welfare. These sectors include food production and agriculture; forestry; water resources; sea level rise and coastal areas; energy, infrastructure, and settlements; and ecosystems and wildlife. The Administrator also considered impacts on the U.S. population from climate change effects occurring outside of the United States, such as national security concerns for the United States that may arise as a result of climate change impacts in other regions of the world. The Administrator examined each climate-sensitive sector individually, informed by the summary of the scientific assessments contained in the TSD, and the full record before EPA, and weighed the extent to which the risks and impacts within each sector support or do not support a positive endangerment finding in her judgment. The Administer then viewed the full weight of evidence looking across all sectors to reach her decision regarding endangerment to public welfare.

a. Food Production and Agriculture

Food production and agriculture within the United States is a sector that will be affected by the combined effects of elevated carbon dioxide concentrations and associated climate change. The Administrator considered how these effects, both adverse and beneficial, are affecting the agricultural sector now and in the future, and over different regions of the United States, taking into account that different regions of the country specialize in different agricultural products with varying degrees of sensitivity and vulnerability to elevated carbon dioxide levels and associated climate change.

Elevated carbon dioxide concentrations can have a stimulatory effect on grain and oilseed crop yield, as may modest temperature increases and a longer growing season that results. A report under the USGCRP concluded that, with increased carbon dioxide and temperature, the life cycle of grain and oilseed crops will likely progress more rapidly. However, such beneficial influences need to be considered in light of various other effects. For example, the literature indicates that elevated carbon dioxide concentrations may also enhance pest and weed growth. Pests and weeds can reduce crop yields, cause economic losses to farmers, and require management control options. How climate change (elevated carbon dioxide, increased temperatures, altered precipitation patterns, and changes in the frequency and intensity of extreme events) may affect the prevalence of pests and weeds is an issue of concern for food production and the agricultural sector. Research on the combined effects of elevated carbon dioxide and climate change on pests, weeds, and disease is still limited. In addition, higher temperature increases, changing precipitation patterns and variability, and any increases in ground-level ozone induced by higher temperatures, can work to counteract any direct stimulatory carbon dioxide effect, as well as lead to their own adverse impacts. There may be large regional variability in the response of food production and agriculture to climate change.

For grain and oilseed crop yields, there is support for the view that in the near term climate change may have a beneficial effect, largely through increased temperature and increased carbon dioxide levels. However there are also factors noted above, some of which are less well studied and understood, which would tend to offset any near term benefit, leaving significant uncertainty about the actual magnitude of any overall benefit. The USGCRP report also concluded that as temperature rises, these crops will increasingly begin to experience failure, especially if climate variability increases and precipitation lessens or becomes more variable.

A key uncertainty is how human-induced climate change may affect the intensity and frequency of extreme weather events such as droughts and heavy storms. These events have the potential to have serious negative impact on U.S. food production and agriculture, but are not always taken into account in studies that examine how average conditions may change as a result of carbon dioxide and temperature increases. Changing precipitation patterns, in addition to increasing temperatures and longer growing seasons, can change the demand for irrigation requirements, potentially increasing irrigation demand.

Another key uncertainty concerns the many horticultural crops (*e.g.*, tomatoes, onions, fruits), which make up roughly 40 percent of total crop value in the United States. There is relatively little information on their response to carbon dioxide, and few crop simulation models, but according to the literature, they are very likely to be more sensitive to the various effects of climate change than grain and oilseed crops.

With respect to livestock, higher temperatures will very likely reduce livestock production during the summer season in some areas, but these losses will very likely be partially offset by warmer temperatures during the winter season. The impact on livestock productivity due to increased variability in weather patterns will likely be far greater than effects associated with the average change in climatic conditions. Cold-water fisheries will likely be negatively affected; warm-water fisheries will generally benefit; and the results for cool-water fisheries will be mixed, with gains in the northern and losses in the southern portions of ranges.

Finally, with respect to irrigation requirements, the adverse impacts of climate change on irrigation water requirements may be significant.

There is support for the view that there may be a benefit in the near term in the crop yield for certain crops. This potential benefit is subject to significant uncertainty, however, given the offsetting impact on the yield of these crops from a variety of other climate change impacts that are less well understood and more variable. Any potential net benefit is expected to change to a disbenefit in the longer term. In addition, there is clear risk that the sensitivity of a major segment of the total crop market, the horticultural sector, may lead to adverse affects from climate change. With respect to livestock production and irrigation requirements, climate change is likely to have adverse effects in both the near and long terms. The impact on fisheries varies, and would appear to be best viewed as neutral overall.

There is a potential for a net benefit in the near term for certain crops, but there is significant uncertainty about whether this benefit will be achieved given the various potential adverse impacts of climate change on crop yield, such as the increasing risk of extreme weather events. Other aspects of this sector are expected to be adversely affected by climate change, including livestock management and irrigation requirements, and there is a risk of adverse effect on a large segment of the total crop market. For the near term, the concern over the potential for adverse effects in certain parts of the agriculture sector appears generally comparable to the potential for benefits for certain crops.

However, considering the trend over near- and long-term future conditions, the Administrator finds that the body of evidence points towards increasing risk ***66532** of net adverse impacts on U.S. food production and agriculture, with the potential for significant disruptions and crop failure in the future.

b. Forestry

The factors that the Administrator considered for the U.S. forest sector are similar to those for food production and agriculture. There is the potential for beneficial effects due to elevated concentrations of carbon dioxide and increased temperature, as well as the potential for adverse effects from increasing temperatures, changing precipitation patterns, increased insects and disease, and the potential for more frequent and severe extreme weather events. The potential beneficial effects are better understood and studied, and are limited to certain areas of the country and types of forests. The adverse effects are less certain, more variable, and also include some of the most serious adverse effects such as increased wildfire, drought, and major losses from insects and disease. As with food production and agriculture, the judgment to be made is largely a qualitative one, balancing impacts that vary in certainty and magnitude, with the end result being a judgment as to the overall direction and general level of concern.

According to the underlying science assessment reports, climate change has very likely increased the size and number of wildfires, insect outbreaks, and tree mortality in the Interior West, the Southwest, and Alaska, and will continue to do so. Rising atmospheric carbon dioxide levels will very likely increase photosynthesis for forests, but the increased photosynthesis will likely only increase wood production in young forests on fertile soils. Nitrogen deposition and warmer temperatures have very likely increased forest growth where water is not limiting and will continue to do so in the near future.

An increased frequency of disturbance (such as drought, storms, insect-outbreaks, and wildfire) is at least as important to forest ecosystem function as incremental changes in temperature, precipitation, atmospheric carbon dioxide, nitrogen deposition, and ozone pollution. Disturbances partially or completely change forest ecosystem structure and species composition, cause short-term productivity and carbon storage loss, allow better opportunities for invasive alien species to become established, and command more public and management attention and resources. The combined effects of expected increased temperature, carbon dioxide, nitrogen deposition, ozone, and forest disturbance on soil processes and soil carbon storage remain unclear.

Precipitation and weather extremes are key to many forestry impacts, accounting for part of the regional variability in forest response. If existing trends in precipitation continue, it is expected that forest productivity will likely decrease in the Interior West, the Southwest, eastern portions of the Southeast, and Alaska, and that forest productivity will likely increase in the northeastern United States, the Lake States, and in western portions of the Southeast. An increase in drought events will very likely reduce forest productivity wherever such events occur.

Changes in disturbance patterns are expected to have a substantial impact on overall gains or losses. More prevalent wildfire disturbances have recently been observed in the United States. Wildfires and droughts, among other extreme events (*e.g.*, hurricanes) that can cause forest damage, pose the largest threats over time to forest ecosystems.

For the near term, the Administrator believes the beneficial impact on forest growth and productivity in certain parts of the country from climate change to be more than offset by the clear risk from the more significant and serious adverse effects from the observed increases in wildfires, combined with the adverse impacts on growth and productivity in other areas of the country and the serious risks from the spread of destructive pests and disease. Increased wildfires can also increase particulate matter and thus create public health concerns as well. For the longer term, the Administrator views the risk from adverse effects to increase over time, such that overall climate change presents serious adverse risks for forest productivity. The Administrator therefore finds there is compelling reason to find that the greenhouse gas air pollution endangers U.S. forestry in both the near and long term, with the support for a positive endangerment finding only increasing as one considers expected future conditions in which temperatures continue to rise.

c. Water Resources

The sensitivity of water resources to climate change is very important given the increasing demand for adequate water supplies and services for agricultural, municipal, and energy and industrial uses, and the current strains on this resource in many parts of the country.

According to the assessment literature, climate change has already altered, and will likely continue to alter, the water cycle, affecting where, when, and how much water is available for all uses. With higher temperatures, the water-holding capacity of the atmosphere and evaporation into the atmosphere increase, and this favors increased climate variability, with more intense precipitation and more droughts.

Climate change is causing and will increasingly cause shrinking snowpack induced by increasing temperature. In the western United States, there is already well-documented evidence of shrinking snowpack due to warming. Earlier meltings, with increased runoff in the winter and early spring, increase flood concerns and also result in substantially decreased summer flows. This pattern of reduced snowpack and changes to the flow regime pose very serious risks to major population regions, such as California, that rely on snowmelt-dominated watersheds for their water supply. While increased precipitation is expected to increase water flow levels in some eastern areas, this may be tempered by increased variability in the precipitation and the accompanying increased risk of floods and other concerns such as water pollution.

Warmer temperatures and decreasing precipitation in other parts of the country, such as the Southwest, can sustain and amplify drought impacts. Although drought has been more frequent and intense in the western part of the United States, the East is also vulnerable to droughts and attendant reductions in water supply, changes in water quality and ecosystem function, and challenges in allocation. The stress on water supplies on islands is expected to increase.

The impact of climate change on groundwater as a water supply is regionally variable; efforts to offset declining surface water availability due to increasing precipitation variability may be hampered by the fact that groundwater recharge will decrease considerably in some already water-stressed regions. In coastal areas, the increased salinization from intrusion of salt water is projected to have negative effects on the supply of fresh water.

Climate change is expected to have adverse effects on water quality. The IPCC concluded with high confidence that higher water temperatures, increased precipitation intensity, and longer periods of low flows exacerbate many forms of water pollution and can impact ecosystems, human health, and water system reliability and operating costs. These changes will also exacerbate many forms of water pollution, potentially making attainment of water quality goals more ***66533** difficult. Water pollutants of concern that are particularly relevant to climate change effects include sediment, nutrients, organic matter, pathogens, pesticides, salt, and thermal pollution. As waters become warmer, the aquatic life they now support will be replaced by other species better adapted to warmer water. In the long term, warmer water, changing flows, and decreased water quality may result in deterioration of aquatic ecosystems.

Climate change will likely further constrain already over-allocated water resources in some regions of the United States, increasing competition among agricultural, municipal, industrial, and ecological uses. Although water management practices in the United States are generally advanced, particularly in the West, the reliance on past conditions as the basis for current and future planning may no longer be appropriate, as climate change increasingly creates conditions well outside of historical observations. Increased incidence of extreme weather and floods may also overwhelm or damage water treatment and management systems, resulting in water quality impairments. In the Great Lakes and major river systems, lower water levels are likely to exacerbate challenges relating to water quality, navigation, recreation, hydropower generation, water transfers, and binational relationships.

The Administrator finds that the total scientific literature provides compelling support for finding that greenhouse gas air pollution endangers the water resources important for public welfare in the United States, both for current and future generations. The adequacy of water supplies across large areas of the country is at serious risk from climate change. Even areas of the country where an increase in water flow is projected could face water resource problems from the variability of the supply and water quality problems associated with precipitation variability, and could face the serious adverse effects from risks from floods and drought. Climate change is expected to adversely affect water quality. There is an increased risk of serious adverse effects from extreme events of flooding and drought. The severity of risks and impacts may only increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

d. Sea Level Rise and Coastal Areas

A large percentage of the U.S. population lives in coastal areas, which are particularly vulnerable to the risks posed by climate change. The most vulnerable areas are the Atlantic and Gulf Coasts, the Pacific Islands, and parts of Alaska.

According to the assessment literature, sea level is rising along much of the U.S. coast, and the rate of change will very likely increase in the future, exacerbating the impacts of progressive inundation, storm-surge flooding, and shoreline erosion. Cities such as New Orleans, Miami, and New York are particularly at risk, and could have difficulty coping with the sea level rise projected by the end of the century under a higher emissions scenario. Population growth and the rising value of infrastructure increases the vulnerability to climate variability and future climate change in coastal areas. Adverse impacts on islands present concerns for Hawaii and the U.S. territories. Reductions in Arctic sea ice increases extreme coastal erosion in Alaska, due to the increased exposure of the coastline to strong wave action. In the Great Lakes, where sea level rise is not a concern, both extremely high and low water levels resulting from changes to the hydrological cycle have been damaging and disruptive to shoreline communities.

Coastal wetland loss is being observed in the United States where these ecosystems are squeezed between natural and artificial landward boundaries and rising sea levels. Up to 21 percent of the remaining coastal wetlands in the U.S. mid-Atlantic region are potentially at risk of inundation between 2000 and 2100. Coastal habitats will likely be increasingly stressed by climate change impacts interacting with development and pollution.

Although increases in mean sea level over the 21st century and beyond will inundate unprotected, low-lying areas, the most devastating impacts are likely to be associated with storm surge. Superimposed on expected rates of sea level rise, projected storm intensity, wave height, and storm surge suggest more severe coastal flooding and erosion hazards. Higher sea level provides an elevated base for storm surges to build upon and diminishes the rate at which low-lying areas drain, thereby increasing the risk of flooding from rainstorms. In New York City and Long Island, flooding from a combination of sea level rise and storm surge could be several meters deep. Projections suggest that the return period of a 100-year flood event in this area might be reduced to 19-68 years, on average, by the 2050s, and to 4-60 years by the 2080s. Additionally, some major urban centers in the United States, such as areas of New Orleans are situated in low-lying flood plains, presenting increased risk from storm surges.

The Administrator finds that the most serious risk of adverse effects is presented by the increased risk of storm surge and flooding in coastal areas from sea level rise. Current observations of sea level rise are now contributing to increased risk of storm surge and flooding in coastal areas, and there is reason to find that these areas are now endangered by human-induced climate change. The conclusion in the assessment literature that there is the potential for hurricanes to become more intense with increasing temperatures (and even some evidence that Atlantic hurricanes have already become more intense) reinforces the judgment that coastal communities are now endangered by human-induced climate change, and may face substantially greater risk in the future. The Administrator has concluded that even if there is a low probability of raising the destructive power of hurricanes, this threat is enough to support a finding that coastal communities are endangered by greenhouse gas air pollution.

In addition, coastal areas face other adverse impacts from sea level rise such as shoreline retreat, erosion, wetland loss and other effects. The increased risk associated with these adverse impacts also endangers the welfare of current and future generations, with an increasing risk of greater adverse impacts in the future.

Overall, the evidence on risk of adverse impacts for coastal areas from sea level rise provides clear support for finding that greenhouse gas air pollution endangers the welfare of current and future generations.

e. Energy, Infrastructure and Settlements

The Administrator also considered the impacts of climate change on energy consumption and production, and on key climate-sensitive aspects of the nation's infrastructure and settlements.

For the energy sector, the Administrator finds clear evidence that temperature increases will change heating and cooling demand, and to varying degrees across the country; however, under current conditions it is unclear whether or not net demand will increase or decrease. While the impacts on net energy demand may be viewed as generally neutral for purposes of making an endangerment determination, climate change is expected to call for an increase in electricity production, especially supply for peak demand. The U.S. energy sector, which relies heavily on water for cooling capacity and ***66534** hydropower, may be adversely impacted by changes to water supply in reservoirs and other water bodies.

With respect to infrastructure, climate change vulnerabilities of industry, settlement and society are mainly related to extreme weather events rather than to gradual climate change. The significance of gradual climate change, *e.g.*, increases in the mean temperature, lies mainly in changes in the intensity and frequency of extreme events. Extreme weather events could threaten U.S. energy infrastructure (transmission and distribution), transportation infrastructure (roads, bridges, airports and seaports), water infrastructure, and other built aspects of human settlements. Moreover, soil subsidence caused by the melting of permafrost in the Arctic region is a risk to gas and oil pipelines, electrical transmission towers, roads, and water systems. Vulnerabilities for industry, infrastructures, settlements, and society to climate change are generally greater in certain high-risk locations, particularly coastal and riverine areas, and areas whose economies are closely linked with climate-sensitive resources. Additionally, infrastructures are often connected, meaning that an impact on one can also affect others.

A significant fraction of U.S. infrastructure is located in coastal areas. In these locations, rising sea levels are likely to lead to direct losses (*e.g.*, equipment damage from flooding) as well as indirect effects such as the costs associated with raising vulnerable assets to higher levels. Water infrastructure, including drinking water and wastewater treatment plants, and sewer and storm water management systems, may be at greater risk of flooding, sea level rise and storm surge, low flows, saltwater intrusion, and other factors that could impair performance and damage costly investments.

Within settlements experiencing climate change stressors, certain parts of the population may be especially vulnerable based on their circumstances. These include the poor, the elderly, the very young, those already in poor health, the disabled, those living alone, and/or indigenous populations dependent on one or a few resources. In Alaska, indigenous communities are likely to experience disruptive impacts, including shifts in the range or abundance of wild species crucial to their livelihoods and well-being.

Overall, the evidence strongly supports the view that climate change presents risks of serious adverse impacts on public welfare from the risk to energy production and distribution as well as risks to infrastructure and settlements.

f. Ecosystems and Wildlife

The Administrator considered the impacts of climate change on ecosystems and wildlife and the services they provide. The Administrator finds clear evidence that climate change is exerting major influences on natural environments and biodiversity, and these influences are generally expected to grow with increased warming. Observed changes in the life cycles of plants and animals include shifts in habitat ranges, timing of migration patterns, and changes in reproductive timing and behavior.

The underlying assessment literature finds with high confidence that substantial changes in the structure and functioning of terrestrial ecosystems are very likely to occur with a global warming greater than 2 to 3 °C above pre-industrial levels, with predominantly negative consequences for biodiversity and the provisioning of ecosystem goods and services. With global average temperature changes above 2 °C, many terrestrial, freshwater, and marine species (particularly endemic species) are at a far greater risk of extinction than in the geological past. Climate change and ocean acidification will likely impair a wide range of planktonic and other marine calcifiers such as corals. Even without ocean acidification effects, increases in sea surface temperature of about 1-3 °C are projected to result in more frequent coral bleaching events and widespread mortality. In the Arctic, wildlife faces great challenges from the effects of climatic warming, as projected reductions in sea ice will drastically shrink marine habitat for polar bears, ice-inhabiting seals, and other animals.

Some common forest types are projected to expand, such as oak-hickory, while others are projected to contract, such as maple-beech-birch. Still others, such as spruce-fir, are likely to disappear from the contiguous United States. Changes in plant species composition in response to climate change can increase ecosystem vulnerability to other disturbances, including wildfires and biological invasion. Disturbances such as wildfires and insect outbreaks are increasing in the United States and are likely to intensify in a warmer future with warmer winters, drier soils and longer growing seasons. The areal extent of drought-limited ecosystems is projected to increase 11 percent per °C warming in the United States. In California, temperature increases greater than 2 °C may lead to conversion of shrubland into desert and grassland ecosystems and evergreen conifer forests into mixed deciduous forests. Greater intensity of extreme events may alter disturbance regimes in coastal ecosystems leading to changes in diversity and ecosystem functioning. Species inhabiting salt marshes, mangroves, and coral reefs are likely to be particularly vulnerable to these effects.

The Administrator finds that the total scientific record provides compelling support for finding that the greenhouse gas air pollution leads to predominantly negative consequences for biodiversity and the provisioning of ecosystem goods and services for ecosystems and wildlife important for public welfare in the U.S., both for current and future generations. The severity of risks and impacts may only increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

g. Summary of the Administrator's Finding of Endangerment to Public Welfare

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public welfare by evaluating numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife. For each of these sectors, the evidence provides support for a finding of endangerment to public welfare.

The evidence concerning adverse impacts in the areas of water resources and sea level rise and coastal areas provide the clearest and strongest support for an endangerment finding, both for current and future generations. Strong support is also found in the evidence concerning infrastructure and settlements, as well ecosystems and wildlife. Across the sectors, the potential serious adverse impacts of extreme events, such as wildfires, flooding, drought, and extreme weather conditions provide strong support for such a finding.

Water resources across large areas of the country are at serious risk from climate change, with effects on water supplies, water quality, and adverse effects from extreme events such as floods and droughts. Even areas of the country where an increase in water flow is projected could face water resource problems from the supply and water quality problems associated with temperature increases and precipitation variability, and could face the increased risk of serious adverse effects from extreme events, such as floods and ***66535** drought. The severity of risks and impacts is likely to increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

Overall, the evidence on risk of adverse impacts for coastal areas provides clear support for a finding that greenhouse gas air pollution endangers the welfare of current and future generations. The most serious potential adverse effects are the increased risk of storm surge and flooding in coastal areas from sea level rise and more intense storms. Observed sea level rise is already increasing the risk of storm surge and flooding in some coastal areas. The conclusion in the assessment literature that there is the potential for hurricanes to become more intense (and even some evidence that Atlantic hurricanes have already become more intense) reinforces the judgment that coastal communities are now endangered by human-induced climate change, and may face substantially greater risk in the future. Even if there is a low probability of increasing the destructive power of hurricanes, this threat is enough to support a finding that coastal communities are endangered by greenhouse gas air pollution. In addition, coastal areas face other adverse impacts from sea level rise such as land loss due to inundation, erosion, wetland submergence, and habitat loss. The increased risk associated with these adverse impacts also endangers public welfare, with an increasing risk of greater adverse impacts in the future.

Strong support for an endangerment finding is also found in the evidence concerning energy, infrastructure, and settlements, as well ecosystems and wildlife. While the impacts on net energy demand may be viewed as generally neutral for purposes of making an endangerment determination, climate change is expected to result in an increase in electricity production, especially to meet peak demand. This increase may be exacerbated by the potential for adverse impacts from climate change on hydropower resources as well as the potential risk of serious adverse effects on energy infrastructure from extreme events. Changes in extreme weather events threaten energy, transportation, and water resource infrastructure. Vulnerabilities of industry, infrastructure, and settlements to climate change are generally greater in high-risk locations, particularly coastal and riverine areas, and areas whose economies are closely linked with climate-sensitive resources. Climate change will likely interact with and possibly exacerbate ongoing environmental change and environmental pressures in settlements, particularly in Alaska where indigenous communities are facing major environmental and cultural impacts on their historic lifestyles. Over the 21st century, changes in climate will cause some species to shift north and to higher elevations and fundamentally rearrange U.S. ecosystems. Differential capacities for range shifts and constraints from development, habitat fragmentation, invasive species, and broken ecological connections will likely alter ecosystem structure, function, and services, leading to predominantly negative consequences for biodiversity and the provision of ecosystem goods and services.

With respect to food production and agriculture, there is a potential for a net benefit in the near term for certain crops, but there is significant uncertainty about whether this benefit will be achieved given the various potential adverse impacts of climate change on crop yield, such as the increasing risk of extreme weather events. Other aspects of this sector may be adversely affected by climate change, including livestock management and irrigation requirements, and there is a risk of adverse effect on a large segment of the total crop market. For the near term, the concern over the potential for adverse effects in certain parts of the agriculture sector appears generally comparable to the potential for benefits for certain crops. However, the body of evidence points towards increasing risk of net adverse impacts on U.S. food production and agriculture over time, with the potential for significant disruptions and crop failure in the future.

For the near term, the Administrator finds the beneficial impact on forest growth and productivity in certain parts of the country from elevated carbon dioxide concentrations and temperature increases to date is offset by the clear risk from the observed increases in wildfires, combined with risks from the spread of destructive pests and disease. For the longer term, the risk from adverse effects increases over time, such that overall climate change presents serious adverse risks for forest productivity. There is compelling reason to find that the support for a positive endangerment finding increases as one considers expected future conditions where temperatures continue to rise.

Looking across all of the sectors discussed above, the evidence provides compelling support for finding that greenhouse gas air pollution endangers the public welfare of both current and future generations. The risk and the severity of adverse impacts on public welfare are expected to increase over time.

h. Impacts in Other World Regions That Can Affect the U.S Population

While the finding of endangerment to public health and welfare discussed above is based on impacts in the United States, the Administrator also considered how human-induced climate change in other regions of the world may in turn affect public welfare in the United States. According to the USGCRP report of

June 2009 and other sources, climate change impacts in certain regions of the world may exacerbate problems that raise humanitarian, trade, and national security issues for the United States.[32][FN32] The IPCC identifies the most vulnerable world regions as the Arctic, because of the effects of high rates of projected warming on natural systems; Africa, especially the sub-Saharan region, because of current low adaptive capacity as well as climate change; small islands, due to high exposure of population and infrastructure to risk of sea-level rise and increased storm surge; and Asian mega-deltas, such as the Ganges-Brahmaputra and the Zhujiang, due to large populations and high exposure to sea level rise, storm surge, and river flooding. Climate change has been described as a potential threat multiplier with regard to national security issues.

The Administrator acknowledges these kinds of risks do not readily lend themselves to precise analyses or future projections. However, given the unavoidable global nature of the climate change problem, it is appropriate and prudent to consider how impacts in other world regions may present risks to the U.S. population. Because human-induced climate change has the potential to aggravate natural resource, trade, and humanitarian issues in other world regions, which in turn may contribute to the endangerment of public welfare in the United States, this provides additional support for the Administrator's finding that the greenhouse gas air pollution is reasonably anticipated to endanger the public welfare of current and future *66536 generations of the United States population.

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[32] "In an increasingly interdependent world, U.S. vulnerability to climate change is linked to the fates of other nations. For example, conflicts or mass migrations of people resulting from food scarcity and other resource limits, health impacts or environmental stresses in other parts of the world could threaten U.S. national security." (Karl *et al.*, 2009).

i. Summary of Key Public Comments on Endangerment to Public Welfare

Several public commenters point out the anticipated benefits that increasing carbon dioxide levels and temperatures will have on agricultural crops. In addition, commenters note how U.S. agricultural productivity, in particular, has been steadily rising over the last 100 years. Responses to major comments are found here and more detailed responses are found in the Response to Comments document.

The Administrator acknowledges that plants including agricultural crops respond to carbon dioxide positively based on numerous well-documented studies. However, previous assessments of food production and agriculture have been modified to highlight increasing vulnerability, stress, and adverse impacts from climate change over time, based on improvements in the understanding of plant physiology, concern over impacts on plant pests and pathogens, and the implications of changes in average temperatures for temperature extremes and for changes in the patterns of precipitation and evaporation. While it is still the case today and for the next few years that climate change benefits agriculture in some places and harms them in others, the Administrator considers that the far larger temperature increases expected over coming decades and beyond on the "business as usual" trajectory will put significant stresses on agriculture and land resources in all regions of the United States. The Administrator prudently considers increased climate variability associated with a warming climate, which may overwhelm the positive plant responses from elevated carbon dioxide over time. Further, the effects of climate change on weeds, insect pests, and pathogens are recognized as key factors in determining plant damage in future decades. The Administrator also notes that scientific literature clearly supports the finding that drought frequency and severity are projected to increase in the future over much of the United States, which will likely reduce crop yields because of excesses or deficits of water. Vulnerability to extended drought, according to IPCC, has been documented as already increasing across North America. Further, based on review of the assessment literature, the Administrator considers multiple stresses, such as limited availability of water resources, loss of biodiversity, and air pollution, which are likely to increase sensitivity and reduce resilience in the agricultural sector to climate change over time.

Similar to food production and agriculture, public commenters often noted that forest productivity is projected to increase in the coming years due to the direct stimulatory effect of carbon dioxide on plant growth combined with warmer temperatures and thus extended growing seasons. The Administrator notes this phenomenon has been well documented by numerous studies but recognizes that increased productivity will be associated with significant variation at local and regional scales. The Administrator considers that climate strongly influences forest productivity and composition, and the frequency and magnitude of disturbances that impact forests. Based on the most recent IPCC assessment of the scientific literature, several recent studies confirm previous findings that temperature and precipitation changes in future decades will modify, and often limit, direct carbon dioxide effects on plants. For example, increased temperatures may reduce carbon dioxide effects indirectly, by increasing water demand. The Administrator also considers that new research more firmly establishes the negative impacts of increased climate variability. Projected changes in the frequency and severity of extreme climate events have significant consequences for forestry production and amplify existing stresses to land resources in the future.

Several public commenters maintain that wildfires are primarily the result of natural climatic factors and not climate change and dispute that they are or will increase in the future. The Administrator notes the scientific literature and assessment reports provide several lines of evidence that suggest wildfires will likely increase in frequency over the next several decades because of climate warming. Wildfires and droughts, among other extreme events (*e.g.*, hurricanes) that cause forest damage, pose the largest threats over time to forest ecosystems. The assessment literature suggests that large, stand-replacing wildfires will likely increase in frequency over the next several decades because of climate warming and general climate warming encourages wildfires by extending the summer period that dries fuels, promoting easier ignition and faster spread. Furthermore, current climate modeling studies suggest that increased temperatures and longer growing seasons will elevate wildfire risk in connection with increased aridity.

V. The Administrator's Finding That Emissions of Greenhouse Gases From CAA Section 202(a) Sources Cause or Contribute to the Endangerment of Public Health and Welfare

As discussed in Section IV.A of these Findings, the Administrator is defining the air pollution for purposes of the endangerment finding to be the elevated concentration of well-mixed greenhouse gases in the atmosphere. The second step of the two-part endangerment test is for the Administrator to determine whether the emission of any air pollutant emitted from new motor vehicles cause or contribute to this air pollution. This is referred to as the cause or contribute finding, and is the second finding by the Administrator in this action.

Section V.A of these Findings describes the Administrator's definition and scope of the air pollutant "well-mixed greenhouse gases." Section V.B of these Findings puts forth the Administrator's finding that emissions of well-mixed greenhouse gases from new motor vehicles contribute to the air pollution which is reasonably anticipated to endanger public health and welfare. Section V.C of these Findings provides responses to some of the key comments on these issues. See Response to Comments document Volume 10 for responses to other significant comments on the cause or contribute finding. More detailed emissions data summarized in the discussion below can be found in Appendix B of the TSD.

A. The Administrator's Definition of the "Air Pollutant"

As discussed in the Proposed Findings, to help appreciate the distinction between air pollution and air pollutant, the *air pollution* can be thought of as the total, cumulative stock in the atmosphere, while the *air pollutant*, can be thought of as the flow that changes the size of the total stock. Given this relationship, it is not surprising that the Administrator is defining the air pollutant similar to the air pollution; while the air pollution is the concentration (*e.g.*, stock) of the well-mixed greenhouse gases in the atmosphere, the air pollutant is the same combined grouping of the well-mixed greenhouse gases, the emissions of which are analyzed for contribution (*e.g.*, the flow into the stock).

Thus, the Administrator is defining the air pollutant as the aggregate group of the same six long-lived and directly-emitted greenhouse gases: Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, ***66537** and sulfur hexafluoride. As noted above, this definition of a single air pollutant made up of these well-mixed greenhouse gases is similar to definitions of other air pollutants that are comprised of substances that share common attributes with similar effects on public health or welfare (*e.g.*, particulate matter and volatile organic compounds).

The common attributes shared by these six greenhouse gases are discussed in detail in Section IV.A of these Findings, where the Administrator defined the "air pollution" for purposes of the endangerment finding. These same common attributes support the Administrator grouping these six greenhouse gases for purposes of defining a single air pollutant as well. These attributes include the fact that they are all greenhouse gases that are directly emitted (*i.e.*, they are not formed through secondary processes in the atmosphere from precursor emissions); they are sufficiently long-lived in the atmosphere such that, once emitted, concentrations of each gas become well mixed throughout the entire global atmosphere; and they exert a climate warming effect by trapping outgoing, infrared heat that would otherwise escape to space. Moreover, the radiative forcing effect of these six greenhouse gases is well understood.

Furthermore, these six greenhouse gases are currently the common focus of climate science and policy. For example, the UNFCCC, signed and ratified by the U.S. in 1992, requires its signatories to "develop, periodically update, publish and make available * * * national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol[33], using comparable methodologies * * * "[34] To date, the focus of UNFCCC actions and discussions has been on the six greenhouse gases that are the same focus of these findings. As a Party to the UNFCCC, EPA annually submits the *Inventory of U.S. Greenhouse Gas Emissions and Sinks* to the Convention, which reports on national emissions of anthropogenic emissions of the well-mixed greenhouse gases. International discussions about a post-Kyoto agreement also focus on the well-mixed greenhouse gases.

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[33] The Montreal Protocol covers ozone-depleting substances which may also share physical attributes of the six key greenhouse gases in this action, but they do not share other attributes such as being the focus of climate science and policy. See section * * *.

[34] UNFCCC Art. 4.1(b).

As noted above, grouping of many substances with common attributes as a single pollutant is common practice under the CAA. Thus, doing so here is not novel. Indeed CAA section 302(g) defines air pollutant as "any air pollutant agent or *combination of such agents*, * * * " CAA § 302(g) (emphasis added). Thus, it is clear that the term "air pollutant" is not limited to individual chemical compounds. In determining that greenhouse gases are within the scope of this definition, the Supreme Court described section 302(g) as a "sweeping" and "capacious" definition that unambiguously included greenhouse gases, that are "unquestionably 'agents' of air pollution." *Massachusetts* v. *EPA*, 549 U.S. at 528, 532, 529 n.26. Although the Court did not interpret the term "combination of" air pollution agents, there is no reason this phrase would be interpreted any less broadly. Congress used the term "any", and did not qualify the kind of combinations that the agency could define as a single air pollutant. Congress provided EPA broad discretion to determine appropriate combinations of compounds that should be treated as a singe air pollutant.[35]

For the same reasons discussed in Section IV.A above, at this time, only carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride share all of these common attributes and thus they are the only substances that the Administrator finds to meet the definition of "well-mixed greenhouse gas" at this time.[36] Also as noted above, if in the future other substances are shown to meet the same criteria they may be added to the definition of this single air pollutant.

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[35] Indeed, the greenhouse gases hydrofluorocarbons and perfluorocarbons each are already a combination of multiple compounds.

The Administrator is aware that CAA section 202(a) source categories do not emit all of the substances meeting the definition of well-mixed greenhouse gases. But that does not change the fact that all of these greenhouse gases share the attributes that make grouping them as a single air pollutant reasonable. As discussed further below, the reasonableness of this grouping does not turn on the particular source category being evaluated in a contribution finding.

B. The Administrator's Finding Regarding Whether Emissions of the Air Pollutant From Section 202(a) Source Categories Cause or Contribute to the Air Pollution That May Be Reasonably Anticipated To Endanger Public Health and Welfare

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[36] The term "well-mixed greenhouse gases" is based on one of the shared attributes discussed above-these greenhouse gases are sufficiently long-lived in the atmosphere such that, once emitted, concentrations of each gas become well mixed throughout the entire global atmosphere. Defining the air pollutant to be the combination of these six well-mixed greenhouse gases is based in part on this attribute-after the gases are emitted, they are sufficiently long-lived in the atmosphere to become well mixed as part of the air pollution.

The Administrator finds that emissions of the well-mixed greenhouse gases from new motor vehicles contribute to the air pollution that may reasonably be anticipated to endanger public health and welfare. This contribution finding is for all of the CAA section 202(a) source categories and the Administrator considered emissions from all of these source categories. The relevant mobile sources under CAA section 202 (a)(1) are "any class or classes of new motor vehicles or new motor vehicle engines, * * *." CAA section 202(a)(1) (emphasis added). The new motor vehicles and new motor vehicle engines (hereinafter "CAA section 202(a) source categories") addressed are: Passenger cars, light-duty trucks, motorcycles, buses, and medium and heavy-duty trucks. Detailed combined greenhouse gas emissions data for CAA section 202(a) source categories are presented in Appendix B of the TSD.[37]

The Administrator reached her decision after reviewing emissions data on the contribution of CAA section 202(a) source categories relative to both global greenhouse gas emissions and U.S. greenhouse gas emissions. Given that CAA section 202(a) source categories are responsible for about 4 percent of total global greenhouse gas emissions, and for just over 23 percent of total U.S. greenhouse gas emissions, the Administrator finds that both of these comparisons, independently and together, support a finding that

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[37] For section 202(a) source categories, only the hydrofluorocarbon emissions related to passenger compartment cooling are included. Emissions from refrigeration units that may be attached to trucks are considered emis sions from nonroad engines under CAA section 213.

CAA section 202(a) source categories contribute to the air pollution that may be reasonably anticipated to endanger public health and welfare. The Administrator is not placing primary weight on either approach; rather she finds that both approaches clearly establish that emissions of the well-mixed greenhouse gases from section 202(a) source categories contribute to air pollution with may reasonably be anticipated to endanger public health and welfare. As the Supreme Court noted, "[j]udged by any standard, U.S. ***66538** motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations and hence, * * * to global warming." *Massachusetts* v. *EPA*, 549 U.S. at 525.[38]

1. Administrator's Approach in Making This Finding

Section 202(a) of the CAA source categories consist of passenger cars, light-duty trucks, motorcycles, buses, and heavy- and medium-duty trucks. As noted in the Proposed Findings, in the past the requisite contribution findings have been proposed concurrently with proposing emission standards for the relevant mobile source category. Thus, prior contribution findings often focused on a subset of the CAA section 202(a) (or other section) source categories. This final cause or contribute finding, however, is for all of the CAA section 202(a) source categories. The Administrator is considering emissions from all of these source categories in the determination.

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[38] Because the Administrator is defining the air pollutant as the combination of well-mixed greenhouse gases, she is not issuing a final contribution finding based on the alternative definition discussed in the proposed findings (*e.g.*, each greenhouse gas as an individual air pollutant).

Section 202(a) source categories emit the following well-mixed greenhouse gases: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. As the basis for the Administrator's determination, EPA analyzed historical data of emissions of the well-mixed greenhouse gases for motor vehicles and motor vehicle engines in the United States from 1990 to 2007.

The Proposed Findings discussed a number of possible ways of assessing cause or contribute and the point was made that no single approach is required by the statute or has been used exclusively in previous determinations under the CAA. The Administrator also discussed how, consistent with prior cause or contribute findings and the science, she is using emissions as a proxy for contributions to atmospheric concentrations. This approach is reasonable for the well-mixed greenhouse gases, because cumulative emissions are responsible for the cumulative change in the concentrations in the atmosphere. Similarly, annual emissions are a perfectly reasonable proxy for annual incremental changes in atmospheric concentrations.

In making a judgment about the contribution of emissions from CAA section 202(a) source categories, the Administrator focused on making a reasoned overall comparison of emissions from the CAA section 202(a) source categories to emissions from other sources of greenhouse gases. This allows a determination of how the CAA section 202(a) source categories compare to all of the other sources that together as a group make up the total emissions contributors to the air pollution problem. The relative importance of the CAA section 202(a) source categories is central to making the contribution determination. Both the magnitude of these emissions and the comparison of these emissions to other sources provide the basis to determine whether the CAA section 202(a) source categories may reasonably be judged as contributing to the air pollution problem.

In many cases EPA makes this kind of comparison of source categories by a simple percentage calculation that compares the emissions from the source category at issue to a larger total group of emissions. Depending on the circumstances, a larger percentage often means a greater relative impact from that source category compared to the other sources that make up the total of emissions, and vice versa. However, the actual numerical percentages may have little meaning when viewed in isolation. The context of the comparison is needed to ensure the information is useful in evaluating the relative impact of one source compared to others. For example, the number of sources involved and the distribution of emissions across all of the sources can make a significant difference when evaluating the results of a percentage calculation. In some cases a certain percentage might mean almost all other sources are larger or much larger than the source at issue, while in other circumstances the same percentage could mean that the source at issue is in fact one of the larger contributors to the total.

The Administrator therefore considered the totality of the circumstances in order to best understand the role played by CAA section 202(a) source categories.

This is consistent with Congress' intention for EPA to consider the cumulative impact of all sources of pollution. In that context, the global nature of the air pollution problem and the breadth of countries and sources emitting greenhouse gases means that no single country and no single source category dominate or are even close to dominating on a global scale. For example, the United States as a country is the second largest emitter of greenhouse gases, and emits approximately 18 percent of the world's total greenhouse gases. The total emissions of greenhouse gases worldwide are from numerous sources and countries, with each country and each source category contributing a relatively small percentage of the total emissions. That means that the relative ranking of countries or sources is not at all obvious from the magnitude of the percentage by itself. A country or a source may be a large contributor, in comparison to other countries or sources, even though its percentage contribution may appear relatively small.

In this situation, addressing a global air pollution problem may call for many different sources and countries to address emissions even if none by itself dominates or comes close to dominating the global inventory. A somewhat analogous situation can be found in the ozone air pollution problem in the United States. Emissions of NOx and volatile organic compounds (VOCs) often come from numerous small sources, as well as certain large source categories. We have learned that successful ozone control strategies often need to take this into account, and address both the larger sources of NOx and VOCs as well as the many smaller sources, given the breadth of sources that as a group lead to the total inventory of VOCs and NOx.

The global aspects of the greenhouse gas air pollution problem amplify this kind of situation many times over, where no single country or source category dominates or comes close to dominating the global inventory of greenhouse gas emissions. These unique, global aspects of the climate change problem tend to support consideration of contribution at lower percentage levels of emissions than might otherwise be considered appropriate when addressing a more typical local or regional air pollution problem. In this situation it is quite reasonable to consider emissions from source categories that are more important in relation to other sources, even if their absolute contribution initially may appear to be small.

In addition, the Administrator is aware of the fact that the United States is the second largest emitter of well-mixed greenhouse gases in the world. As the United States evaluates how to address climate change, the Administrator will analyze the various sources of emissions and the source's share of U.S. emissions. Thus, when analyzing whether a source category that emits well-mixed greenhouse gases in the United States contributes to the global problem, it is appropriate for the Administrator to consider how that source category fits into the larger picture of U.S. emissions. This ranking process within the United States allows the importance of the source category to ***66539** be seen compared to other U.S. sources, informing the judgment of the importance of emissions from this source category in any overall national strategy to address greenhouse gas emissions.

It is in this broader context that EPA considered the contribution of CAA section 202(a) sources. This provides useful information in determining the importance that should be attached to the emissions from the CAA section 202(a) sources.

In reaching her determination, the Administrator used two simple and straightforward comparisons to assess cause or contribute for CAA section 202(a) source categories: (1) As a share of total current global aggregate emissions of the well-mixed greenhouse gases; and (2) as a share of total current U.S. aggregate emissions of the well-mixed greenhouse gases.

Total well-mixed greenhouse gas emissions from CAA section 202(a) source categories were compared to total global emissions of the well-mixed greenhouse gases. The total air pollution problem, as already discussed, is the elevated and climbing levels of the six greenhouse gas concentrations in the atmosphere, which are global in nature because these concentrations are globally well mixed (whether they are emitted from CAA section 202(a) source categories or any other source within or outside the United States). In addition, comparisons were also made to U.S. total well-mixed greenhouse gases emissions to appreciate how CAA section 202(a) source categories fit into the larger U.S. contribution to the global problem. It is typical for the Administrator to consider these kinds of comparisons of emissions of a pollutant in evaluating contribution to air pollution, such as the concentrations of that same pollutant in the atmosphere (*e.g.*, the Administrator analyzes $PM_{2.5}$ emissions to determine if a source category contributes to $PM_{2.5}$ air pollution). When viewed in the circumstances discussed above, both of these comparisons provide useful information in determining whether these source categories should be judged as contributing to the total air pollution problem.

a. Section 202(a) of the CAA-Share of Global Aggregate Emissions of the Well-Mixed Greenhouse Gases

Global emissions of well-mixed greenhouse gases have been increasing, and are projected to continue increasing unless the major emitters take action to reduce emissions. Total global emissions of well-mixed greenhouse gases in 2005 (the most recent year for which data for all countries and all greenhouse gases are available)[39] were 38,726 teragrams of CO_2-equivlant (TgCO_2 eq.)[40] This represents an increase in global greenhouse gas emissions of about 26 percent since 1990 (excluding land use, land use change and forestry). In 2005, total U.S. emissions of well-mixed greenhouse gases were responsible for 18 percent of global emissions, ranking only behind China, which was responsible for 19 percent of global emissions of well-mixed greenhouse gases.

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[39] The source of global greenhouse gas emissions data, against which comparisons are made, is the Climate Analysis Indicators Tool of the World Resources Institute (WRI) (2007). Note that for global comparisons, all emissions are from the year 2005, the most recent year for which data for all greenhouse gas emissions and all countries are available. WRI (2007) Climate Analysis Indicators Tool (CAIT). Available at *http://cait.wri.org*. Accessed August 5, 2009.

[40] One teragram (Tg) = 1 million metric tons. 1 metric ton = 1,000 kg = 1.102 short tons = 2,205 lbs. Long-lived greenhouse gases are compared and summed together on a CO-T22 equivalent basis by multiplying each gas by its Global Warming Potential (GWPs), as estimated by IPCC. In accordance with UNFCCC reporting procedures, the U.S. quantifies greenhouse gas emissions using the 100-year time frame values for GWPs established in the IPCC Second Assessment Report.

In 2005 emissions of the well-mixed greenhouse gas pollutant from CAA section 202(a) source categories represented 4.3 percent of total global well-mixed greenhouse gas emissions and 28 percent of global transport well-mixed greenhouse gas emissions (Table 1 of these Findings). If CAA section 202(a) source categories' emissions of well-mixed greenhouse gas were ranked against total well-mixed greenhouse gas emissions for entire countries, CAA section 202(a) source category emissions would rank behind only China, the United States as a whole, Russia, and India, and would rank ahead of Japan, Brazil, Germany and every other country in the world. Indeed, countries with lower emissions than the CAA section 202(a) source categories are members of the 17 "major economies" "that meet to advance the exploration of concrete initiatives and joint ventures that increase the supply of clean energy while cutting greenhouse gas emissions." *See http://www.state.gov/g/oes/climate/mem/.* It would be anomalous, to say the least, to consider Japan and these other countries as major players in the global climate change community and an integral part of the solution, but not find that CAA section 202(a) source category emissions contribute to the global problem. Thus, the Administrator finds that emission of well-mixed greenhouse gases from CAA section 202(a) source categories contribute to the air pollution of well-mixed greenhouse gases.

Table 1-Comparison to Global Greenhouse Gas (GHG) Emissions (Tg CO_{2e})		
	2005	Sec 202(a) share
		(percent)
All U.S. GHG emissions	7,109	23.5
Global transport GHG emissions	5,968	28.0
All global GHG emissions	38,726	4.3

b. Section 202(a) of the CAA-Share of U.S. Aggregate Emissions of the Well-Mixed Greenhouse Gases

The Administrator considered compared total emissions of the well-mixed greenhouse gases from CAA section 202(a) source categories to total U.S. emissions of the well-mixed greenhouse gases as an indication of the role these sources play in the total U.S. contribution to the air pollution problem causing climate change.[41]

In 2007, U.S. well-mixed greenhouse gas emissions were 7,150 TgCO_2 eq. The dominant gas emitted was carbon dioxide, mostly from fossil fuel combustion. Methane was the second largest well-mixed greenhouse gas, followed by N_2 O, and the fluorinated gases (HFCs, PFCs, and SF_6). Electricity generation was the largest emitting sector (2,445 TgCO_2 eq or 34 percent of ***66540** total U.S. greenhouse gas emissions), followed by transportation (1,995 $TgCO_2eq$ or 28 percent) and industry (1,386 $TgCO_2eq$ or 19 percent). Emissions from the CAA section 202(a) source categories constitute the major part of the transportation sector. Land use, land use change, and forestry offset almost 15 percent of total U.S. emissions through net sequestration. Total U.S. well-mixed greenhouse gas emissions have increased by over 17 percent between 1990 and 2007. The electricity generation and transportation sectors have contributed the most to this increase.

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[41] Greenhouse gas emissions data for the United States in this section have been updated since the Proposed Findings to reflect EPA's most up-to-date information, which includes data for the year 2007. The source of the U.S. greenhouse gas emissions data is the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*, published in 2009 (hereinafter "U.S. Inventory").

In 2007 emissions of well-mixed greenhouse gases from CAA section 202(a) source categories collectively were the second largest emitter of well-mixed greenhouse gases within the United States (behind the electricity generating sector), emitting 1,663 $TgCO_2$ eq and representing 23 percent of total U.S. emissions of well-mixed greenhouse gases (Table 2 of these Findings). The Administrator is keenly aware that the United States is the second largest emitter of well-mixed greenhouse gases. Part of analyzing whether a sector within the United States contributes to the global problem is to see how those emissions fit into the contribution from the United States as a whole. This informs her judgment as to the importance of emissions from this source category in any overall national strategy to address greenhouse gas emissions. Thus, it is relevant that CAA section 202(a) source categories are the second largest emitter of well-mixed greenhouse gases in the country. This is part of the Administrator looking at the totality of the circumstances. Based on this the Administrator finds that emission of well-mixed greenhouse gases from CAA section 202(a) source categories contribute to the air pollution of well-mixed greenhouse gases.

Table 2-Sectoral Comparison to Total U.S. Greenhouse Gas (GHG) Emissions (Tg $CO_{2}e$)

U.S. emissions	1990	1995	2000	2005	2006	2007
Section 202(a) GHG emissions	1231.9	1364.4	1568.1	1670.5	1665.7	1663.1
Share of U.S. (%)	20.2%	21.1%	22.4%	23.5%	23.6%	23.3%
Electricity Sector emissions	1859.1	1989.0	2329.3	2429.4	2375.5	2445.1
Share of U.S. (%)	30.5%	30.8%	33.2%	34.2%	33.7%	34.2%
Industrial Sector emissions	1496.0	1524.5	1467.5	1364.9	1388.4	1386.3
Share of U.S. (%)	24.5%	23.6%	20.9%	19.2%	19.7%	19.4%
Total U.S. GHG emissions	6098.7	6463.3	7008.2	7108.6	7061.1	7150.1

C. Response to Key Comments on the Administrator's Cause or Contribute Finding

EPA received numerous public comments regarding the Administrator's proposed cause or contribute finding. Below is a brief discussion of some of the key comments. Responses to comments on this issue are also contained in the Response to Comments document, Volume 10.

1. The Administrator Reasonably Defined the "Air Pollutant" for the Cause or Contribute Analysis

a. The Supreme Court Held that Greenhouse Gases Fit Within the Definition of "Air Pollutant" in the CAA

Several commenters reiterate arguments already rejected by the Supreme Court, arguing that greenhouse gases do not fit into the definition of "air pollutant" under the CAA. In particular, at least one commenter contends that EPA must show how greenhouse gases impact or materially change "ambient air" when defining air pollutant and making the endangerment finding. This commenter argues that because carbon dioxide is a naturally occurring and necessary element in the atmosphere, it cannot be considered to materially change air.

These and similar arguments were already rejected by the Supreme Court in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007). Briefs before the Supreme Court also argued that carbon dioxide is an essential role for life on earth and therefore cannot be considered an air pollutant, and that the concentrations of greenhouse gases that are a potential problem are not in the "ambient air" that people breathe.

The Court rejected all of these and other arguments, noting that the statutory text forecloses these arguments. "The Clean Air Act's sweeping definition of 'air pollutant' includes '*any* air pollution agent or combination of such agents, including *any* physical, chemical * * * substance or matter which is emitted into or otherwise enters the ambient air . * * *' § 7602(g) (emphasis added). On its face, the definition embraces all airborne compounds of whatever stripe, and underscores that intent through the repeated use of the word 'any.' Carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are without a doubt 'physical [and] chemical * * * substance[s] which [are] emitted into * * * the ambient air.' The statute is unambiguous."

547 U.S. at 529-30 (footnotes omitted); see also *id.* at 530, n26 (the distinction regarding ambient air, however, finds no support in the text of the statute, which uses the phrase "the ambient air" without distinguishing between atmospheric layer.). Thus, the question of whether greenhouse gases fit within the definition of air pollutant under the CAA has been decided by the Supreme Court and is not being revisited here.

b. The Definition of Air Pollutant May Include Substances Not Emitted by CAA Section 202(a) Sources

Many commenters argue that the definition of "air pollutant"-here well-mixed greenhouse gases-cannot include PFCs and SF6 because they are not emitted by CAA section 202(a) motor vehicles and hence, cannot be part of any "air pollutant" emitted by such sources. They argue that by improperly defining "air pollutant" to include substances that are not present in motor vehicle emissions, the Agency has exceeded its statutory authority under CAA section 202(a). Commenters contend that past endangerment findings under CAA section 202(a) demonstrate EPA's consistent approach of defining "air pollutant(s)" in accordance with the CAA's clear direction, to include only those pollutants emitted from the relevant source category (citing Notice of Proposed Rulemaking for Heavy-Duty Engine and Vehicle Standards finding that "emissions of NO_X, VOCs, SO_X, and PM from heavy-duty trucks can reasonably be anticipated to endanger the public health or welfare." (65 FR 35436, June 2, 2000). Commenters argue that EPA itself is inconsistent in the Proposed Findings, sometimes referring ***66541** to "air pollutant" as the group of six greenhouse gases, and other times falling back on the four greenhouse gases emitted by motor vehicles.

EPA acknowledges that the Proposed Findings could have been clearer regarding the proposed definition of air pollutant, and how it was being applied to CAA section 202(a) sources, which emit only four of the six substances that meet the definition of well-mixed greenhouse gases. However, our interpretation does not exceed EPA's authority under CAA section 202(a). It is reasonable to define the air pollutant under CAA section 202(a) to include substances that have similar attributes (as discussed above), even if not all of the substances that meet that definition are emitted by motor vehicles. For example, as commenters note, EPA has heavy duty truck standards applicable to VOCs and PM, but it is highly unlikely that heavy duty trucks emit *every* substance that is included in the group defined as VOC or PM. *See* 40 CFR 51.100(s) (defining volatile organic compound (VOC) as "any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions", a list of exemptions are also included in the definition); 40 CFR 51.100(oo) (defining particulate matter (PM) as "any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers").

In this circumstance the number of substances included in the definition of well-mixed greenhouse gases is much smaller than other "group" air pollutants (*e.g.*, six greenhouse gases versus hundreds of

VOCs), and CAA section 202(a) sources emit an easily discernible number of these six substances. However, this does not mean that the definition of the well-mixed greenhouse gases as the air pollutant is unreasonable. By defining well-mixed greenhouse gases as a single air pollutant comprised of six substances with common attributes, the Administrator is giving effect to these shared attributes and how they are relevant to the air pollution to which they contribute. The fact that these six substances share these common, relevant attributes is true regardless of the source category being evaluated for contribution. Grouping these six substances as one air pollutant is reasonable regardless of whether a contribution analysis is undertaken for CAA section 202(a) sources that emit one subset of the six substances (*e.g.*, carbon dioxide, CH_4, N_20 and HFCs, but not PFCs and SF_6), or for another category of sources that may emit another subset. For example, electronics manufacturers that may emit N_2O, PFCs, HFCs, SF_6 and other fluorinated compounds, but not carbon dioxide or CH_4 unless there is on-site fuel combustion. In other words, it is not necessarily the source category being evaluated for contribution that determines the reasonableness of defining a group air pollutant based on the shared attributes of the group.

Even if EPA agreed with commenters, and defined the air pollutant as the group of four compounds emitted by CAA section 202(a) sources, it would not change the result. The Administrator would make the same contribution finding as it would have no material effect on the emissions comparisons discussed above.

c. It Was Reasonable for the Administrator To Define the Single Air Pollutant as the Group of Substances With Common Attributes

Several commenters disagree with EPA's proposed definition of a single air pollutant composed of the six well-mixed greenhouse gases as a class. Commenters argue that the analogy to VOCs is misplaced because VOCs are all part of a defined group of chemicals, for which there are established quantification procedures, and for which there were extensive data showing that the group of compounds had demonstrated and quantifiable effects on ambient air and human health and welfare, and for which verifiable dispersion models existed. They contend this is in stark contrast to the entirely diverse set of organic and inorganic compounds EPA has lumped together for purposes of the Proposed Findings, and for which no model can accurately predict or quantify the actual impact or improvement resulting from controlling the compounds. Moreover, they argue that the gases EPA is proposing to list together as one pollutant are all generated by different processes and, if regulated, would require different types of controls; the four gases emitted by mobile sources can generally be limited only by using controls that are specific to each.

At least one commenter argues that EPA cannot combine greenhouse gases into one pollutant because their common attribute is not a "physical, chemical, biological or radioactive property" (quoting from CAA section 302(g)), but rather their effect or impacts on the environment. They say this differs from VOCs, which share the common attribute of volatility, or PM which shares the physical property of being particles.

As discussed above, the well-mixed greenhouse gases share physical attributes, as well as attributes based on sound policy considerations. The definition of "air pollutant" in CAA section 302(g) does not limit consideration of common attributes to those that are "physical, chemical, biological or radioactive property" as one commenter claims. Rather, the definition's use of the adjectives "physical, chemical, biological or radioactive" refer to the different types of substance or matter that is emitted. It is not a limitation on what characteristics the Administrator may consider when deciding how to group similar substances when defining a single air pollutant.

The common attributes that the Administrator considered when defining the well-mixed greenhouse gases are reasonable. While these six substances may originate from different processes, and require different control strategies, that does not detract from the fact that they are all long-lived, well-mixed in the atmosphere, directly emitted, of well-known radiative forcing, and generally grouped and considered together in climate change scientific and policy forums. Indeed, other group pollutants also originate from a variety of processes and a result may require different control technologies. For example, both a power plant and a dirt road can result in PM emissions, and the method to control such emissions at each source would be different. But these differences in origin or control do not undermine the reasonableness of considering PM as a single air pollutant. The fact that there are differences, as well as similarities, among the well-mixed greenhouse gases does not render the decision to group them together as one air pollutant unreasonable.

2. The Administrator's Cause or Contribute Analysis Was Reasonable

a. The Administrator Does Not Need To Find Significant Contribution, or Establish a Bright Line

Many commenters essentially argue that EPA must establish a bright line below which it would never find contribution regardless of the air pollutant, air pollution, and other factors before the Agency. For example, some commenters argue that EPA must provide some basis for determining de minimis amounts that fall below the threshold of "contributing" to the endangerment of public health and welfare under CAA section 202(a).*66542 Commenters take issue with EPA's statement that it "need not determine at this time the circumstances in which emissions would be trivial or de minimis and would not warrant a finding of contribution." Commenters argue that EPA cannot act arbitrarily by determining that a constituent contributing a certain percent to endangerment in one instance is de minimis and in another is contributing to endangerment of public health and welfare. They request that EPA revise the preamble language to make clear that the regulated community can rely on its past determinations with respect to "contribution" determinations to predict future agency action and argue that EPA should promulgate guidance on how it determines whether a contribution exceeds a de minimis level for purposes of CAA section 202(a) before finalizing the proposal.

The commenters that argue that the air pollution

EPA must analyze to determine endangerment is limited to the air pollution resulting from new motor vehicles also argue that as a result, the contribution of emissions from new motor vehicles must be significant. They essentially contend that the endangerment and cause or contribute tests are inter-related and the universe of both tests is the same. In support of their argument, commenters argue that because the clause "cause, or contribute to, air pollution" is in plural form, it must be referring back to "any class or classes of new motor vehicles or new motor vehicle engines," demonstrating that EPA must consider only the emissions from new motor vehicles which emit the air pollution which endangers.

Since the Administrator issued the Proposed Findings, the DC Circuit issued another opinion discussing the concept of contribution. See *Catawba County* v. *EPA*, 571 F.3d 20 (DC Cir. 2009). This decision, along with others, supports the Administrator's interpretation that the level of contribution under CAA section 202(a) does not need to be significant. The Administrator is not required to establish a bright line below which she would never find contribution under any circumstances. Finally, it is reasonable for the Administrator to apply a "totality-of-the-circumstances test to implement a statute that confers broad discretionary authority, even if the test lacks a definite 'threshold' or 'clear line of demarcation to define an open-ended term." *Id.* at 39 (citations omitted).

In upholding EPA's $PM_{2.5}$ attainment and nonattainment designation decisions, the DC Circuit analyzed CAA section 107(d), which requires EPA to designate an area as nonattainment if it "contributes to ambient air quality in a nearby area" not attaining the national ambient air quality standards. *Id.* at 35. The court noted that it had previously held that the term "contributes" is ambiguous in the context of CAA language. *See EDF* v. *EPA*, 82 F.3d 451, 459 (DC Cir. 1996). "[A]mbiguities in statutes within an agency's jurisdiction to administer are delegations of authority to the agency to fill the statutory gap in reasonable fashion." 571 F.3d at 35 (citing *Nat's Cable & Telecomms. Ass'c* v. *Brand X Internet Servs*, 545 U.S. 967, 980 (2005)).

The court then proceeded to consider and reject petitioners' argument that the verb "contributes" in CAA section 107(d) necessarily connotes a significant causal relationship. Specifically, the DC Circuit again noted that the term is ambiguous, leaving it to EPA to interpret in a reasonable manner. In the context of this discussion, the court noted that "a contribution may simply exacerbate a problem rather than cause it * * * " 571 F.3d at 39. This is consistent with the DC Circuit's decision in *Bluewater Network* v. *EPA*, 370 F.3d 1 (DC Cir. 2004), in which the court noted that the term contribute in CAA section 213(a)(3) "[s]tanding alone, * * * has no inherent connotation as to the magnitude or importance of the relevant 'share' in the effect; certainly it does not incorporate any 'significance' requirement." 370 F.3d at 13. The court found that the bare "contribute" language invests the Administrator with discretion to exercise judgment regarding what constitutes a sufficient contribution for the purpose of making an endangerment finding. *Id.* at 14.

Finally, in *Catawba County*, the DC Circuit also rejected "petitioners' argument that EPA violated the statute by failing to articulate a quantified amount of contribution that would trigger" the regulatory action. 571 F.3d at 39. Although petitioners preferred that EPA establish a bright-line test, the court recognized that the statute did not require that EPA "quantify a uniform amount of contribution." *Id.*

Given this context, it is entirely reasonable for the Administrator to interpret CAA section 202(a) to require some level of contribution that, while more than de minimis or trivial, does not rise to the level of significance. Moreover, the approach suggested by at least one commenter collapses the two prongs of the test by requiring that contribution must be significant because any climate change impacts upon which an endangerment determination is made result solely from the greenhouse gas emissions of motor vehicles. It essentially eliminates the "contribute" part of the "cause or contribute" portion of the test. This approach was clearly rejected by the en banc court in *Ethyl*. 541 F.2d at 29 (rejecting the argument that the emissions of the fuel additive to be regulated must "in and of itself, *i.e.* considered in isolation, endanger[ ] public health."); see also *Catawba County*, 571 F.3d at 39 (noting that even if the test required significant contribution it would be reasonable for EPA to find a county's addition of $PM_{2.5}$ is significant even though the problem would persist in its absence). It is the commenter, not EPA that is ignoring the statutory language. Whether or not the clause "cause, or contribute to, air pollution" refers back to "any class or classes of new motor vehicles or new motor vehicle engines," or to "emission of any air pollutant," the language of CAA section 202(a) clearly contemplates that emission of an air pollutant from any class or classes may merely contribute to, versus cause, the air pollution which endangers.

It is also reasonable for EPA to decline to establish a "bright-line 'objective' test of contribution." 571 F.3d at 39. As noted in the Proposed Findings, when exercising her judgment, the Administrator not only considers the cumulative impact, but also looks at the totality of the circumstances (*e.g.*, the air pollutant, the air pollution, the nature of the endangerment, the type of source category, the number of sources in the source category, and the number and type of other source categories that may emit the air pollutant) when determining whether the emissions justify regulation under the CAA. *Id.* (It is reasonable for an agency to adopt a totality-of-the-circumstances test).

Even if EPA agreed that a level of significance was required to find contribution, for the reasons discussed above, EPA would find that the contribution from CAA section 202(a) source categories is significant. Their emissions are larger than the great majority of emitting countries, larger than several major emitting countries, and they constitute one of the largest parts of the U.S. emissions inventory.

b. The Unique Global Aspects of Climate Change Are an Appropriate Consideration in the Contribution Analysis

Some commenters disagree with statements in the Proposed Findings that the "unique, global aspects of the climate change problem tend to support a finding that lower levels of emissions should be considered to contribute to the air pollution than might otherwise ***66543** be appropriate when considering contribution to a local or regional air pollution problem." They argue there is no basis in the CAA or existing EPA policy for this position, and that it reveals an apparent effort to expand EPA's authority to the "truly trivial or de minimis" sources that are acknowledged to be outside the scope of regulation, in that it expands EPA's authority to regulate pollutants to address global effects.

Commenters also assert that contrary to EPA's position, lower contribution numbers are appropriate when looking at local pollution, like nonattainment concerns-in other words, in the context of a statutory provision like CAA section 213 specifically aimed at targeting small source categories to help nonattainment areas meet air quality standards. However, they conclude this policy is simply inapplicable in the context of global climate change.

As discussed above, the term "contribute" is ambiguous and subject to the Administrator's reasonable interpretation. It is entirely appropriate for the Administrator to look at the totality of the circumstances when making a finding of contribution. In this case, the Administrator believes that the global nature of the problem justifies looking at contribution in a way that takes account of these circumstances. More specifically, because climate change is a global problem that results from global greenhouse gas emissions, there are more sources emitting greenhouse gases (in terms both of absolute numbers of sources and types of sources) than EPA typically encounters when analyzing contribution towards a more localized air pollution problem. From a percentage perspective, there are no dominating sources and fewer sources that would even be considered to be close to dominating. The global problem is much more the result of numerous and varied sources each of which emit what might seem to be smaller percentage amounts when compared to the total. The Administrator's approach recognizes this reality, and focuses on evaluating the relative importance of the CAA section 202(a) source categories compared to other sources when viewed in this context.

This recognition of the unique totality of the circumstances before the Administrator now as compared to previous contribution decisions is entirely appropriate. It is not an attempt by the Administrator to regulate "truly trivial or de minimis" sources, or to regulate sources based on their global effects. The Administrator is determining whether greenhouse gas emissions from CAA section 202(a) sources contribute to an air pollution problem is endangering U.S. public health and welfare. As discussed in the Proposed Findings, no single greenhouse gas source category dominates on the global scale, and many (if not all) individual greenhouse gas source categories could appear small in comparison to the total, when, in fact, they could be very important contributors in terms of both absolute emissions or in comparison to other source categories, globally or within the United States. If the United States and the rest of the world are to combat the risks associated with global climate change, contributors must do their part even if their contributions to the global problem, measured in terms of percentage, are smaller than typically encountered when tackling solely regional or local environmental issues. The commenters' approach, if used globally, would effectively lead to a tragedy of the commons, whereby no country or source category would be accountable for contributing to the global problem of climate change, and nobody would take action as the problem persists and worsens. The Administrator's approach, on the contrary, avoids this kind of approach, and is a reasonable exercise of her discretion to determine contribution in the global context in which this issue arises.

Importantly, as discussed above, the contribution from CAA section 202(a) sources is anything but trivial or de minimis under any interpretation of contribution. See, *Massachusetts* v. *EPA*, 549 U.S. at 1457-58 ("Judged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations and hence, * * * to global warming").

c. The Administrator Reasonably Relied on Comparisons of Emissions From Existing CAA Section 202(a) Source Categories

i. It Was Reasonable To Use Existing Emissions From Existing CAA Section 202(a) Source Categories Instead of Projecting Future Emissions From New CAA Section 202(a) Source Categories

Many commenters argue that EPA improperly evaluated the emissions from the entire motor vehicle fleet, and it is required to limit its calculation to just emissions from new motor vehicles. Thus the emissions that EPA should consider in the cause or contribute determination is far less than the 4.3 percent of U.S. greenhouse gas emissions attributed to motor vehicles in the Proposed Findings, because this number includes both new and existing motor vehicles. One commenter calculated the emissions from new motor vehicles as being 1.8 percent of global emissions, assuming approximately one year of new motor vehicle production in the United States (11 million vehicles) in a total global count currently of approximately 600 million motor vehicles.

In the Proposed Findings, EPA determined the emissions from the entire fleet of motor vehicles in the United States for a certain calendar year. EPA explained that, consistent with its traditional practice, it used the recent motor vehicle emissions inventory for the entire fleet as a surrogate for estimates of emissions for just new motor vehicles and engines. This was appropriate because future projected emissions are uncertain and current emissions data are a reasonable proxy for near-term emissions.

In effect, EPA is using the inventory for the current fleet of motor vehicles as a reasonable surrogate for a projection of the inventory from new motor vehicles over the upcoming years. New motor vehicles are produced year in and year out, and over time the fleet changes over to a fleet composed of such vehicles. This occurs in a relatively short time frame, compared to the time period at issue for endangerment. Because new motor vehicles are produced each year, and continue to emit over their entire life, over a relatively short period of time the emission from the entire fleet is from vehicles produced after a certain date. In addition, the emissions from new motor vehicles are not limited to the emissions that occur only during the one year when they are new, but are emissions over the entire life of the vehicle.

In such cases, EPA has traditionally used the recent emissions from the entire current fleet of motor vehicles as a reasonable surrogate for such a projection instead of trying to project and model those emissions. While this introduces some limited degree of uncertainty, the difference between recent actual emissions from the fleet and projected future emissions from the fleet is not expected to differ in any way that would substantively change the decision made concerning cause or contribution. There is not a specific numerical bright line that must be achieved, and the numerical percentages are not treated and do not need to be treated as precise values. This approach provides a reasonable and clear indication of the relative magnitudes involved, and EPA does not believe that attempting to make future ***66544** projections (for both vehicles and the emissions value they are compared to) would provide any greater degree of accuracy or precision in developing such a relative comparison.

ii. The Administrator Did Not Have To Use a Subset or Reduced Emissions Estimate From Existing CAA Section 202(a) Source Categories

Several commenters note that although EPA looks at emissions from all motor vehicles regulated under CAA section 202(a) in its contribution analysis, the Presidential announcement in May 2009 indicated that EPA was planning to regulate only a subset of 202(a) sources. Thus, they question whether the correct contribution analysis should look only at the emissions from that subset and not all CAA section 202(a) sources. Some commenters also argue that because emission standards will not eliminate all greenhouse gas emissions from motor vehicles, the comparison should compare the amount of greenhouse gas emissions "reduced" by those standards to the global greenhouse emissions. They also contend that the cost of the new standards will cause individual consumers, businesses, and other vehicle purchasers to hold on to their existing vehicles to a greater extent, thereby decreasing the amount of emissions reductions attributable to the standard and appropriately considered in the contribution analysis. Some commenters go further and contend that EPA also can only include that incremental reduction that the EPA regulations will achieve beyond any reductions resulting from CAFE standards that NHTSA will set.

Although the May announcement and September proposed rule involved only the light duty motor vehicle sector, the Administrator is making this finding for all classes of new motor vehicles under CAA section 202(a). Thus, although the announcement and proposed rule involve light duty vehicles, EPA is working to develop standards for the rest of the classes of new motor vehicles under CAA section 202(a). As the Supreme Court noted, EPA has "significant latitude as to the manner, timing, content, and coordination of its regulations with those of other agencies. *Massachusetts* v. *EPA*, 549 U.S. at 533.

The argument that the Administrator can only look at that portion of emissions that will be reduced by any CAA section 202(a) standards, and even then only the reduction beyond those attributable to CAFE rules, finds no basis in the statutory language. The language in CAA section 202(a) requires that the Administrator set "standards applicable to the emission of any air pollutant from [new motor vehicles], which in [her] judgment cause, or contribute to, air pollution which [endangers]." It does not say set "standards applicable to the emission of any air pollutant from [new motor vehicles], if in [her] judgment the emissions of that air pollutant as reduced by that standard cause, or contribute to, air pollution which [endangers]." As discussed above, the decisions on cause or contribute and endangerment are separate and distinct from the decisions on what emissions standards to set under CAA section 202(a). The commenter's approach would improperly integrate these separate decisions. Indeed, because, as discussed above, the Administrator does not have to propose standards concurrent with the endangerment and cause or contribute findings, she would have to be prescient to know at the time of the contribution finding exactly the amount of the reduction that would be achieved by the standards to be set. As discussed above, for purposes of these findings we look at what would be the emissions from new motor vehicles if no action were taken. Current emissions from the existing CAA section 202(a) vehicle fleet are an appropriate estimate.

d. The Administrator Reasonably Compared CAA Section 202(a) Source Emissions to Both Global and Domestic Emissions of Well-Mixed Greenhouse Gases

EPA received many comments on the appropriate comparison(s) for the contribution analysis. Several commenters argue that in order to get around the "problem" of basing an endangerment finding upon a source category that contributes only 1.8 percent annually to global greenhouse gas emissions, EPA inappropriately also made comparisons to total U.S. greenhouse gas emissions. These commenters argue that a comparison of CAA section 202(a) source emissions to U.S. greenhouse gas emissions, versus global emissions, is arbitrary for purposes of the cause or contribute analysis, because it conflicts with the Administrator's definition of "air pollution," as well as the nature of global warming. They note that throughout the Proposed Findings, the Administrator focuses on the global nature of greenhouse gas. Thus, they continue, while the percentage share of motor vehicle emissions at the U.S. level may be relevant for some purposes, it is irrelevant to a finding of whether these emissions contribute to the air pollution, which the Administrator has proposed to define on a global rather than a domestic basis. Commenters also accuse EPA of arbitrarily picking and choosing when it takes a global approach (*e.g.*, endangerment finding) and when it does not (*e.g.*, contribution findings).

The language of CAA section 202(a) is silent regarding how the Administrator is to make her contribution analysis. While it requires that the Administrator assess whether emission of an air pollutant contributes to air pollution which endangers, it does not limit *how* she may undertake that assessment. It surely is reasonable that the Administrator look at how CAA section 202(a) source category emissions compare to global emissions on an absolute basis, by themselves. But the United States as a nation is the second largest emitter of greenhouse gases. It is entirely appropriate for the Administrator to decide that part of understanding how a U.S. source category emitting greenhouse gases fits into the bigger picture of global climate change is to appreciate how that source category fits into the contribution from the United States as a whole, where the United States as a country is a major emitter of greenhouse gases. Knowing that CAA section 202(a) source categories are the second largest emitter of well-mixed greenhouse gases in the country is relevant to understanding what role they play in the global problem and hence whether they "contribute" to the global problem. Moreover, the Administrator is not "picking and choosing" when she applies a global or domestic approach in these Findings. Rather, she is looking at both of these emissions comparisons as appropriate under the applicable science, facts, and law.

e. The Amount of Well-Mixed Greenhouse Gas Emissions From CAA Section 202(a) Sources Reasonably Supports a Finding of Contribution

Many commenters argue that the "cause or contribute" prong of the Proposal's endangerment analysis fails to satisfy the applicable legal standard, which requires more than a minimal contribution to the "air pollution reasonably anticipated to endanger public health or welfare." They contend that emissions representing approximately four percent of total global greenhouse gas emissions are a minimal contribution to global greenhouse gas concentrations.

EPA disagrees. As stated above, CAA section 202(a) source category total emissions of well-mixed greenhouse gases are higher than most countries in the world; countries that the U.S. and others believe play a major role in the ***66545** global climate change problem. Moreover, the percent of global well-mixed greenhouse gas emissions that CAA section 202(a) source categories represent is higher than percentages that the EPA has found contribute to air pollution problems. *See Bluewater Network*, 370 F.3d at 15 ("For Fairbanks, this contribution was equivalent to 1.2 percent of the total daily CO inventory for 2001.") As noted above, there is no bright line for assessing contribution, but as discussed in the Proposed Findings and above, when looking at a global problem like climate change, with many sources of emissions and no dominating sources from a global perspective, it is reasonable to consider that lower percentages contribute than one may consider when looking at a local or regional problem involving fewer sources of emissions. The Administrator agrees that "[j]udged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations and hence, * * * to global warming." *Massachusetts* v. *EPA*, 549 U.S. at 525.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order (EO) 12866 (58 FR 51735, October 4, 1993), this action is a "significant regulatory action" because it raises novel policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under EO

12866 and any changes made in response to Office of Management and Budget (OMB) recommendations have been documented in the docket for this action.

B. Paperwork Reduction Act

This action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* Burden is defined at 5 CFR 1320.3(b). These Findings do not impose an information collection request on any person.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this action on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

Because these Findings do not impose any requirements, the Administrator certifies that this action will not have a significant economic impact on a substantial number of small entities. This action does not impose any requirements on small entities. The endangerment and cause or contribute findings do not in-and-of-themselves impose any new requirements but rather set forth the Administrator's determination on whether greenhouse gases in the atmosphere may reasonably be anticipated to endanger public health or welfare, and whether emissions of greenhouse gases from new motor vehicles and engines contribute to this air pollution. Accordingly, the action affords no opportunity for EPA to fashion for small entities less burdensome compliance or reporting requirements or timetables or exemptions from all or part of the Findings.

D. Unfunded Mandates Reform Act

This action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531-1538 for State, local, or tribal governments or the private sector. The action imposes no enforceable duty on any State, local or tribal governments or the private sector. Therefore, this action is not subject to the requirements of sections 202 or 205 of the UMRA.

This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This finding does not impose any requirements on industry or other entities.

E. Executive Order 13132: Federalism

This action does not have federalism implications. Because this action does not impose requirements on any entities, it will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. Thus, Executive Order 13132 does not apply to this action.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). This action does not have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, nor does it impose any enforceable duties on any Indian tribes. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets EO 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it does not establish an environmental standard intended to mitigate health or safety risks. Although the Administrator considered health and safety risks as part of these Findings, the Findings themselves do not impose a standard intended to mitigate those risks.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy because it does not impose any requirements.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law 104-113, 12(d) (15 U.S.C. at 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus ***66546** standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order (EO) 12898 (59 FR 7629, Feb. 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that these Findings will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment. Although the Administrator considered climate change risks to minority or low-income populations as part of these Findings, this action does not impose a standard intended to mitigate those risks and does not impose requirements on any entities.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States. This action is not a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective January 14, 2010.

Dated: December 7, 2009.

Lisa P. Jackson,

Administrator.

[FR Doc. E9-29537 Filed 12-14-09; 8:45 am]

BILLING CODE 6560-50-P

RULES and REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

CFR Chapter 1

[EPA-HQ-OAR-2009-0171; FRL-9184-8]

EPA's Denial of the Petitions To Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act

Friday, August 13, 2010

AGENCY: Environmental Protection Agency (EPA).

***49556 ACTION:** Notice, denial of petitions to reconsider.

SUMMARY: The Environmental Protection Agency (EPA) is denying the petitions to reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. The Findings were signed by the Administrator on December 7, 2009. EPA has carefully reviewed all of the petitions and revisited both the scientific record and the Administrator's decision process underlying the Findings in light of these petitions. EPA's analysis of the petitions reveals that the petitioners have provided inadequate and generally unscientific arguments and evidence that the underlying science supporting the Findings is flawed, misinterpreted or inappropriately applied by EPA. The petitioners' arguments fail to meet the criteria for reconsideration under the Clean Air Act. The science supporting the Administrator's finding

that elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and welfare of current and future U.S. generations is robust, voluminous, and compelling, and has been strongly affirmed by the recent science assessment of the U.S. National Academy of Sciences.

DATES: This denial is effective July 29, 2010.

ADDRESSES: EPA's docket for this action is Docket ID No. EPA-HQ-OAR-2009-0171: All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, *e.g.*, confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at EPA's Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Jeremy Martinich, Climate Change Division, Office of Atmospheric Programs (MC-6207J), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number:

(202) 343-9927; fax number: (202) 343-2202; e-mail address: *ghgendangerment@epa.gov*. For additional information regarding this Notice, please go to the Web site *http://www.epa.gov/climatechange/endangerment.html*.

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this Decision.

ACUS	Administrative Conference of the United States
ANPR	Advance Notice of Proposed Rulemaking
APA	Administrative Procedure Act
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CAIT	Climate Analysis Indicators Tool
CBI	confidential business information
CCSP	Climate Change Science Program
CFR	Code of Federal Regulations
CH_4	methane
CO_2	carbon dioxide
CRU	Climatic Research Unit
DOT	U.S. Department of Transportation
EISA	Energy Independence and Security Act
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
FOIA	Freedom of Information Act
FR	Federal Register
GHG	greenhouse gas
HadCRUT	Climatic Research Unit (CRU) temperature record

ICTA	International Center For Technology Assessment
IPCC	Intergovernmental Panel on Climate Change
MWP	Medieval Warm Period
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAS	National Academy of Sciences
NASA	National Aeronautics and Space Administration
NHTSA	National Highway Traffic Safety Administration
NOAA	National Oceanic and Atmospheric Administration
NOx	nitrogen oxide
NRC	National Research Council
NSPS	new source performance standards
PM	particulate matter
PSD	Prevention of Significant Deterioration
TSD	technical support document
U.S.	United States
UNFCCC	United Nations Framework Convention on Climate Change
USGCRP	S. Global Change Research Program
WMO	World Meteorological Organization

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I. Introduction

A. Summary

This is EPA's response denying the petitions to reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act ("Findings" or the "Endangerment Finding") (74 FR 66496, December 15, 2009). EPA has considered all 10 petitions, including the arguments presented therein and the supplemental information provided by the petitioners as supporting evidence of their claims. EPA has evaluated the merit of the petitioners' arguments in the context of the entire body of scientific and other evidence before the Agency. This response (hereafter "Denial" or "Decision") provides EPA's scientific and legal justification for denying these petitions. This Denial is accompanied by a 3-volume, roughly 360-page Response to Petitions (RTP) document (*http://www.epa.gov/climatechange/endangerment.html*), containing further responses and technical detail concerning every significant claim and assertion made by the petitioners. Section III of this Decision summarizes many of the responses provided in the RTP document.

After a comprehensive, careful review and analysis of the petitions, EPA has determined that the petitioners' arguments and evidence are inadequate, generally unscientific, and do not show that the underlying science supporting the Endangerment Finding is flawed, misinterpreted by EPA, or inappropriately applied by EPA. The science supporting the Administrator's finding that elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and welfare of current and future U.S. generations is robust, voluminous, and compelling. The most recent science assessment by the U.S. National Academy of Sciences strongly affirms this view. In addition, the approach and procedures used by EPA to evaluate the underlying science demonstrate that the Findings remain robust and appropriate.

Petitioners generally argue that recent revelations show that the science supporting EPA's Endangerment Finding was flawed or questionable, and that EPA should therefore reconsider the Endangerment Finding. The petitioners' arguments and claims are based largely on disclosed private communications among various scientists, a limited number of errors and claimed errors in the 2007 Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4),[1] and submissions of a limited number of additional studies not previously considered as part of the scientific record of the Endangerment Finding.

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[1] IPCC (2007). Fourth Assessment Report: Climate Change 2007. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

As discussed in detail throughout this Decision and in fuller detail in the RTP document, petitioners' claims and the information they submit do not change or undermine our understanding of how anthropogenic emissions of greenhouse gases cause climate change and how human-induced climate change generates risks and impacts to public health and welfare. This understanding has been decades in the making and has become more clear over time with the accumulation of evidence. The information provided by petitioners does not change any of the scientific conclusions that underlie the Administrator's Findings, nor do the petitions lower the degrees of confidence associated with each of these major scientific conclusions.

More specifically, the petitions do not change EPA's proper characterization of the current body of knowledge and our ability to state with confidence our conclusions in the following key areas of greenhouse gas and climate change science: (1) That anthropogenic emissions of greenhouse gases are causing atmospheric levels of greenhouse gases in our atmosphere to rise to essentially unprecedented levels in human history; (2) that the accumulation of green-house gases in our atmosphere is exerting a warming effect on the global climate; (3) that there are multiple lines of evidence, including increasing average global surface temperatures, rising ocean temperatures and sea levels, and shrinking Arctic ice, all showing that climate change is occurring, and that the observed rate of climate change stands out as significant compared to recent historical rates of climate change; (4) that there is compelling evidence that anthropogenic emissions of greenhouse gases are the primary driver of recent observed increases in average global temperature; (5) that atmospheric levels of greenhouse gases are expected to continue to rise for the foreseeable future; and (6) that risks and impacts to public health and welfare are expected to grow as climate change continues, and that climate change over this century is expected to be greater compared to observed climate change over the past century.

The core defect in petitioners' arguments is that these arguments are not based on consideration of the body of scientific evidence. Petitioners fail to address the breadth and depth of the scientific evidence and instead rely on an assumption of inaccuracy in the science that they extend even to the body of science that is not directly addressed by information they provide or by arguments they make. This assumption of error is based on various statements and views expressed in some of the e-mail communications between scientists at the Climatic Research Unit (CRU) of the University of East Anglia in the United Kingdom and several other scientists ("the CRU e-mails").[2] As EPA's review and analysis shows, the petitioners routinely take these private e-mail communications out of context and assert they are "smoking gun" evidence of wrongdoing and scientific manipulation of data. EPA's careful examination of the e-mails and their context shows that the petitioners' claims are exaggerated, are often contradicted by other evidence, and are not a material or reliable basis to question the validity and credibility of the body of science underlying the Administrator's Endangerment Finding or the Administrator's decision process articulated in the Findings themselves Petitioners' assumptions and subjective assertions regarding what the e-mails purport to show about the state of climate change science are clearly inadequate pieces of evidence to challenge the voluminous and well documented body of science that is the technical foundation of the Administrator's Endangerment Finding.

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[2] All of the disclosed CRU e-mails at issue in this Decision can be found in full in EPA's docket for the Endangerment Finding. See Docket ID No. EPA-HQ-OAR-2009-0171, "CRU E-mails 1996-2009."

Inquiries from the UK House of Commons, Science and Technology Committee, the University of East Anglia, Oxburgh Panel, the Pennsylvania State University, and the University of East Anglia, Russell Panel,[3] all entirely independent from EPA, have examined the issues and many of the same allegations brought forward by the petitioners as a result of the disclosure of the private CRU e-mails. These inquiries are now complete. Their conclusions are in line with EPA's review and analysis of these same CRU e-mails. The inquiries have ***49558** found no evidence of scientific misconduct or intentional data manipulation on the part of the climate researchers associated with the CRU e-mails. The recommendation for more transparent procedures concerning availability of underlying data appears appropriate, but it has not cast doubt on the underlying body of science developed by these researchers. These inquiries lend further credence to EPA's conclusion that petitioners' claims that the CRU e-mails show the underlying science cannot or should not be trusted are exaggerated and unsupported.

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[3] These inquires plus another addressing IPCC AR4 issues are referred to throughout this Decision and the RTP document. Every inquiry is provided in full in EPA's docket for the Endangerment Finding. *See* Docket ID No. EPA-HQ-OAR-2009-0171, "Recent Inquiries and Investigations of the CRU E-mails and the IPCC Fourth Assessment Report."

Petitioners' also point to a limited number of factual mistakes in IPCC AR4, some confirmed, some alleged, to argue that the climate science supporting the Administrator's Endangerment Finding is flawed. EPA's review confirmed two factual mistakes. These two confirmed instances of factual mistakes are tangential and minor and do not change the key IPCC AR4 conclusions that are central to the Administrator's Endangerment Finding. While it is unfortunate that IPCC's review process did not catch these errors, in the context of a report of this size and scope (almost 3,000 pages), it is an inappropriate and unfounded exaggeration to claim that these two confirmed mistakes delegitimize all of the scientific statements and findings contained in IPCC AR4. To the contrary, given the scrutiny to which IPCC AR4 has been subjected, the limited nature of these mistakes demonstrates that the IPCC review procedures have been highly effective and very robust.

In a limited number of cases, the petitioners identify new scientific studies and data, published since the Endangerment Finding was finalized, which they claim require EPA to reconsider the

Endangerment Finding. Some petitioners also argue that EPA ignored or misinterpreted scientific data that were significant and available when the Finding was made. EPA's review of these claims shows that in many cases the issues raised by the petitioners are not new, but were in fact considered prior to issuing the Endangerment Finding. In other cases, the petitioners have misinterpreted or misrepresented the meaning and significance of recent scientific literature, findings, and data. Finally, there are instances in which the petitioners have failed to acknowledge other new studies in making their arguments. The RTP document contains study-by-study analysis of these failed arguments on the part of petitioners.

Finally, in May 2010, the National Research Council (NRC) of the U.S. National Academy of Sciences published its comprehensive assessment, "Advancing the Science of Climate Change[4]" (NRC, 2010). It concluded that "climate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems." Furthermore, the NRC stated that this conclusion is based on findings that are "consistent with the conclusions of recent assessments by the U.S. Global Change Research Program, the Intergovernmental Panel on Climate Change's Fourth Assessment Report, and other assessments of the state of scientific knowledge on climate change." These are the same assessments that served as the primary scientific references underlying the Administrator's Endangerment Finding. Importantly, this recent NRC assessment represents another independent and critical inquiry of the state of climate change science, separate and apart from the previous IPCC and U.S. Global Change Research Program (USGCRP) assessments. The NRC assessment is a clear affirmation that the scientific underpinnings of the Administrator's Endangerment Finding are robust, credible, and appropriately characterized by EPA.

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[4] National Research Council (NRC) (2010). Advancing the Science of Climate Change. National Academy Press. Washington, DC.

The endangerment to public health and welfare from atmospheric concentrations of greenhouse gases and associated climate change is too important an issue to be decided on any grounds other than a close and comprehensive scrutiny of the entire body of the scientific evidence. This principle calls for an outright rejection of the petitioners' arguments. The petitioners' arguments amount to a request that EPA ignore the deep body of science that has been built up over several decades and the direction it points in, and to do so based not on a careful and comprehensive analysis of the science, but instead on what amount to assertions and leaps in logic, unsupported by a rigorous examination of the science itself. The petitioners do not provide any substantial support for the argument that the Endangerment Finding should be revised. Therefore, none of the petitioners' objections are of central relevance to the considerations that led to the final Endangerment Finding. In addition, in many cases these arguments by the petitioners either were or could have been raised during the comment period on the Endangerment Finding. In summary, EPA's thorough review of petitioners' arguments shows that the petitioners have not met the criteria for reconsideration under section 307(d) the Clean Air Act (CAA).[5]

B. Background

The Findings were signed by the Administrator on December 7, 2009, were published in the **Federal Register** on December 15, 2009, and became effective January 14, 2010. The Administrator's Endangerment Finding concluded that atmospheric concentrations of the group of six greenhouse gases are reasonably anticipated to endanger both the public health and public welfare of current and future U.S. generations. The Administrator also decided that the combined emissions of greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas air pollution that endangers both public health and public welfare (*i.e.*, the second finding or "cause or contribute" finding). These Findings were made under CAA section 202(a). The Findings were also supported by a Technical Support Document (TSD) (Docket EPA-HQ-OAR-2009-0171-11645), containing the underlying greenhouse gas emissions data and a synthesis of climate change science, as well as an 11-volume RTC document (Docket EPA-HQ-OAR-2009-0171) that provides EPA's responses to all significant public comments that had been received during the 60-day public comment period following the Administrator's proposed Findings, signed April 17, 2009.

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[5] Some petitioners also raise objections to EPA's Endangerment Finding based on legal arguments related to other EPA or National Highway Traffic Safety Administration actions. For the reasons discussed in Section IV of this Decision, those objections also fail to meet the standard for reconsideration and are denied.

Since finalization of the Findings in December 2009, EPA has received 10 petitions and supplements thereto requesting that EPA reconsider the Findings. The general bases of the petitions are the following: (1) Recent disclosure of private e-mail communications among some scientists who were involved in constructing one of the global temperature records and were involved in certain sections of IPCC AR4; (2) alleged and confirmed mistakes or alleged unsupported statements in the IPCC AR4; and (3) some new scientific studies not previously considered as part of the scientific record of the Endangerment Finding. Petitioners claim these pieces of evidence show that the science underlying the Administrator's Endangerment Finding is potentially ***49559** flawed, and that therefore EPA should reopen the process and reconsider the Endangerment Finding. For reasons stated above and throughout this Decision and accompanying RTP document, EPA is denying the request to reconsider the Findings.

As discussed further in sections III and IV of this Decision, some of the objections raised in the petitions fail to demonstrate that it was impracticable to raise the objections during the comment period following the proposed Findings, or that the grounds for the objections arose after the period for judicial review. For all issues and arguments presented by the petitioners, the objections are not of central relevance to the outcome of the Findings, as explained in detail below. Thus, none of the objections meet the criteria for reconsideration under the CAA. EPA is also denying two requests to stay the Findings pending reconsideration.

1. The ICTA Petition and *Massachusetts* v. *EPA*

a. ICTA Petition

In October 1999, the International Center for Technology Assessment (ICTA) and 18 other organizations filed a petition with EPA, requesting that EPA issue emission standards for emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from motor vehicles under CAA section 202(a) (ICTA Petition). The ICTA Petition alleged that emissions of these four greenhouse gases—CO_2, CH_4, N_2O, and HFCs—constituted emissions of "air pollutants" under section 302(g) of the Act, 42 U.S.C. 7602(g). The ICTA Petition further argued that emissions of these gases from motor vehicles fully met the criteria for regulation under CAA section 202(a)(1), 42 U.S.C. 7521(a)(1), and claimed that it would be feasible for EPA to regulate greenhouse gas emissions from mobile sources.

After soliciting and considering approximately 50,000 public comments on the ICTA Petition, *see* 66 FR 7486, January 23, 2001), the Agency ultimately denied it on several independent grounds. EPA first explained that Congress did not intend in the CAA to provide the Agency with authority to regulate CO_2 and other greenhouse gases to address global climate change (68 FR 52925-29). For a variety of reasons, EPA determined that it was unreasonable to read the Act as providing the Agency with authority to regulate emissions of CO2 and other greenhouse gases to address global climate change. *Id.* at 52928. Based on this conclusion, the Agency also determined that greenhouse gases could not be considered air pollutants for purposes of the CAA's regulatory provisions for any contribution they may make to climate change. *Id.*

The Agency also explained why, even if it had the authority to issue such regulations, it still believed that the ICTA Petition should be denied. To begin with, EPA found that requiring passenger cars and light trucks to emit less CO_2, the predominant greenhouse gas, would be tantamount to imposing more stringent fuel economy standards on those vehicles. *Id.* at 52929. The Agency pointed out, however, that the Energy Policy and Conservation Act (EPCA) authorizes only the Department of Transportation (DOT) to increase the stringency of motor vehicle fuel economy standards, and specifies a detailed regulatory regime that an EPA requirement to significantly reduce motor vehicle CO_2 emissions would unavoidably abrogate. *Id.*; *see also* 49 U.S.C. 32902 (relevant provision of EPCA).

EPA also disagreed with the petitioners' view that, assuming the Act gives EPA authority to regulate CO_2 and other greenhouse gases to address global climate change, the Agency had already made statements that triggered a mandatory duty to issue motor vehicle standards for CO_2 and other greenhouse gases (68 FR 52929, September 8, 2003). After summarizing the findings of a 2001 report on global climate change by the National Academy of Sciences (NAS), the Agency concluded that "[u]ntil more is understood about the causes, extent and significance of climate change and the potential options for addressing it, EPA believes it is inappropriate to regulate [green-house gas] emissions from motor vehicles." *Id.* at 52,931.

b.*Massachusetts* v. *EPA*

EPA's initial denial of the ICTA petition (68 FR 52922, September 8, 2003) was the basis for the U.S. Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007). In *Massachusetts v. EPA*, the Supreme Court held that EPA had improperly denied the petition. The Court held that greenhouse gases meet the definition of air pollutant in the CAA, and that the grounds EPA gave for denying the petition were "divorced from the statutory text" and hence improper. Specifically, the Court held that carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons fit the CAA's "sweeping definition of 'air pollutant' " since they are "without a doubt 'physical [and] chemical * * * substances which [are] emitted into * * * the ambient air.' The statute is unambiguous." *Id.* at 529. The Court also rejected the argument that EPA could not regulate motor vehicle emissions of the chief greenhouse gas, carbon dioxide, because doing so would essentially require control of vehicle fuel economy, and Congress delegated that authority to the Department of Transportation in the Energy Policy and Conservation Act. The Court held that the fact "that DOT sets mileage standards in no way licenses EPA to shirk its environmental responsibilities. EPA has been charged with protecting the public's 'health' and 'welfare,' 42 U.S.C. 7521(a)(1), a statutory obligation wholly independent of DOT's mandate to promote energy efficiency." *Id.* at 532 (citation omitted). The two obligations may overlap "but there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency." *Id.*

Turning to EPA's alternative grounds for denial, the Court held that EPA's decision on whether or not to grant the petition must relate to "whether an air pollutant 'causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.' " *Id.* at 532-33. Thus, "[u]nder the clear terms of the Clean Air Act, EPA can avoid taking further action only if it determines that green-house gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* at 533. The Court held that three of the four reasons EPA advanced as alternative grounds for denying the petition were unrelated to whether greenhouse gas emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. Thus, EPA had failed to offer a reasoned explanation for its action. The Court further held that EPA's generalized concerns about scientific uncertainty were likewise insufficient unless "the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether green-house gases contribute to global warming," in which case EPA must so find. *Id.* at 534.

The Supreme Court was careful to note that it was not dictating EPA's action on remand, and was not deciding whether or not EPA must find that green-house gases endanger public health or welfare. Nor did the Court rule on "whether policy concerns can inform EPA's actions in the event that it makes such a finding." *Id.* at 534-35. The Court also observed that under CAA section 202(a), "EPA no doubt has significant latitude as to the manner, timing, ***49560** content, and coordination of its regulations with those of other agencies." *Id.* at 533. Nonetheless, any EPA decisions concerning the endangerment and cause or contribute criteria must be grounded in the requirements of CAA section 202(a).

On September 17, 2007, EPA's denial of the ICTA petition was vacated and remanded to EPA for further proceedings consistent with the Supreme Court's opinion.

2. *Post-Massachusetts* v. *EPA*

In response to a May 2007 Executive Order (EO 13432) and instructions from then-President Bush, EPA began working closely with the Departments of Transportation, Energy and Agriculture to develop, under the CAA, proposals for greenhouse gas standards for motor vehicles and renewable and alternative fuel requirements for gasoline.

However, after enactment of the Energy Independence and Security Act of 2007 (EISA) in late December 2007, work in response to the Supreme Court's decision shifted. Rather than moving forward with the proposed endangerment determination and attendant greenhouse gas vehicle standards under the CAA, EPA developed an Advance Notice of Proposed Rulemaking (ANPR) on "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was published on July 30, 2008 (73 FR 44354). The ANPR presented information relevant to, and solicited public comment on, a wide variety of issues regarding the potential regulation of greenhouse gases under the CAA, including EPA's response to the Supreme Court's decision in *Massachusetts* v. *EPA*. Section V of the ANPR contained an earlier version of much of the material in the Findings, including the legal framework, a summary of the science of climate change, and an illustration of how the Administrator could analyze the cause or contribute element using information regarding the greenhouse gas emissions of the portion of the U.S. transportation sector covered by CAA section 202(a). A July 2008 version of the TSD for the endangerment finding was also in the docket for the ANPR (EPA-HQ-OAR-2008-0318).

The comment period for the ANPR was 120 days, and it provided an opportunity for EPA to hear from the public with regard to the issues involved in endangerment and cause or contribute findings, as well as the supporting science. EPA received, reviewed, and considered numerous comments at that time and this public input was reflected in the Findings that the Administrator proposed in April 2009. In addition, many comments were received on the TSD released with the ANPR. These comments are reflected in revisions to the TSD that was released in April 2009 to accompany the Administrator's proposal.

3. Proposed and Final Endangerment and Cause or Contribute Findings

In April 2009, the Administrator proposed to find under CAA section 202(a) that the mix of six key green-house gases in the atmosphere may reasonably be anticipated to endanger public health and welfare.

Specifically, the Administrator proposed to define the "air pollution" referred to in CAA section 202(a) to be the mix of six key directly emitted and long-lived greenhouse gases: Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (74 FR 18886, April 24, 2009). The Administrator further proposed to find that combined greenhouse gas emissions from new motor vehicles and new motor vehicle engines contribute to this air pollution that endangers public health and welfare.

The Administrator's proposal was subject to a 60-day public comment period, which ended June 23, 2009, and also included two public hearings. Over 380,000 public comments were received on the Administrator's proposed endangerment and cause or contribute findings, including comments on the elements of the Administrator's April 2009 proposal, the legal issues pertaining to the Administrator's decisions, and the underlying TSD containing the scientific and technical information.

After carefully reviewing the public comments and all the information before her, on December 7, 2009, the Administrator signed the final Findings (74 FR 66496, December 15, 2009). Specifically, she found under CAA section 202(a) that atmospheric concentrations of the six greenhouse gases taken in combination may reasonably be anticipated to endanger both the public health and the public welfare of current and future generations. The Administrator also found that the combined emissions of these green-house gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas air pollution that endangers public health and welfare under CAA section 202(a).

The July 2008 ANPR and the April 2009 proposed Findings were accompanied by draft versions of the TSD and the Findings were supported by the final TSD. The TSD provided an overview of all the major scientific assessments available at the time of each action, and greenhouse gas emission inventory data relevant to the contribution finding. Each of these three versions of the TSD were subject to review by Federal climate experts to ensure that they represented an accurate summary of the major scientific assessments. Moreover, the July 2008 and the April 2009 versions of the TSD were subject to public review as part of the public comment periods for the ANPR and proposed Findings.

4. Petitions for Reconsideration and Stay Requests

Between December 2009 and March 2010, EPA received 10 petitions (and supplements thereto) to reconsider the Findings.[6] Nine of these petitions base their requests on allegations that developments since the close of the comment period on the proposed Findings call into question the science underlying the Findings. One petition focuses on statements since the close of the comment period regarding the impact of regulating stationary sources under the CAA, and the relationship between EPA's proposed Light-Duty Vehicle Rule (*see* below) and the National Highway Transportation Safety Administration's (NHTSA) proposed Corporate Average Fuel Economy (CAFE) rule as a basis for their request that EPA reconsider the Findings. Each significant objection in the petitions is discussed in detail below and the accompanying RTP document. Note that when more than one petitioner raised an objection, our response to that objection is provided only once.

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[6] The West Virginia Coal Association also filed a letter in support of the existing petitions for reconsideration.

In addition, EPA received two requests to administratively stay the final Findings. One administrative stay request under CAA section 307(d)(7)(b) was tied to a petition to reconsider the findings based on concerns about the science and requested that EPA stay the final Findings for three months. The other administrative stay request was filed under CAA section 307(d)(7)(B), the Administrative Procedures Act (APA) section 705, and Federal Rule of Appellate Procedure 18(a)(1) as part of the petition for reconsideration relating to stationary source concerns, and requested a stay pending EPA's completion of its reconsideration of the final Findings.

II. Standard for Reconsideration

Section 307(d)(7)(B) of the CAA strictly limits petitions for ***49561** reconsideration both in time and scope. It states that: "Only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b)). Such reconsideration shall not postpone the effectiveness of the rule. The effectiveness of the rule may be stayed during such reconsideration, however, by the Administrator or the court for a period not to exceed three months."

Thus the requirement to convene a proceeding to reconsider a rule is based on the petitioner demonstrating to EPA: (1) That it was impracticable to raise the objection during the comment period, or that the grounds for such objection arose after the comment period but within the time specified for judicial review (*i.e.*, within 60 days after publication of the final rulemaking notice in the **Federal Register**, *see* CAA section 307(b)(1); and (2) that the objection is of central relevance to the outcome of the rule.

As to the first procedural criterion for reconsideration, a petitioner must show why the issue could not have been presented during the comment period, either because it was impracticable to raise the issue during that time or because the grounds for the issue arose after the period for public comment (but within 60 days of publication of the final action). Thus, CAA section 307(d)(7)(B) does not provide a forum to request EPA to reconsider issues that actually were raised, or could have been raised, prior to promulgation of the final rule.

In EPA's view, an objection is of central relevance to the outcome of the rule only if it provides substantial support for the argument that the regulation should be revised. *See* Denial of Petition to Reconsider, 68 FR 63021 (November 7, 2003), Technical Support Document for Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Reconsideration at 5 (Oct. 30, 2003) (EPA-456/R-03-005) (available at *http://www.epa.gov/nsr/documents/petitionresponses10-30-03.pdf*); Denial of Petition to Reconsider NAAQS for PM, 53 FR 52698, 52700 (December 29, 1988), citing Denial of Petition to Revise NSPS for Stationary Gas Turbines, 45 FR 81653-54 (December 11, 1980), and decisions cited therein.

This interpretation is clearly appropriate in light of the criteria adopted by Congress in this and other provisions in section 307(d). Section 307(d)(4)(B)(i) provides that "[a]ll documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability." This provision draws a distinction between comments and other information submitted during the comment period, and other documents which become available after publication of the proposed rule. The former are docketed irrespective of their relevance or merit, while the latter must be docketed only if a higher hurdle of central relevance to the rulemaking is met. Congress also used the phrase "central relevance" in sections 307(d)(7)(B) and (d)(8), and in both cases Congress set a more stringent hurdle than in section 307(d)(4). Under section 307(d)(7)(B), the Administrator is required to reconsider a rule only if the objection is "of central relevance to the outcome of the rule." Likewise, section 307(d)(8) authorizes a court to invalidate a rule for procedural errors only if the errors were "so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been substantially changed if such errors had not been made." In both of these provisions, it is not enough that the objection or error be of central relevance to the issues involved in the rulemaking, as in section 307(d)(4). Instead, the objection has to be of central relevance "to the outcome of the rule" itself, and the procedural error has to be of such central relevance that it presents a "substantial likelihood that the rule would have been substantially changed." Central relevance to the issues involved in the rulemaking is not enough to meet the criteria Congress set under sections 307(d)(7) or (d)(8). Both of those provisions require that the objection or error be central to the substantive decision that is the outcome of the rulemaking. This difference is significant, and indicates that Congress set a much higher hurdle for disturbing a final rule that has already been issued, as compared to the less stringent criteria for docketing of documents before a decision has been made and a rule has been issued.

In this context, EPA's interpretation of section 307(d)(7)(B) gives full and appropriate meaning to the criteria adopted by Congress. An objection is considered of central relevance to the outcome of the rule only if it provides substantial support for the argument that the regulation should be revised. This properly links the criteria to the outcome of the rule-making, not just the issues in the rulemaking. It requires that the objection be of such substance and merit that it can be considered central to the outcome of the rulemaking. This interpretation is consistent with section 307(d)(8), which also ties central relevance to the outcome of the rulemaking, in terms of a "substantial likelihood" that the rule would be "substantially changed." This interpretation gives proper weight to the approach throughout section 307(b) and (d) of the importance Congress attributed to preserving the finality of agency rulemaking decisions. This interpretation is also consistent with the case law, as discussed below.

As discussed in this Decision, EPA is denying the petitions because they fail to meet these criteria. In many cases, the objections raised in the petitions to reconsider were or could have been raised during the comment period of the proposed Findings. In all cases, the objections are not of central relevance to the outcome of the rule because they do not provide substantial support for the argument that the Endangerment Finding should be revised.

Pacific Legal Foundation (PLF) argues that its objections are of central relevance because the CRU documents and e-mails "cast substantial uncertainty over" the final Endangerment Finding, and that EPA is required to grant the petition or reconsider "if information not available in the rulemaking record for public comment casts substantial uncertainty over the final regulation." PLF Pet at 8-9. They argue that this is the case even if one does not assume or even argue that the statements in the CRU documents and e-mails are true. PLF Pet. at 6. They base this claim on *Kennecott Corp.* v. *EPA*, 684 F.2d 1007, 1017-20 (DC Cir. 1982).

PLF's view of *Kennecott* fails to account for the specific procedural issues that were central to that case. In *Kennecott*, petitioners objected that EPA had not provided adequate notice and ***49562** an opportunity for comment in the underlying rulemaking, in violation of various CAA section 307(d) provisions. Petitioners had two different notice and comment objections. First, they objected to EPA's failure to include certain documents in the docket at the time of the proposal, including various EPA financial analyses performed prior to the proposal. The court found that these documents were part of the basis for the proposed regulations and needed to be docketed so comment could be taken on them during the comment period. The court found that the failure to submit these documents to the docket at the time of the proposal was a procedural violation of CAA section 307(d)'s notice and comment requirements, because the documents EPA failed to docket made impossible any meaningful comment on the merits of EPA's proposal. The missing documents led to uncertainty over EPA's basis for the proposal, which the documents could clarify. This procedural violation met the test under CAA section 307(d)(9) for reversible error, because it indicated a "substantial likelihood" that the regulations would "have been significantly changed." *Kennecott*, 684 F.2d at 1018-1019.[7]

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[7] It is this discussion of uncertainty that is cited by PLF. However this concerns the criteria for reversible error under CAA section 307(d)(9)(D)(iii) for a procedural violation. The

Petitioners in *Kennecott* also objected to EPA's submission to the docket, one week prior to promulgation of the final rule, of certain economic forecast data upon which EPA relied for the final rule, where the forecast data differed significantly from the forecast data provided during the pubic comment period. The court found that this late submission of important information relied on by EPA, without an opportunity to comment, also violated the notice and comment requirements of CAA section 307(d). *Id.* at 1019.

Given these two violations of the notice and comment requirements of CAA section 307(d), the court determined that consideration of a petition to reconsider after promulgation of the final rule was not an adequate substitute for the statutory required notice and opportunity to comment prior to promulgation of the rule. EPA failed to provide adequate notice and an opportunity to comment during the rulemaking process, and could not cure that by later considering the merits of the petitioner's comments post-promulgation, through a petition to reconsider, where the issues involved were critical to the central issues involved in the rule. *Id.* at 1019.

EPA's failure to provide adequate notice and an opportunity to comment in violation of CAA section 307(d) was the critical underpinning for the court's determination that in that case consideration of the merits of the objections through a post-promulgation petition to reconsider was not an adequate substitute

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court did not address this as the test for CAA section 307(d)(7)(B), and certainly did not do so for cases where there is no procedural violation.

for providing the required procedural rights prior to promulgation. That, however, is not the case here. Petitioners are not claiming that the CRU e-mails or other documents show that EPA failed to provide adequate notice and an opportunity to comment because EPA failed to docket any documents or EPA docketed late any documents used to support EPA's final Endangerment Finding. Instead, petitioners are claiming that EPA should reopen the rulemaking and reconsider the Endangerment Finding based on new documents and arguments that petitioners bring to EPA, which they claim undermine the basis for EPA's Endangerment Finding.[8] There is no basis for treating the court's decision in *Kennecott* as precedent here, where there is no comparable procedural notice and comment violation by EPA. There is no reason to limit EPA's ability to consider the merits of the petitioners' objections through a post-promulgation petition to reconsider, whereas in this case there is no violation of a statutory right to notice and comment and EPA's consideration of the merits of the petitioners' objections is not being used as an improper substitute or cure for an EPA failure to provide adequate notice and an opportunity to comment prior to promulgation of the final rule.

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[8] Southeastern Legal Foundation, Inc. (SLF) inappropriately points to the docketing requirements under CAA section 307(d)(3) related to a proposed rule, SLF at 3-5. However, the documents SLF refers to are not EPA documents, were not part of the basis for EPA's proposal, and arose after the comment period, not prior to proposal. The provisions for a petition to reconsider under CAA section 307(d)(7), not the provisions of CAA section 307(d)(3), apply to the concerns raised by SLF with respect to the arguments and documents submitted to the agency after the end of the comment period, in the petitions to reconsider.

Unlike the situation in *Kennecott*, EPA's consideration of the petitions to reconsider is focused on whether the claimed new evidence and arguments warrant a reopening of a prior, properly noticed rulemaking. Absent a demonstration that the objections raised by petitioners provide substantial support for the argument that the regulation should be revised, such reopening is not warranted. Nothing in *Kennecott* holds otherwise.

Appalachian Power Company et al. v. *EPA*, 249 F.3d 1032 (D.C. Cir. 2001) clearly supports this view. In that case, petitioners presented comments to EPA requesting that EPA consider various materials concerning the issue of substantial contribution under section 126. Because EPA had already promulgated a rule that addressed the issue of significant contribution, EPA properly treated the request as a petition to reconsider the prior rule. EPA evaluated the evidence and its relevance to the section 126 rule and for a variety of reasons rejected it on the merits as a basis for reopening the rule. The court upheld EPA's decision, stating that "[g]iven the deferential standard employed in this context, the EPA's refusal to reopen and reconsider its significant contribution findings must be upheld." *Id.* at 1060.

Part III of this Decision explains why EPA is denying the petitions with respect to the objections set forth in these petitions for reconsideration. With respect to some of these issues, the petitioners clearly have not met the procedural predicate for reconsideration. That is, the petitioners have not demonstrated that it was impracticable to raise these objections during the comment period, or that the grounds for these objections arose after the close of the comment period but within 60 days after publication of the final rule. As such, they do not meet the statutory criteria for administrative reconsideration under CAA section 307(d)(7)(B).[9] For all of the objections, whether or not the petitions might be considered to meet the procedural criterion for reconsideration, the petitioners' objections and arguments in terms of substance are not "of central relevance" to the outcome of the rulemaking. Thus, none of the objections meet the criteria for reconsideration under the CAA.

As noted in Section I.B.4 of this Decision, EPA also received two requests to administratively stay the final Findings. Two petitioners requested an administrative stay under ***49563** CAA section 307(d)(7)(B), tied to the petitions to reconsider the findings, requesting that EPA stay the Findings for three months. Southeastern Legal Foundation at 8, Chamber of Commerce at 1. EPA has authority to issue a stay for up to 3 months if it grants a petition to reconsider under CAA section 307(d)(7)(B). As described below, EPA is denying the petitions to reconsider, hence there is no basis for issuance of an administrative stay under this provision.

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[9] The Chamber of Commerce's petition was based on grounds that it claims arose after the time period for seeking judicial review of the underlying rulemaking. The Chamber argues that EPA should grant reconsideration in its discretion, even if it is not required to do so under section 307(d). The failure of the Chamber to file timely objections or to demonstrate that the objections it raises provide substantial support for the argument that the regulation should be revised are a fully adequate basis for EPA to deny the Chamber's petition. In any case, even if the petition were timely, EPA has considered the objections raised by the Chamber and is denying their petition as discussed in more detail herein.

One of the administrative stay requests was filed under section 705 of the Administrative Procedure Act (APA) as part of the petition for reconsideration relating to stationary source concerns, and requested a stay pending EPA's completion of its reconsideration of the final Findings. Chamber at 23-34. 5 U.S.C. 705 authorizes an agency to postpone the effective date of an agency action pending judicial review when the agency finds that justice so requires. In this case, the Endangerment Finding was effective as of January 14, 2010. The request for an administrative stay was submitted by petition dated March 15, 2010, after the Endangerment Finding was effective. Even if EPA believed that an administrative stay was warranted, which it does not, it is not clear whether EPA would have the authority under APA section 705 to stay an agency action that has already gone into effect. Post-poning an effective date implies acting before the effective date occurs.

In any case, an administrative stay of the Endangerment Finding is not warranted. In response to the arguments raised by the Chamber, (1) the Chamber has not made a strong showing on the merits, for all of the reasons upon which EPA is denying the petitions to reconsider; (2) the Chamber's arguments concerning irreparable harm fail to adequately account for the proposed or recently issued Final Prevention of Significant Deterioration (PSD) and Title V Green-house Gas Tailoring Rule (75 FR 31518, 31579-84; June 3, 2010) (Final Tailoring Rule), and present general, unspecific, and unsupported arguments; (3) the Chamber's arguments that EPA's standards for emissions of GHGs from light-duty vehicles would have no important benefit because of the related NHTSA CAFE rule are rejected for the reasons discussed in Section IV.B of this Notice, and (4) the Chamber's arguments concerning the public interest, which repeat its prior arguments, are rejected for the same reasons.

III. Science Related Issues

A. General Summary of Petitioners' Arguments

The petitioners generally claim that the science underlying the Administrator's Endangerment Finding is flawed and/or that EPA did not follow an appropriate or robust process in evaluating the underlying science for purposes of making an endangerment finding for greenhouse gases. Many of the 10 petitions present similar arguments. Some of the petitioners' arguments were raised during the 60-day public comment period following the proposed Findings (74 FR 18886, April 24, 2009).

Many of the petitioners critique specific elements of the underlying science that support the Findings, primarily the HadCRUT temperature record showing increases in global surface temperatures. There are many elements of the underlying science that support the Administrator's Endangerment Finding that are not addressed by the petitioners. Petitioners assert that the global temperature record is so central to all greenhouse gas and climate change science that the problems with a global surface temperature record essentially mean all scientific knowledge linking greenhouse gases and climate change, and by extension all public health and welfare risks associated with human-induced climate change, must also be called into question. Petitioners also question the credibility of the IPCC and, by extension, EPA's use of IPCC AR4 as a significant reference document supporting the Findings.

The primary information provided by the petitioners to back their arguments are:

> (1) A set of disclosed private e-mail communications among some scientists associated with the HadCRUT temperature record and associated with certain sections of IPCC AR4.
>
> (2) A small number of factual mistakes and claimed factual mistakes and alleged unsupported statements in the voluminous, 2,927-page IPCC AR4.
>
> (3) A limited number of new studies for EPA to consider.

EPA's responses to the petitioners' evidence, arguments, and claims are summarized in this section of this Decision and provided in fuller technical detail in the accompanying three-volume RTP document. More specifically, the petitioners' arguments can generally be grouped into three broad categories:

- Climate science and data issues, including (1) the validity of the reconstructed surface temperature record from the distant past and whether or not recent observations of global warming are unusual; (2) the validity of the more recent surface temperature record and whether recent temperature changes can be attributed to human emissions of greenhouse gases; (3) the validity of the HadCRUT surface temperature record of the Climatic Research Unit (CRU); (4) the validity of the recent surface temperature records constructed by the National Oceanographic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA); and (5) the implications of new studies not previously considered.

- Issues raised by EPA's use of IPCC reports, including: (1) Claims that recently found errors and claimed errors in IPCC AR4 undermine IPCC's credibility and therefore EPA's use of IPCC AR4 as a primary reference document; and (2) claims that IPCC has a policy agenda and is not an objective scientific body.
- Process and other issues, including claims that: (1) The USGCRP and the NRC are not separate and independent assessments from IPCC; (2) EPA's process to develop the scientific support for the Findings was inappropriate; (3) there are improper peer-review processes in the underlying scientific literature used by the major assessments; and (4) certain scientists did not adhere to UK and U.S. Freedom of Information Act Requests.

B. Summary of the Science Underlying the Administrator's Endangerment Finding in Light of the Petitioners' Claims

Before addressing the petitioners' general and specific assertions, this section briefly describes the major scientific conclusions and data that support the Administrator's Endangerment Finding that elevated atmospheric concentrations of the group of six key greenhouse gases are reasonably anticipated to endanger the public health and public welfare of current and future generations. As noted above, the petitioners do not take issue with the large body of scientific evidence. Rather, they focus most of their attention on questioning the validity of the global surface temperature record- specifically the HadCRUT temperature record, one of the three major global surface temperature records used by climate researchers—which show that temperatures are increasing. This section puts the global temperature record in the broader context of greenhouse gas and climate change ***49564** science, and demonstrates the limited scope of the petitioners' arguments.

There is a causal chain linking atmospheric concentrations of greenhouse gases to impacts and risks to public health and welfare. The elements of this causal chain are:

- What effects do greenhouse gases have on the environment and on climate in particular?
- Are human activities changing the amount of greenhouse gases in our atmosphere?
- What is the evidence indicating that average temperatures are increasing and that climate change is occurring, consistent with the direction one would expect from increasing greenhouse gases in our atmosphere?
- What is the evidence linking observed temperature changes and climate change to the anthropogenic increase in greenhouse gases?
- How are public health and welfare threatened by these changes to climate and the environment, now and in the future?

Each element of the causal chain is discussed below. Evidence related to each element is based on the underlying scientific assessments (*e.g.*, IPCC and USGCRP) that EPA relied on to develop the TSD to support the Administrator's Endangerment Finding, and, where noted, is also based on the most recent scientific assessment, published in May 2010, of the NRC.[10]

1. What effects do greenhouse gases have on the environment and on climate in particular?

The physical effect of greenhouse gases on climate and the environment remains a basic scientific fact—greenhouse gases slow the loss of Earth's heat, which would otherwise escape to space. Much like a blanket keeps a person warm by preventing heat loss, green-house gases blanket the planet and warm the Earth by trapping in heat that would otherwise escape to space. This is the Earth's natural greenhouse effect. An increase in the amount of greenhouse gases in our atmosphere intensifies the natural greenhouse effect and thus exerts a warming effect on the global climate. These are well-established physical properties of greenhouse gases. The six greenhouse gases grouped together in the Administrator's Endangerment Finding are long-lived in the atmosphere and, once emitted, can remain in the atmosphere for decades to centuries. Carbon dioxide has other non-climate effects as well. Increases in atmospheric carbon dioxide concentrations can affect oceanic acidity and the growth rates of crops, weeds, and trees. Petitioners have not presented information challenging the basic physical properties of how the six greenhouse gases affect the climate and the environment.

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[10] National Research Council (2010) Advancing the Science of Climate Change: America's Climate Choices, National Academies Press, Washington, DC.

2. How are human activities changing the amount of greenhouse gases in our atmosphere?

It is a well-documented and straightforward observation that levels of carbon dioxide and other green-house gases are increasing in our atmosphere. The six key greenhouse gases included in the Administrator's Findings are at essentially unprecedented levels compared to the recent and distant past. Their concentrations are climbing, and this is projected to continue well into this century. The two most important directly emitted greenhouse gases, carbon dioxide and methane, are well above the natural range of atmospheric concentrations compared to at least the last 650,000 years (*see* TSD EPA-HQ-OAR-2009-0171-11645). The most recent report of the NRC states that carbon dioxide levels are now at 388 parts per million and increasing by almost two parts per million per year.

The fact that greenhouse concentrations are now at such high levels is absolutely central to the Administrator's Endangerment Finding. Without such a large and ever-increasing buildup of atmospheric levels of greenhouse gases there would be less concern about the potential future warming caused by human activities. Greenhouse gases are at such high levels in our atmosphere and continue to climb because human activities are adding greenhouse gases to the atmosphere in larger quantities and more quickly than the environment can handle. Our annual emissions from fossil fuel combustion, deforestation, and other sources are overwhelming the natural removal systems in the ocean, atmosphere, and terrestrial biosphere (*e.g.*, trees and other vegetation).

Furthermore, human activities are unambiguously the driver of the increase in atmospheric levels of greenhouse gases. The EPA TSD states:

> "The global atmospheric CO_2 concentration has increased about 38% from pre-industrial levels to 2009, and almost all of the increase is due to anthropogenic emissions." This is supported by the most recent NRC report, which states that, "We know that this increase is largely the result of human activities because the chemical signature of excess CO_2 in the atmosphere can be linked to the composition of the CO_2 emissions from fossil fuel burning. Moreover, analyses of bubbles trapped in ice cores from Greenland and Antarctica reveal that atmospheric CO_2 levels have been rising steadily since the start of the Industrial Revolution." Petitioners do not provide any evidence that cause EPA to question this scientific conclusion.

3. What is the evidence indicating that average temperatures are increasing and climate change is occurring consistent with the direction one would expect with increasing greenhouse gases in our atmosphere?

The scientific literature is clear that the heating effect caused by the buildup of greenhouse gases is warming the climate system. As summarized in the TSD:

- The global average net effect of the increase in atmospheric GHG concentrations, plus other human activities (*e.g.*, landuse change and aerosol emissions), on the global energy balance since 1750 has been one of warming. This total net heating effect, referred to as forcing, is estimated to be +1.6 (+0.6 to +2.4) watts per square meter (W/m²), with much of the range surrounding this estimate due to uncertainties about the cooling and warming effects of aerosols.
- Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Global mean surface temperatures have risen by 1.3 ± 0.32 °F (0.74 °C ± 0.18 °C) over the last 100 years. Eight of the 10 warmest years on record have occurred since 2001. Global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries.
- U.S. temperatures also warmed during the 20th and into the 21st century; temperatures are now approximately 1.3 °F (0.7 °C) warmer than at the start of the 20th century, with an increased rate of warming over the past 30 years. Both the IPCC and the USGCRP[11] reports attributed recent North American warming to elevated GHG

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[11] USGCRP now encompasses the former Climate Change Science Program (CCSP) under the previous Administration.

concentrations. In the U.S. Climate Change Science Program (CCSP) (2008)[12] report, the authors find that for ***49565** North America, "more than half of this warming [for the period 1951-2006] is likely the result of human-caused GHG forcing of climate change."

- Widespread changes in extreme temperatures have been observed in the last 50 years across all world regions, including the United States. Cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.
- There is strong evidence that global sea level gradually rose in the 20th century and is currently rising at an increased rate.
- Satellite data since 1979 show that annual average Arctic sea ice extent has shrunk by 4.1% per decade.
- Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate change, particularly temperature increases.
- Observations show that climate change is currently affecting U.S. physical and biological systems in significant ways.

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[12] CCSP (2008). Reanalysis of Historical Climate Data for Key Atmospheric Features: Implications for Attribution of Causes of Observed Change. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [Randall Dole, Martin Hoerling, and Siegfried Schubert (eds.)]. Asheville, NC: National Oceanic and Atmospheric Administration, National Climatic Data Center. 156 pp.

- Ocean CO_2 uptake has lowered the average ocean pH (increased acidity) level by approximately 0.1 since 1750.

These conclusions are consistent with, or strengthened by, the most recent NRC report which states the following: "Earth is warming. Detailed observations of surface temperature assembled and analyzed by several different research groups show that the planet's average surface temperature was 1.4 °F (0.8 °C) warmer during the first decade of the 21st century than during the first decade of the 20th century, with the most pronounced warming over the last three decades. These data are corroborated by a variety of independent observations that indicate warming in other parts of the Earth system, including the cryosphere (snow and ice covered regions), the lower atmosphere, and the oceans."

These multiple lines of evidence highlight a number of things. First, there is well-documented evidence that the buildup of greenhouse gases in our atmosphere is exerting, as expected, a significant heating effect called radiative forcing. This is not to be confused with temperature change or the temperature data that is the subject of many of the petitions. This heating effect or radiative forcing refers to a change in the energy balance of the planet, and is thus the driver of temperature change.

The magnitude of this heating effect caused by the buildup in atmospheric greenhouse gases has been quantified in the scientific literature. The petitioners do not challenge these estimates and do not challenge the fact that the observed buildup of greenhouse gases is having a clear and quantifiable heating effect on the planet. This is a fundamental pillar of climate change science, and is a fundamental piece of supporting evidence for the Administrator's Endangerment Finding.

Second, the underlying science indicates that there is significant and unambiguous warming for the Earth and for North America. This is the first place along the causal chain where the petitioners question the science. Many petitioners question the validity of the global temperature evidence by pointing to the CRU e-mails and their impact on the scientific assessment reports used by EPA. This particular critique is addressed below and in fuller detail in Volume 1 of the RTP document.

Third, the evidence of climate change caused by human activities goes beyond average increases in global and continental temperatures. There are well-documented increases in sea level, declines in sea ice, and changes to physical and biological systems, all primarily driven by, and therefore showing further evidence of, increases in average temperatures. These changes are documented by datasets other than temperature datasets, and bear no relation to the particular CRU temperature dataset that is the primary focus of many of the petitioners.

Similarly, the observation that elevated levels of carbon dioxide are increasing the acidity of the world's oceans is direct evidence of a large-scale and significant environmental effect that does not depend on any evidence from a temperature dataset. This particular effect was considered supporting evidence by the Administrator in the Endangerment Finding.

This documented effect is not challenged by any of the petitioners.

4. What is the evidence linking observed temperature changes and climate change to the anthropogenic increase in greenhouse gases?

The underlying science has clearly attributed the observed warming to the buildup of greenhouse gases in our atmosphere. Summarized here is the underlying science that shows that increases in average global and continental temperatures, as well as other climatic changes, can confidently be attributed to the increases in greenhouse gas emissions from human activities. The extent to which observed warming can be attributed to the human-induced buildup of green-house gases in the atmosphere is the second area of the causal chain where some petitioners question the science.

IPCC statements on the linkage between greenhouse gases and temperatures have strengthened since the organization's early assessments (Solomon *et al.*, 2007).[13] The IPCC's

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[13] Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C. Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F. Stocker, P. Whetton, R.A. Wood and D. Wratt (2007). Technical Summary. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 996 pp.

First Assessment Report in 1990 contained little observational evidence of a detectable anthropogenic influence on climate (IPCC, 1990).[14] In its *Second Assessment Report* in 1995, the IPCC stated that the balance of evidence suggests a discernible human influence on the climate of the 20th century (IPCC, 1996).[15] The *Third Assessment Report* in 2001 concluded that most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations (IPCC, 2001b).[16] The conclusion in IPCC's 2007 Fourth Assessment Report (2007b)[17] is the strongest yet: "Most of the observed increase in global average temperatures since the mid-20th century is very likely[18] due to the observed increase in anthropogenic GHG concentrations."

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[14] IPCC (1990). First Assessment Report: Climate Change 1990. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

[15] IPCC (1996). Climate Change 1995: The Science of Climate Change. Intergovernmental Panel on Climate Change [J.T. Houghton, L.G. Meira Filho, B.A. Callander, N. Harris, A. Kattenberg, and K. Maskell (eds)]. Cambridge University Press. Cambridge, United Kingdom.

[16] IPCC (2001b). Summary for Policymakers. In. Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change [J.T. Houghton *et al.* (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

[17] IPCC (2007b). Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp.

The strength of this statement reflects our current, much better understanding ***49566** of all the factors, not just greenhouse gases, that influence temperature fluctuations and other climatic changes. On this point, EPA's TSD (citing Hegerl *et al.*, 2007)[19] listed the major scientific advances between the Third and Fourth Assessment Reports of the IPCC that led to this increased confidence in the ability to attribute observed temperature and other climate changes to anthropogenic greenhouse gases:

- An expanded and improved range of observations allowing attribution of warming to be more fully addressed jointly with other changes in the climate system.
- Improvements in the simulation of many aspects of present mean climate and its variability on seasonal to interdecadal time scales.
- More detailed representations of processes related to aerosol and other forcings (*i.e.*, heating and cooling effects) in models.

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[18] According to IPCC terminology, "very likely" conveys a 90 to 99% probability of occurrence. *See* Box 1.2 of the TSD for a full description of IPCC's uncertainty terms.

[19] Hegerl, G.C., *et al.* (2007). Understanding and Attributing Climate Change. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

- Simulations of 20th-century climate change that use many more models and much more complete anthropogenic and natural forcings.
- Multi-model ensembles that increase confidence in attribution results by providing an improved representation of model uncertainty.

Climate model simulations suggest that natural heating factors alone cannot explain the observed warming for the entire globe, the global land, or the global ocean. The observed warming can only be reproduced with models that contain both natural and anthropogenic heating and cooling influences.

EPA's TSD, based on the underlying assessment literature, states that if the additional heating effect of elevated levels of greenhouse gases were the only external influence on the global climate, this likely would have resulted in warming greater than observed. This statement is made because our understanding of the climate system is sophisticated enough to consider and model multiple and simultaneous influences on the global climate. For example, there are known and quantifiable cooling effects from human emissions of aerosols and natural forcings (*e.g.*, volcanic eruptions and solar variability) that have offset some of the greenhouse gas-induced warming during the past half century.

The sophistication of climate models that examine the influence of human emissions of greenhouse gases has increased. Confidence in these models comes from their foundation in accepted physical principles and from their ability to reproduce observed features of current climate and past climate changes (IPCC, 2007a).[20] One petitioner questions the reliability of the models by pointing to certain CRU e-mails. Questions regarding the reliability of climate models are addressed in Volume 4 of the RTC document and in Volume 1 of the RTP document.

Furthermore, warming of the climate system has been detected in changes of surface and atmospheric temperatures, in the upper several hundred meters of the ocean (as evident by the observed increase in ocean heat content), and in contributions to sea level rise. The scientific assessments have established human contributions to all of these changes.

Not only has an anthropogenic warming signal been detected for the surface temperatures, but evidence has also accumulated of an anthropogenic influence throughout different layers of the atmosphere. Some petitioners have raised one potential inconsistency between observed warming and modeled warming higher in the atmosphere over the tropics. Karl *et al.* (2009)[21] state that when uncertainties in models and observations are properly accounted for, newer observational datasets are in agreement with climate model results. A detailed discussion of this issue is contained in Volume 1, section 1.2 of the RTP document.

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[20] IPCC (2007a) Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

[21] Karl, T., J. Melillo, and T. Peterson (Eds.) (2009) Global Climate Change Impacts in the United States. Cambridge University Press, Cambridge, United Kingdom.

Lastly, evidence from climates in the geologic past, going back millions of years, also supports the conclusion that elevated levels of greenhouse gases in the atmosphere are expected to lead to warmer climates. Measurements show that climates from the geologic past have been both warmer and colder than present, and that warmer periods have generally coincided with high atmospheric carbon dioxide levels. Analyses of these paleoclimate data have increased confidence in the role of external influences on climate. Climate models for predicting future climate have been used to reproduce key features of past climates using conditions and radiative forcing for those periods.

Here too, these conclusions are reinforced by the most recent NRC report, which states:

> "Global warming can be attributed to human activities. Many lines of evidence support the conclusion that most of the observed warming since the start of the 20th century, and especially the last several decades, can be attributed to human activities, including the following:
>
> • Earth's surface temperature has clearly risen over the past 100 years, at the same time that human activities have resulted in sharp increases in CO_2 and other GHGs.
>
> • Both the physics of the greenhouse effect and more detailed calculations dictate that increases in atmospheric GHGs should lead

> to warming of Earth's surface and lower atmosphere.
>
> - The vertical pattern of observed warming—with warming in the bottommost layer of the atmosphere and cooling immediately above—is consistent with warming caused by GHG increases, and inconsistent with other possible causes.
>
> - Detailed simulations with state-of-the-art computer-based models of the climate system are able to reproduce the observed warming tend and patterns only when human-induced GHG emissions are included.

Based on these and other lines of evidence, the Panel on Advancing the Science of Climate Change—along with an overwhelming majority of scientists (Rosenberg *et al.*, 2010)—conclude that much of the observed warming since the start of the 20th century, and most of the warming over the last several decades, can be attributed to human activities" [NRC at 29].

The clear conclusion from all of this evidence is that the human-induced buildup of greenhouse gases in the atmosphere is primarily responsible for most of the observed warming and other climate changes occurring now. The information petitioners present to challenge this part of the scientific record is clearly inadequate.

- Petitioners provide no credible evidence to question the clear observation that greenhouse gases are increasing in our atmosphere to significant levels.

- The petitioners provide no information to question the quantified radiative forcing (heating effect) caused by this greenhouse gas buildup.
- Petitioners' objections about paleoclimate temperature reconstructions focus on one type of reconstruction (tree ring analysis). The objections, addressed in Volume 1 of the RTP document, do not withstand scrutiny, nor do they undermine our confidence in the conclusions of the studies. These conclusions, and the accompanying limitations and uncertainties, have been properly characterized in the assessment reports ***49567** and the Endangerment Finding. Petitioners do not contest or address the variety of other aspects of paleoclimate research supporting the attribution of recent warming to anthropogenic greenhouse gases.
- With respect to the variety of evidence on observed temperature change, the petitioners focus their criticism on the validity of one of three global surface temperature records, the HadCRUT temperature record. Petitioners' objections are addressed in detail below and in Volume 1 of the RTP document, as are the petitioners' related criticisms of the NOAA and NASA temperature datasets. Their objections do not withstand scrutiny, nor do they reduce our confidence in these temperature records, which have been properly characterized in the assessment reports and the Endangerment Finding. In addition, the petitioners ignore and do not address the clear information and observations showing that other elements of the climate system are undergoing changes consistent with these average temperature increases (*e.g.*, ocean heating, sea level rise, Arctic ice loss). Petitioners do not show that these

observations are in error or are the result of some other, unidentified mechanism.

- Petitioners focus their criticism on a possible discrepancy between model predictions and the vertical temperature structure of the atmosphere in the tropics; this criticism is not substantively supported, as discussed below and in Volume 1 of the RTP document.
- The petitioners do not attempt to provide an alternative explanation of the compellingly strong match between the observed magnitude and pattern of warming and the modeled simulations, which include all known factors, including the greenhouse gas buildup, the offsetting cooling influence of aerosols, and variability in solar output.
- Petitioners' arguments that a possible slowdown in the rate of warming over the last 10 years should weaken confidence in the fact that human emissions of greenhouse gases are the primary driver of recent warming are not valid. EPA addresses this issue more fully below and in Volume 1 of the RTP document.

5. How are public health and welfare threatened by these changes to climate and the environment, now and in the future?

The TSD summarizes a number of conclusions from the underlying science on this issue. In addition to documenting many of the key observed changes to atmospheric composition and climate, such as those outlined above, the TSD summarizes key findings about projected increases in greenhouse gas emissions and the future climate change associated with these future scenarios:

- Most future scenarios that assume no explicit greenhouse gas mitigation actions (beyond those already enacted) project increasing global greenhouse gas emissions over the century, with climbing green-house gas concentrations.
- Future warming over the course of the 21st century, even under scenarios of low-emission growth, is very likely to be greater than observed warming over the past century.
- All of the United States is very likely to warm during this century, and most areas of the United States are expected to warm by more than the global average.
- It is very likely that heat waves will become more intense, more frequent, and longer-lasting in a future warm climate, whereas cold episodes are projected to decrease significantly.
- Increases in the amount of precipitation are very likely in higher latitudes, while decreases are likely in most subtropical latitudes and in the southwestern United States, continuing observed patterns.
- Intensity of precipitation events is projected to increase in the United States and other regions of the world.
- It is likely that hurricanes will become more intense, with stronger peak winds and more heavy precipitation associated with ongoing increases of tropical sea surface temperatures. Frequency changes in hurricanes are currently too uncertain for confident projections.
- By the end of the century, global average sea level is projected by the IPCC to rise between 7.1 and 23 inches (18 and 59 centimeter [cm]), relative to around 1990, in the absence of increased dynamic ice sheet loss.

- Sea ice extent is projected to shrink in the Arctic under all IPCC emission scenarios.

The validity of these future climate change projections is not addressed by the petitioners, although some of the petitioners do call into question the climate models that are used to conduct these climate change projections. The petitioners claim that some of the models must be calibrated with the current temperature record, which in turn they assert appears to be flawed. EPA addresses this faulty critique of the models in Volume 1, section 1.2.3 of the RTP document, and had previously addressed similar critiques of climate models in Volume 4 of the RTC document.

It is important to note that none of the petitioners question the conclusion that atmospheric levels of greenhouse gases are expected to continue climbing for the foreseeable future, given the long-lived physical properties of the greenhouse gases themselves and the plausible pathways of human-emitting activities over the next few decades. Climate models aside, it is difficult to imagine a world where the heating effect of climbing greenhouse gas concentrations does not increase for the foreseeable future.

With regard to the impacts and risks to public health and welfare, the TSD and the Administrator's Findings stated the following:

- Severe heat waves are projected to intensify in magnitude and duration over the portions of the United States where these events already occur, with potential increases in mortality and morbidity, especially among the elderly, young, and frail.

- Some reduction in the risk of death related to extreme cold is expected. It is not clear whether reduced mortality from cold will be greater or less than increased heat-related mortality in the United States due to climate change. In addition, the latest USGCRP report refers to a study that analyzed daily mortality and weather data in 50 U.S. cities from 1989 to 2000 and found that, on average, cold snaps in the United States increased death rates by 1.6 percent, while heat waves triggered a 5.7 percent increase in death rates. The study concludes that increases in heat-related mortality due to global warming in the United States are unlikely to be compensated for by decreases in cold-related mortality.
- Increases in regional ozone pollution relative to ozone levels without climate change are expected due to higher temperatures and weaker circulation in the United States and other world cities relative to air quality levels without climate change.
- CCSP concludes that, with increased CO_2 and temperature, the life cycle of grain and oilseed crops will likely progress more rapidly. But, as temperature rises, these crops will increasingly begin to experience failure, especially if climate variability increases and precipitation lessens or becomes more variable.
- Higher temperatures will very likely reduce live-stock production during the summer season in some areas, but these losses will very likely be partially offset by warmer temperatures during the winter season.
- Cold-water fisheries will likely be negatively affected; warm-water fisheries will generally

benefit; and the *49568 results for cool-water fisheries will be mixed, with gains in the northern and losses in the southern portions of ranges.

- Climate change has very likely increased the size and number of forest fires, insect outbreaks, and tree mortality in the interior West, the Southwest, and Alaska, and will continue to do so.
- Coastal communities and habitats will be increasingly stressed by climate change impacts interacting with development and pollution.
- Climate change will likely further constrain already overallocated water resources in some regions of the United States, increasing competition among agricultural, municipal, industrial, and ecological uses.
- Higher water temperatures, increased precipitation intensity, and longer periods of low flows will exacerbate many forms of water pollution, potentially making attainment of water quality goals more difficult.
- Ocean acidification is projected to continue, resulting in the reduced biological production of marine calcifiers, including corals.
- Climate change is likely to affect U.S. energy use and energy production and physical and institutional infrastructures.

Furthermore, the most recent NRC report from 2010 states that: "Global warming is closely associated with a broad spectrum of other climate changes, such as increases in the frequency of intense rainfall, decreases in snow cover and sea ice, more and increasingly intense heat waves, rising sea levels, and wide-spread ocean acidification. Individually and collectively, and in combination with the effects of other human activities, these changes pose risks for a wide range of human and environmental systems, including freshwater resources, the coastal environment, ecosystems, agriculture, fisheries, human health, and national security, among others."

The petitioners have not raised any objections to EPA's analysis and judgments concerning these risks and impacts to public health and welfare, which were the foundation of the Administrator's Endangerment Finding.

C. Review of the Administrator's Findings

Throughout this Decision, EPA explains why the petitioners' arguments and information fail to show that the scientific underpinnings of the Endangerment Finding are flawed. EPA remains convinced that the underlying science is robust, and that the Administrator appropriately interpreted the science to make the Endangerment Finding. This section summarizes the Administrator's December 2009 rationale and judgment based on the underlying science.

The Administrator exercised her judgment under CAA section 202(a) by evaluating what the body of scientific evidence indicates with respect to how greenhouse gases affect the climate, and the degree of scientific consensus about the appropriate conclusions to draw from this evidence. Based on this consideration, the Administrator proposed and took comment on her preliminary judgment of endangerment to public health and welfare. The Administrator found the case to be compelling that greenhouse gas air pollution endangers both public health and welfare within the United States. The underlying science that EPA relied on included careful qualifications and characterizations about the degree of certainty regarding the scientific conclusions that were germane to the Administrator's Findings. The Administrator's reasoning and decision-making process to reach the Findings make clear that there was full acknowledgement that certain elements of the science are known with virtual certainty and others are currently more uncertain.

A robust and comprehensive opportunity for comment allowed any and all objections regarding her judgment to be raised. After carefully reviewing the comments, the Administrator confirmed her judgment on endangerment and provided responses to the scientific, legal, and policy issues raised by commenters. The final rule explains in detail the basis for the Administrator's Endangerment Finding. Key elements of the Administrator's justification and decision process are summarized in the following 10 paragraphs from the December 15, 2009 Findings (74 FR 66523-24).

> "As described in Section II of these Findings, the endangerment test under CAA section 202(a) does not require the Administrator to identify a bright line, quantitative threshold above which a positive endangerment finding can be made. The statutory language explicitly calls upon the Administrator to use her judgment. This section describes the general approach used by the Administrator in reaching the judgment that a positive endangerment finding should be made, as

well as the specific rationale for finding that the greenhouse gas air pollution may reasonably be anticipated to endanger both public health and welfare.

First, the Administrator finds the scientific evidence linking human emissions and resulting elevated atmospheric concentrations of the six well-mixed greenhouse gases to observed global and regional temperature increases and other climate changes to be sufficiently robust and compelling. This evidence is briefly explained in more detail in Section V of these Findings. The Administrator recognizes that the climate change associated with elevated atmospheric concentrations of carbon dioxide and the other well-mixed greenhouse gases have the potential to affect essentially every aspect of human health, society, and the natural environment.

The Administrator is therefore not limiting her consideration of potential risks and impacts associated with human emissions of greenhouse gases to any one particular element of human health, sector of the economy, region of the country, or to any one particular aspect of the natural environment. Rather, the Administrator is basing her finding on the total weight of scientific evidence, and what the science has to say regarding the nature and potential magnitude of the risks and impacts across all climate-sensitive elements of public health and welfare, now and projected out into the foreseeable future. The Administrator has considered the state of the science on how human emissions and the resulting elevated atmospheric concentrations of well-mixed greenhouse gases may affect each of the major risk categories, *i.e.*, those that are described in the TSD, which include human health, air quality, food production and agriculture, forestry, water resources, sea level rise and coastal areas, the energy sector, infrastructure and settlements, and ecosystems and wildlife. The Administrator understands that the nature and potential severity of impacts can vary across these different elements of public health and welfare, and that they can vary by region, as well as over time.

The Administrator is therefore aware that, because human-induced climate change has the potential to be far-reaching and multi-dimensional, not all risks and potential impacts can be characterized with a uniform level of quantification or understanding, nor can they be characterized with uniform metrics. Given this variety in not only the nature and potential magnitude of risks and impacts, but also in our ability to characterize, quantify and project into the future such impacts, the Administrator must use her judgment to weigh the threat in each of the risk categories, weigh the potential benefits where relevant, and ultimately judge whether these risks and benefits, when viewed in total, are judged to be endangerment to public health and/or welfare.

This has a number of implications for the Administrator's approach in assessing the nature and magnitude of risk and impacts across each of the risk categories. First, the Administrator has not established a specific threshold metric for each category of risk and impacts. Also, the Administrator is not necessarily placing the greatest weight on those risks and impacts, which have been the subject of the most study or quantification.

Part of the variation in risks and impacts is the fact that climbing atmospheric *49569 concentrations of greenhouse gases and associated temperature increases can bring about some potential benefits to public health and welfare in addition to adverse risks. The current understanding of any potential benefits associated with human-induced climate change is described in the TSD and is taken into consideration here. The potential for both adverse and beneficial effects are considered, as well as the relative magnitude of such effects, to the extent that the relative magnitudes can be quantified or characterized. Furthermore, given the multiple ways in which the buildup of atmospheric greenhouse gases can cause effects (*e.g.*, via elevated carbon dioxide concentrations, via temperature increases, via precipitation increases, via sea level rise, and via changes in extreme events), these multiple pathways are considered. For example, elevated carbon dioxide concentrations may be beneficial to crop yields, but changes in temperature and precipitation may be adverse and must also be considered. Likewise, modest temperature increases may have some public health benefits as well as harms, and other pathways such as changes in air quality and extreme events must also be considered.

The Administrator has balanced and weighed the varying risks and effects for each sector. She has judged whether there is a pattern across the sector that supports or does not support an endangerment finding, and if so, whether the support is of more or less weight. In cases where there is both a potential for benefits and risks of harm, the Administrator has balanced these factors by determining whether there appears to be any directional trend in the overall evidence that would support placing more weight on one than the other, taking into consideration all that is known about the likelihood of the various risks and effects and their seriousness. In all of these cases, the judgment is largely qualitative in nature, and is not reducible to precise metrics or quantification.

Regarding the timeframe for the endangerment test, it is the Administrator's view that both current and future conditions must be considered. The Administrator is thus taking the view that the endangerment period of analysis extend from the current time to the next several decades, and in some cases to the end of this century. This consideration is also consistent with the timeframes used in the underlying scientific assessments. The future timeframe under consideration is consistent with the atmospheric lifetime and climate effects of the six well-mixed greenhouse gases, and also with our ability to make reasonable and plausible projections of future conditions.

The Administrator acknowledges that some aspects of climate change science and the projected impacts are more certain than others. Our state of knowledge is strongest for recently observed, large-scale changes. Uncertainty tends to increase in characterizing changes at smaller (regional) scales relative to large (global) scales. Uncertainty also increases as the temporal scales move away from present, either backward, but more importantly, forward in time. Nonetheless, the current state of knowledge of observed and past climate changes and their causes enables projections of plausible future changes under different scenarios of anthropogenic forcing for a range of spatial and temporal scales.

In some cases, where the level of sensitivity to climate of a particular sector has been extensively studied, future impacts can be quantified whereas in other instances only a qualitative description of a directional change, if that, may be possible. The inherent uncertainty in the direction,

> magnitude, and/or rate of certain future climate change impacts opens up the possibility that some changes could be more or less severe than expected, and the possibility of unanticipated outcomes. In some cases, low probability, high impact outcomes (*i.e.*, known unknowns) are possibilities but cannot be explicitly assessed."

The Findings show that the Administrator took a measured, balanced and systematic approach in judging the body of scientific evidence for the Endangerment Finding. The Administrator did not take a narrow view of the science, nor consider only those pieces of evidence that would support a positive endangerment finding.

In taking this approach, the Administrator determined that the body of scientific evidence compellingly supports a positive endangerment finding. The major assessments by the USGCRP, IPCC, and the NRC (published before 2010) served as the primary scientific basis supporting the Administrator's endangerment finding. The Administrator reached her determination by considering both observed and projected effects of greenhouse gases in the atmosphere, their effect on climate, and the public health and welfare risks and impacts associated with such climate change. The Administrator's assessment focused on public health and public welfare impacts within the United States. She also examined the evidence with respect to impacts in other world regions, and she concluded that these impacts strengthen the case for endangerment to public health and welfare because impacts in other world regions can in turn adversely affect the United States.

The Administrator considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public health by evaluating the risks associated with changes in air quality, increases in temperatures, changes in extreme weather events, increases in food- and water-borne pathogens, and changes in aeroallergens. The Administrator placed weight on the fact that certain groups, including children, the elderly, and the poor, are most vulnerable to these climate-related health effects.

The Administrator considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public welfare by evaluating numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife. For each of these sectors, the evidence provides support for a finding of endangerment to public welfare. The evidence concerning adverse impacts in the areas of water resources and sea level rise and coastal areas provides the clearest and strongest support for an endangerment finding, both for current and future generations. Strong support is also found in the evidence concerning infrastructure and settlements, as well as ecosystems and wildlife. Across the sectors, the potential serious adverse impacts of extreme events, such as wildfires, flooding, drought, and extreme weather conditions, provide strong support for such a finding.

The petitioners have not provided information that would lead EPA to believe that the Administrator's approach, briefly summarized here and explained in full in the December 2009 Findings, was flawed, should have been carried out differently, or should have led to a different conclusion.

D. General Response to the Petitioners' Scientific Arguments in Light of the Full Body of Scientific Evidence

EPA's overarching conclusion is that there is no material or reliable basis to question the validity and credibility of the body of science underlying the Administrator's Endangerment Finding or the Administrator's decision process articulated in the Findings themselves. The large body of scientific evidence and the Administrator's conclusions drawn from this evidence, including the appropriate characterizations as to the degrees of certainty and uncertainty in the underlying science, has not been changed by the arguments presented by the petitioners. While the petitioners largely rely on making broad assertions about the science based on private communications, EPA's focus is on the actual science itself, and the petitioners have not presented a valid basis supporting the view that the credibility or reliability of either the science or the scientific conclusions that petitioners contest have been undermined or changed in any material way.

The petitioners present very little scientific evidence or scientific arguments to support their views. As demonstrated above, they do not rely on an in-depth and comprehensive analysis of the science and make arguments on *49570 that basis. Instead they largely rely on a small number of statements from the CRU e-mails in which certain scientists expressed various thoughts and feelings, such as frustration and disrespect for other scientists, along with strong views on scientific issues and what constitutes good science. From this evidence, the petitioners conclude that the scientists acted together to distort the review and presentation of the body of science, and presented false, inaccurate, or misleading conclusions about what the body of scientific studies tells us about various aspects of climate change.

Petitioners do not argue their case by marshalling and synthesizing the breadth of the body of scientific evidence and demonstrating why it leads to a different conclusion than that presented in the underlying science supporting the Findings. Instead, they largely argue that the state of mind of these scientists and their private remarks must lead to the conclusions drawn by the petitioners. They also conclude, based on a selective reading of the CRU e-mails, that the state of the science must be much more uncertain than how it is characterized in the underlying assessment reports used by EPA and the Endangerment Finding. Other than the conduct of sending e-mails that evidence strong emotions or unprofessional language, the petitioners present almost no evidence of any actual conduct by the scientists that support their conclusion that the science was assessed inaccurately. Most of the conduct that is identified, such as statements about the professional challenges of working as an IPCC lead author or the discussion with a journal editor to delay the paper publication (but not the online publication) of a study, is of no relevance to the evaluation of the science involved in the assessment reports and the EPA rulemaking.

Petitioners' claims of distortion of data, withholding of temperature data, or abuses in data analysis also do not withstand scrutiny. These issues are addressed in fuller detail in volumes 1 and 3 of the RTP document. In addition, some of these issues were raised and addressed by EPA during the public comment period, and thus fail to meet the test in CAA 307(d). Petitioners have shown no evidence that the HadCRUT temperature record based on the underlying raw temperature data was flawed in any way, or that CRU's lack of possession of a small portion of the raw temperature data impedes the ability of other researchers to check the publically available data, or that it changes the scientific validity of the analyses performed by CRU. The HadCRUT temperature record remains consistent with all of the other evidence of warming, including other surface temperature analyses as well as other evidence of warming, such as satellite data, ocean temperature data, and physical and biological evidence of the effects of warming.

The petitioners ask EPA to reject the comprehensive and well-documented views reflecting a synthesis of the body of scientific evidence produced by the U.S. and the world's climate science community, and instead accept assertions and three profound leaps in logic, based on a very limited discussion of the underlying science. The first leap is that petitioners' objections to the HadCRUT surface temperature record and objections to reconstructions of past global temperatures are correct, and that as a result all other elements of greenhouse gas and climate change science indicating temperatures are increasing and that anthropogenic greenhouse gases are the primary driver should be called into question. The second leap is that some errors found in the IPCC AR4—errors that are both minor and tangential to EPA's Endangerment Finding—mean that any and all information from that report should be called into question. The third is that any other assessment report that relies on or references the IPCC AR4 in any way is also suspect and cannot serve as a foundation for the Endangerment Finding. EPA's review, discussed in the following sections and in fuller detail in the three volumes of the RTP document, plus the latest conclusions of the May 2010 NRC scientific assessment, lead us to the firm conclusion that the petitioners' specific arguments and broad claims must be rejected for their lack of supporting evidence and absence of comprehensive and clear scientific reasoning.

As stated in one of the findings of the Independent Climate Change E-mails Review, "In particular, we did not find any evidence of behaviour that might undermine the conclusions of the IPCC assessments." EPA's review and analysis leads to this same conclusion.

E. Specific Responses to the Claims and Arguments Raised by Petitioners

EPA's responses to the petitioners' specific claims and arguments are summarized here, and provided in more detail in the RTP document. The more general conclusions provided in this Decision, articulated above, are based on EPA's detailed analysis of and responses to the petitioners' issues contained in the

RTP document. As stated previously, the science-based objections raised by petitioners fall into three categories: Climate science and data issues; issues raised by EPA's use of IPCC AR4; and process issues. This section and the three volumes of the RTP document are organized around these three categories.

1. Climate Science and Data Issues Raised by the Petitioners

The climate science and data issues raised by the petitioners include (a) the validity of the temperature record from the distant past and whether or not recent observations of global warming are unusual; (b) the validity of the more recent surface temperature record; (c) the validity of the HadCRUT surface temperature record and other CRU datasets; (d) the validity of the recent surface temperature record as constructed by the National Oceanographic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA); and (e) the implications of new studies not previously considered. Each of these issues is addressed in general here and in fuller detail in the Volume 1 of the RTP document.

a. Validity of Paleoclimate Temperature Reconstructions and Attribution of Observed Temperature Trends to Greenhouse Gases

Petitioners raise various claims about the comparisons of current temperatures with historic temperatures of the distant past (called paleoclimate temperature reconstructions). Petitioners use these claims to contest the view that current warming is unusual and argue that EPA should not rely on this evidence to support the statement in the Endangerment Finding that recent warming can be primarily attributed to increased atmospheric concentrations of greenhouse gases caused by human emissions. EPA addresses these claims in Volume 1, section 1.1 of the RTP document, and summarizes the responses here.

As background, surface temperature records based on observation have global coverage over approximately the last 150 years. To determine temperatures in time periods before the instrumental record, climate scientists use indirect methods called "proxies." These indirect methods include examining tree rings, pollen, plankton records in sediment cores, and other proxies such as atomic isotope ratios in corals and other marine organisms. The statistical relationships found between the proxy and regional temperatures over the past 150 years (*i.e.*, the period when the datasets overlap) are then used to extrapolate over the hundreds or thousands of years before instrumental ***49571** records. Researchers combine a number of different proxies from around the world to develop their temperature reconstructions of the past. The further back in the past, the fewer proxies that exist and the greater the uncertainty becomes about estimating past temperatures. These reconstructions contribute to our understanding of historical temperatures and variability and enable comparison of present changes to changes in the past. They also allow testing of climate models and our understanding of how the climate system responded to historical conditions. The term "divergence" refers to a certain subset of the tree ring records whose growth in recent decades no longer correlates with (*i.e.*, it "diverges" from) temperature change in recent decades.

Petitioners claim the CRU e-mails provide new reason to highlight this divergence issue as it may undermine the use of historical temperature reconstructions. EPA disagrees, and finds that the CRU e-mails demonstrate that the scientists were well aware of the divergence issue and addressed it appropriately in their research and publications. A cursory examination of this literature and the assessment reports makes clear that the science community has long been aware of the tree ring divergence issue, as well as other issues concerning the certainty of proxy reconstructions. The uncertainties in the proxy reconstructions were fully presented in the assessment literature, and were considered by EPA in making the Endangerment Finding. In fact, during public comment on the proposed Finding, EPA evaluated and responded to these issues (*See* EPA RTC, Volume 2, comments 2-64 and 2-67). A recent NRC assessment (2006)[22] focused specifically on surface temperature reconstructions and it found that divergence is not an issue with all tree ring proxies, much less the many non-tree ring proxies used in the temperature reconstructions. The petitioners cite some studies[23] in support of their views that the divergence issue was hidden and not appropriately acknowledged. These studies do not support the petitioners' arguments, instead stating that the divergence problem is neither new nor hidden, that it is actually "widely perceived" and that the "potential consequences [are] discussed (*e.g.*, IPCC, 2007)."

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[22] National Research Council (NRC) (2006). Surface Temperature Reconstructions For the Last 2,000 Years. National Academy Press. Washington, DC.

[23] D'Arrigo, R. *et al.* (2008). On the "divergence problem" in northern forests: a review of the treering evidence and possible causes, 60 Glob. Planet. Chng. 289. Esper, J. and D. Frank (2009). Divergence pitfalls in treering research. Clim. Chng. 94: 261, 262.

Nonetheless, petitioners allege that a number of the CRU e-mails suggest that these temperature reconstructions were manipulated and that data has been hidden. Several petitioners refer to an e-mail including the phrase "Mike's Nature trick", claiming that this quote is evidence of deception. However, this e-mail about how to connect tree ring data and thermometer data was written in 1999, prior to the publication of the IPCC Third Assessment Report from 2001. The e-mail refers to a graph prepared for the front cover of World Meteorological Organization (WMO) report, unrelated to IPCC, published in 2000. This graph and underlying analysis that is being objected to by petitioners has no relevance to the discussion in either IPCC AR4 or EPA's TSD, and therefore did not enter into the Administrator's consideration for the Endangerment Finding. The IPCC AR4 and other assessment literature very transparently document, illustrate, and discuss the divergence issue, as did EPA in the TSD and RTC document. *See* Figure 4.3, TSD. Other quotes provided by the petitioners do not support a claim of "deliberate manipulation" or "artificial adjustments" when considered in context. This issue of historic temperature reconstructions is discussed in detail in Volume 1 of the RTP document. The UK Independent Climate Change E-Mails Review reached a similar conclusion to EPA's, stating that they "do not find that the way that data derived from tree rings is described and presented in IPCC AR4 and shown in its Figure 6.10 is misleading" and regarding the phenomenon of divergence that they "are satisfied that it is not hidden and that the subject is openly and extensively discussed in the literature, including CRU papers."

Petitioners also claim that the Medieval Warming Period may have been warmer than present temperatures, undermining the conclusion that greenhouse gases are a primary cause of current warming. Issues involving the Medieval Warming Period were addressed during the public comment period (*see* Response 2-62 of the RTC document). Petitioners raise this issue again because of their assertion that the CRU e-mails indicate that the current temperature record may be faulty, which to them gives the Medieval Warming Period new significance. In making their case, petitioners cite a temperature reconstruction without tree rings, notably a study that could have been submitted during the public comment period.[24] However, that paper uses an improper methodology, a straight average of 18 proxies, apparently without weighting them to account for geographic distribution or the strength of the data to detect temperature changes. In contrast, another study using a more sophisticated methodology[25] found that recent Northern

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[24] Loehle, C. and J. H. McCulloch, 2008. Correction to: A 200-year global temperature reconstruction based on non-tree proxies. Energy & Environment. 19(1): 93-100.

[25] Mann, M.E. *et al.* (2008). Proxy-based reconstructions of hemispheric and global surface temperature variations over the past two millennia. PNAS. 105:36.

Hemispheric warmth was anomalous regardless of whether tree ring data were included.

Petitioners argue that if the current warming is not "unprecedented," our ability to attribute the current warming to greenhouse gases is undermined, and that EPA has not provided "compelling" evidence that the current temperatures are unusual compared to the last 1,000 years. Petitioners misstate EPA's conclusions and overstate the role of this line of evidence. EPA has not claimed that current warming is "unprecedented"; the Administrator's Endangerment Finding stated that "The second line of evidence arises from indirect, historical estimates of past climate changes that suggest that the changes in global surface temperature over the last several decades are unusual." (74 FR 66518) EPA found the scientific evidence "supports" this conclusion (*see* for example section 4 of the TSD), not that it compels it, as petitioners incorrectly assert. EPA clearly characterized the uncertainty in this line of the evidence, properly stating that there is significant uncertainty in the temperature record prior to 1600 A.D. (*see* section 4(b) of the TSD).

This comparison to past temperature estimates is also only one part of the paleoclimate evidence. Other parts, not contested by petitioners, include (1) the correlation and interactions over time between periods of higher greenhouse gas concentrations and higher temperatures, and (2) the use of temperature reconstructions to evaluate and improve climate models. Overall, this comparison of current to past temperatures is but one part of one line of evidence in attributing current warming to greenhouse gases; it is not the primary line of evidence. The petitioners have not shown that EPA failed to properly characterize this evidence, and the petitioners' assertions regarding EPA's treatment and reliance ***49572** on this evidence are inaccurate and misleading.

Petitioners claim that characteristics of trends in the vertical temperature profile of the atmosphere should present a "fingerprint" of human-induced warming, and that this expected fingerprint has not been observed in the tropics, and that therefore the attribution of recent warming to human causes is placed into doubt. However, EPA recognized and already addressed this issue in the TSD (*see* section 5(a) of the TSD) which notes newer data sets are in general agreement with climate models in the tropics and therefore there is no longer an inconsistency. In addition, petitioners do not contest any of the other important pieces of evidence that link current warming to greenhouse gases, such as rates of sea level rise and Arctic ice loss.

Petitioners claim that the projections from climate models do not support attribution to greenhouse gases because the models have not explained why there may have been a slowdown in the rate of warming over the last 10 or so years. First, according to the latest NOAA (2010) data,[26] the decade spanning 2000-2009 was substantially warmer than the prior decade (1990-1999) (*see also* the figure in Response 1-22 in Volume 1 of the RTP document). The exact rate of warming in the past decade depends on one's choice of temperature record and the start and stop date chosen for computing a trend in that record. Second, whether models can reproduce a short-term slowdown in the warming in no way invalidates their use for attributing or projecting long-term changes in global climate from anthropogenic forcing of the climate system. The latter long-term projections are their primary purpose, not year-to-year projections of changes over a period of around a decade or less. In addition, recent studies indicate that short-term trends can run counter to overall long term trends, and the climate models can reproduce this.

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[26] *http://www.ncdc.noaa.gov/sotc/?re-port=global& year=2009& month=13&submitted=Get+Report#gtemp.*

The IPCC, NRC, and EPA's TSD appropriately reflect the state of the science and discussed the areas of uncertainty in temperature reconstructions. They fully considered the entire body of evidence, including the kinds of evidence and arguments presented by petitioners. In contrast, petitioners generally have not considered the breadth of evidence on these issues, and they fail to acknowledge the comprehensive treatment of these issues in the assessment reports. They have instead relied upon a limited selection of information that does not warrant the broad conclusions they draw.

Petitioners' evidence does not materially change or warrant any less reliance on the other important lines of evidence linking greenhouse gases and climate change: Our basic physical understanding of the effects of changing greenhouse gas concentrations and other factors; the broad, qualitative consistency between observed changes in climate and the computer model simulations of how climate would be expected to change in response to anthropogenic emissions of greenhouse gases (and aerosols); as well as other important evidence of an anthropogenic finger-print in the observed warming.

b. Validity of the HadCRUT Surface Temperature Record

Petitioners present five major arguments regarding the validity and use of the HadCRUT temperature record. In particular, they claim that: (1) Alleged destruction of raw data for the HadCRUT temperature record renders the scientific data on surface temperature worthless and makes replication of temperature trends impossible; (2) comments within code and log files are evidence of manipulation that "undercuts the credibility of CRU databases;" (3) a report allegedly claims to show that the Russian stations used in the HadCRUT temperature record were selectively chosen to show increased warming; (4) the IPCC improperly relied on Jones *et al.* (1990)[27] for its conclusions about the magnitude of the urban heat island effect; and (5) the allegedly faulty HadCRUT temperature record is the primary basis for the conclusion of "unprecedented" warming and the foundation of anthropogenic global warming analyses. In effect petitioners use these claims to contest the existence or amount of recent warming.

As background, monitoring the changes in the Earth's surface temperature is only one of several key components of studying climate change. Other indicators of climate change include receding glaciers, shrinking Arctic sea ice, and sea level rise, as well as a number of other temperature-sensitive physical and biological changes, such as bird migration patterns and changes in the length of the growing season.

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[27] Jones, P.D., P.Y. Groisman, M. Coughlan, N. Plummer, W.-C. Wang, and T.R. Karl (1990). Assessment of urbanization effects in time series of surface air temperature over land. Nature 347:169-172.

Surface temperature records are built on data collected from thousands of weather stations around the world, as well as sea surface temperature records taken by ships crossing the ocean on different routes, with some data going back more than 100 years. Because the data originates from many international sources, some quality control is required such as checking for and deleting data that are shown to be duplicate, or adjusting to account for inconsistent reporting methodologies. Additionally, these weather stations and their data were not originally intended to be used for long-term climate monitoring, and sometimes adjustments are necessary to avoid confusing a local artificial temperature change (*e.g.*, due to a shift in the elevation of a monitoring station) with large-scale or global temperature patterns.

The three major temperature record developers, CRU, NOAA, and NASA, all use different approaches for these adjustments. The approach by CRU is the only one of the three that relies on a substantial set of manual adjustments globally. NOAA uses an automated algorithm to adjust for discontinuities such as might be expected from station moves, with additional corrections in the U.S. because a large number of stations changed measurement instrumentation as well as the time of day of temperature readings. NASA uses NOAA's adjustments for the U.S. as an input, but uses an algorithm that identifies urban centers based on satellite observations and adjusts those urban centers to have trends that are consistent with nearby rural stations. In addition, the data are not evenly situated around the planet, and need to be extrapolated and averaged so that areas with many stations are not overrepresented and areas with few stations are not underrepresented. The kinds of adjustments made to the underlying raw data are designed so that the surface temperature analyses reflect as much as possible the actual direction and magnitude of any change in surface temperature and do not reflect other changes, such as changes in measurement devices.

The temperature reconstructions generally do not evaluate the average actual surface temperature, but rather determine the changes in temperature, both regionally and globally. The emphasis on changes in temperature is important, because they are better correlated with large regional changes. For example, two nearby stations—one on top of a mountain and one in the valley—will likely have different absolute temperatures, but are likely to ***49573** have similar changes in temperature over time.

CRU also maintains a dataset known as TS3.0, with TS2.1 as an older version. This dataset is different from HadCRUT, and includes various climate metrics and data information not in HadCRUT. TS2.1 is referred to in IPCC AR4 only twice in relation to historical precipitation data. Almost all of the references to global temperatures over time that refer to CRU data refer to the HadCRUT temperature record, and not the TS3.0 or 2.1 datasets.

i. Raw Data.

Several petitioners claim that CRU has not kept all of the raw data from the surface weather stations, only the adjusted data, *e.g.* corrected for station moves and measurement changes, and therefore the evidence for warming in the past century is questionable and cannot be independently replicated.

CRU acknowledges that it did not keep a small percent of the raw weather station data collected since the 1980s and that it cannot release other raw data because of agreements with national meteorological organizations. CRU has provided a detailed explanation for its handling of the data, and EPA already addressed this issue at length in Response 2-39 of the RTC. Not retaining a small amount of the raw data does not interfere in a material way with replication or development of independent estimates of global or regional surface temperature history. The vast majority of the raw weather station data is indeed publicly available from the Global Historical Climate Network (GHCN) and other public data sources, contrary to the petitioners' assertions. An independent estimate of global temperatures can be generated, as NASA/GISS, NOAA/NCDC, and other groups have done. The separate NASA and NOAA analyses of global surface temperature records find similar temperature increases and strongly support the conclusion that the HadCRUT surface temperature record accurately reflects the changes in temperature. The UK Independent Climate Change E-Mails Review was able to download raw data and produce global temperature trend results similar to the other analyses in less than two days. In addition, the major conclusions about warming based on the HadCRUT temperature record have remained robust, even as CRU integrated more data and refined its methodologies over two decades.

The petitioners do not provide any global analysis of the available data from temperature stations that yields a different result. Further, they have provided no evidence that an additional or different analysis using the publicly available temperature data would yield a different result from the warming reflected in the HadCRUT, NOAA and NASA analyses of global surface temperature. It is an unwarranted leap in logic to assume these analyses have no merit because a small percentage of the underlying raw data is no longer in CRU's possession.

ii. Biased Methods.

Petitioners claim the various methods that CRU used to integrate and adjust the surface temperature data introduce biases in the temperature record that were designed to support the view that global surface temperatures are increasing faster than they actually are. The petitioners refer to this as "manipulation" and cite several CRU e-mails and other documents as support. A couple of fragments of code and a debugging log (*HARRY_READ_ME.txt*) are quoted extensively as support for these claims.

EPA has thoroughly reviewed all of the disclosed CRU e-mails in light of the petitioners' claims, and EPA responds to all of the petitioners arguments in detail in Volume 1 of the RTP document. Here, EPA focuses on two of the most well-known CRU documents:

BRIFFA_SEPT98_.PRO and *HARRY_READ_ME.txt*.

The code fragment *BRIFFA_SEPT98—E.PRO* that includes a comment in the header for the code that states that the code "APPLIES A VERY ARTIFICIAL CORRECTION FOR DECLINE" is over a decade old and appears to be provisional test code. The comments in capital letters are to remind the programmer to replace the temporary fudge factors with more valid adjustments before the code is used for public products. It further appears that the "fudge" factor highlighted by petitioners is not related to the HadCRUT temperature record, but instead refers to the divergence issue discussed above and the unrelated WMO report. The petitioners do not show that the *BRIFFA_SEPT98_E.PRO* code has any relationship to the HadCRUT temperature record or that it was actually used for any public final product.

The *HARRY_READ_ME.txt* debugging notes are a record of attempts to update the CRU TS product by merging six years of additional data to an old data set and migrating the code to a new computer system at the same time. The petitioners fail to acknowledge that the CRU TS products are different from the HadCRUT temperature record that is referred to in the assessment reports and the EPA TSD, and they improperly assert that issues with the TS products directly call into question the HadCRUT temperature record. The file referred to by petitioners does indicate that there were a number of difficult quality control issues that had to be addressed concerning new data, the code written for the updating process, and the old code for producing TS2.1. The full debugging log demonstrates that a number of the identified problems were successfully fixed. Many of the quotes highlighted by petitioners were expressions of frustration that were not related to the quality of the product. A number of the problems were related to inconsistencies involving reported WMO codes used to identify weather stations. These inconsistencies have previously been highlighted in the literature, and the approach to address them as related in the log file was similar to the approaches detailed in previous papers. In sum, the *HARRY_READ_ME.txt* file is focused on issues that do not relate to the HadCRUT temperature record and contains no evidence of any attempts to bias any output data.

iii. Biased Dataset.

Petitioners claim that CRU scientists selectively chose Russian data stations to create a biased dataset that would show more warming than would the full dataset. To support this argument, they provide a link to a translation (hosted at a blog) of a report written in Russian by the Institute for Economic Analysis in Moscow (Pivovarova, 2009).[28]

Examination of this document indicates that the Moscow Institute for Economic Analysis temperature record using the full set of Russian stations agrees well after 1955 with the temperature record that the

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[28] Pivovarova, N. (2009). Institute for Economic Analysis (IEA): How warming is made. The case of Russia. (December 15, 2009). Available at: *http://www.iea.ru/article/kioto_order/15.12.2009.pdf;translation at: http://climateaudit.files.wordpress.com/2009/12/iea1.pdf*. Last accessed on April 26, 2010.

Institute derived from the set of stations used in the HadCRUT temperature record, and that the difference between temperature records derived from the two datasets is mainly in the 1850 to 1950 portion. However, the method used by the Institute for Economic Analysis to compare the two temperature datasets was an improper comparison of apples and oranges (*i.e.*, the HadCRUT temperature record uses a different geographic weighting approach than did the Institute for Economic Analysis, which is more important when the data is sparse as it is before 1955).

Petitioners also do not support their claim that CRU selectively picked stations. EPA has found no evidence in ***49574** the CRU e-mails or the information provided by petitioners to indicate that stations were chosen by CRU scientists. CRU uses a number of data sources and the petitioners did not assess whether these data sources included the missing Russian stations, or whether the stations met criteria discussed in published papers (*see* volume 1 of the RTP document).

iv. Urban Heat Island Corrections.

Petitioners criticize the urban heat island corrections as another alleged example of temperature data manipulation.

This issue is not new. EPA addressed urban heat island issues in responses 2-28 through 2-30 of the RTC document. Referencing Jones *et al.* (1990)[29] and other studies, IPCC AR4 concludes that "urban heat island effects are real but local, and have not biased the large-scale trends." In addition, satellite records are not susceptible to urban heat island effects and globally show similar trends to land-based measurements over their overlapping time period. EPA summarized this information in the TSD. EPA's specific responses to the petitioners' arguments are provided in Volume 1 of the RTP document.

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[29] Jones, P.D., P.Y. Groisman, M. Coughlan, N. Plummer, W.-C. Wang, and T.R. Karl (1990). Assessment of

v. Faulty Temperature Record Used by IPCC.

Petitioners claim the allegedly faulty HadCRUT temperature record is the primary or core support for IPCC conclusions on current warming, attribution, and projections of future warming, thus calling into question the fundamental conclusions of IPCC AR4 and EPA's use of IPCC AR4 as a primary reference to support the Endangerment Finding.

First, for reasons stated above and detailed further in Volume 1 of the RTP document, EPA disagrees with the petitioners' claims that the HadCRUT temperature record is faulty. Second, as noted previously, multiple independent assessments of climate change science by not only the IPCC but also USGCRP and NRC have concluded that warming of the climate system in recent decades is "unequivocal." This conclusion is not drawn from any one source of data, but is based on a review of multiple sources of data and information, which includes the HadCRUT temperature record, additional temperature records from other sources, and numerous other independent

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urbanization effects in time series of surface air temperature over land. Nature 347:169-172.

indicators of global warming (*see* section 4 of EPA's TSD).

NOAA and NASA surface temperature records show nearly identical warming trends to the HadCRUT temperature record, despite different analysis methodologies. Moreover, entirely independent records of lower tropospheric temperature measured by both weather balloons and satellites demonstrate strong agreement with the surface temperature records of all three organizations. The TSD also discussed the following additional indicators of global warming:

- Increasing global ocean heat content (Section 4(f) of the TSD).
- Rising global sea levels (Section 4(f) of the TSD).
- Shrinking glaciers worldwide (Section 4(i) of the TSD).

Changes in biological systems, including poleward and elevational range shifts of flora and fauna; the earlier onset of spring events, migration, and lengthening of the growing season; and changes in abundance of certain species (Section 4(i) of the TSD).

It is this entire body of evidence that supports the conclusion that there is an unambiguous warming trend over the last 100 years, with the greatest warming occurring over the past 30 years. Contrary to petitioners' claims, the models used to generate projections of future warming described in IPCC AR4 do not directly rely on the HadCRUT or other surface temperature records. These models are driven by physical equations describing the radiative properties and dynamics of the atmosphere and oceans and parameterizations of small-scale processes, not observed temperature data.

In summary, EPA disagrees with the premise of this claim—that the HadCRUT temperature record is faulty—and therefore disagrees that use of the HadCRUT temperature record within IPCC AR4 has somehow corrupted the IPCC's conclusions. In addition, the petitioners' claim that the HadCRUT temperature record is such a central thread to the entire IPCC AR4 that this would then invalidate all IPCC AR4 conclusions is unsupported and exaggerated.

c. Validity of NOAA and NASA Temperature Records

A number of petitioners question the validity of NO-AA and NASA surface temperature records, raising claims concerning station "drop-out," flawed or manipulative adjustments to data, and a lack of independence between the three major surface temperature records. EPA's response clearly shows that (1) petitioners rely on a questionable, non-peer-reviewed source which contains a number of inaccurate statements and relies on a scientifically flawed analysis; (2) petitioners demonstrate a fundamental scientific misunderstanding of what issues actually would lead to either a warming or cooling bias in the temperature record; and (3) petitioners fail to acknowledge that climatic records other than land surface temperature records also show clear warming trends.

As background, one of the sources of data for the HadCRUT temperature record is the GHCN, which was developed and is maintained by NOAA. The GCHN dataset is also used by both NOAA and NASA in their surface temperature records. NOAA, NASA, and CRU each calculate global surface temperature trends from a combination of GHCN data and other data sources. Each group performs different adjustments and corrections to the data, and in some cases uses different subsets of the GHCN data or includes other outside datasets.

Petitioners contest certain individual aspects or details of the surface temperature evidence, and in general raise objections that fail to recognize the various approaches used to develop the global surface temperature record. Many of the issues raised by the petitioners are not new, and have been addressed previously within the TSD and RTC document. Some objections fail to recognize that the change in temperature is being evaluated, not the absolute temperature level. Other objections misconstrue the underlying studies cited by the petitioners. In several cases, petitioners object that various adjustments to the raw data have the effect of changing the data, but they fail to consider that adjustments are appropriately performed, for example, to account for circumstances that otherwise would interfere with accurately isolating and determining a real trend in surface temperature. Petitioners fail to address the reasons behind the adjustments and fail to explain or show that the types of adjustments made in developing such datasets from multiple sources of data are not appropriate. Likewise, petitioners fail to account for the valid data-driven reasons that have led to a reduction over time in the number of weather stations used for the surface temperature analysis, fail to explain or show that the reductions have biased the temperature record, and overstate the magnitude of the temperature station reductions in some cases.

Consistency between all three separate surface temperature records (NASA, NOAA, CRU), as well as consistency between the three surface temperature records and other evidence of warming, such as satellite data, ocean ***49575** temperature data, and physical evidence of the effects of warming, should be seen as confirmation of the evidence of warming. Petitioners appear to assume that all of this evidence must be wrong because they, incorrectly (*see* above), allege that some of it is.

i. Station Drop-out.

Petitioners raise a number of issues regarding the alleged "drop-out" of stations after 1990, and the extrapolation of data from "warmer" areas to "colder" areas due to this drop-out or for other reasons. They claim this leads to bias in the global surface temperature record. Volume 1, section 1.4.3.1 of the RTP document addresses these claims in detail, and EPA's summary of the issue follows.

Many of the petitioners' arguments rely on a non-peer-reviewed document by D'Aleo and Watts (2010).[30] However, the study and the source upon which it relies do not support petitioners' claims and conclusions. D'Aleo and Watts (2010) provide no evidence that there was a systematic and purposeful "weeding out" process. Peterson and Vose (1997),[31] the paper describing the GHCN dataset, describes the procedures for updating the GHCN database and explains that there are fewer measuring stations post-1992 than during the 1980s because only three of the data sources were being be updated on a regular basis.

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[30] D'Aleo and Watts (2010). Surface Temperature Records: Policy Driven Deception? Available at: *http://scienceandpublicpolicy.org/originals/policy_driven_deception.html*. Accessed: April 8, 2010.

The D'Aleo and Watts study assumed that dropping stations at higher latitudes and in colder climates would result in a biased, warmer temperature trend. This unfounded assumption is a misunderstanding of the basic methodology used in analyzing surface temperature data. The surface temperature record sets evaluate the change in temperature over time at the various stations, not the absolute temperature level. The change in temperature over time is what indicates whether warming is occurring, not just the absolute temperature itself; for example, the Arctic region has been experiencing the highest rates of warming in the world, yet average Arctic temperatures are obviously still considerably colder than temperatures in most other world regions where average temperatures may not have increased as much. Petitioners incorrectly assume and do not explain why dropping these stations would bias the trend in the change in temperature toward greater warmth. In fact, petitioners fail to acknowledge that colder, high latitude areas are the regions of the world where the most warming is occurring, and is expected to continue occurring. If one were to accept this line of the petitioners' original argument, there should have been concern about a bias towards less warming, not more warming.

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[31] Peterson, T. C. and R. S. Vose (1997). An overview of the global historical climatology network temperature data base. Bull. Am. Met. Soc., 78: 2837-2849.

Moreover, the D'Aleo and Watts study used simple averages of absolute temperatures at the stations—without, apparently, taking into account their geographic distribution, much less calculating the change in temperature at the stations. This improper methodology is a significant error that undermines the petitioners' critique of the temperature records.

Furthermore, satellite data is available for the time periods of land-based station "drop-out", and the satellite temperature record is broadly consistent with surface temperature trends throughout the period when the "drop out" was occurring, confirming that the reduction in the number of data stations has not created a warming bias. Additionally, analyses using only stations with continuous records are almost identical to analyses using only stations which were "dropped" over the decades before the "drop-out", further undermining the petitioners' claim that a warming bias was introduced by the station "drop-out".

ii. Improper Heat Island Adjustments.

Petitioners assert that the urban heat island adjustments performed by NASA are insufficient or improperly applied, both globally and in the U.S. South-eastern Legal Foundation points to the study Long (2010)[32] as support for this assertion. These assertions are addressed in detail in volume 1, section 1.4.3.2 of the RTP document, and EPA's general response is summarized here.

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[32] Long, E.R. (2010). Contiguous U.S. Temperature Trends Using NCDC Raw and Adjusted Data for One-Per-State

The Long (2010) study found that the net effect of NOAA adjustments to the raw data led to more warming in rural stations (the NOAA adjustments for the U.S. are also used in developing the NASA temperature record). Neither the petitioners nor Long show, however, that the adjustments to rural stations were inappropriate. (As stated above, adjustments are sometimes necessary to ensure a real, and not artificial, temperature change is being recorded when, for example, there might be a change in the elevation of the station or the daily timing of temperature readings.) Importantly, Long does not take into account either the changes in the time of observation or the changes in instrumentation at many rural stations, both of which led to temperature discontinuities that must be accounted for (*e.g.*, through adjustments) in order to accurately portray the actual long-term temperature trend.

With respect to the claimed failure to account for the urban heat island effect (where metropolitan areas tend to be warmer than surrounding areas due to built up land surfaces and building materials that retain heat), this issue was raised previously during the public comment period and EPA has addressed this in the RTC document. Response 2-28 of the RTC document makes clear that all of the different surface

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Rural and Urban Station Sets. Available at *http://scienceandpublicpolicy.org/images/stories/papers/originals/Rate_of_Temp_Change_Raw_and_Adjusted_NCDC_Data.pdf. Accessed April 8, 2010.*

temperature datasets shown or cited in the TSD account for the urban heat island effect, either directly and/or indirectly. The TSD, citing IPCC (Trenberth *et al.*, 2007), summarized this issue as the following: " * * * urban heat island effects are real but local, and have not biased the large-scale trends." Note also that the oceans are warming and that the most rapid land-based warming is occurring in the Arctic, two areas where urban heat island effects are obviously not an issue.

iii. Data Adjustments.

Petitioners cite the records of some individual stations that they claim show inappropriate manipulation, referring to stations in Australia and New Zealand.

The evidence and arguments about data adjustments in New Zealand do not support the claim that these adjustments were invalid, after taking into account station history and neighboring station records. While there is some evidence that the automated algorithm may have introduced a spurious trend in one station in Australia in the NOAA temperature record (but not in the CRU or NASA temperature records), there was at least one valid reason for adjustment, and there is no evidence that this error in one station biases the large-scale global temperature trends. There is certainly no evidence of "chicanery" involved in these adjustments, as one petitioner claimed.

Petitioners focus on individual stations or limited areas. It is not surprising that data from one station or one region would show a large difference between adjusted and unadjusted data. The important point is that when the stations and regions are combined for a global analysis, these ***49576** kinds of effects are balanced out and do not produce a bias in the overall result. EPA addresses these issues for the specific station data at issue in New Zealand and Australia in greater detail in Volume 1, section 1.4.3.4 of the RTP document.

iv. Independence of the NOAA and NASA Temperature Records.

Some petitioners claim that the NOAA and NASA temperature records are not independent from the HadCRUT temperature record, developed by CRU, because they share some of the same raw data, and thus are assumed to also share some of the same alleged problems. EPA addresses these claims in volume 1, section 1.4.3.5 of the RTP document, and summarizes the response here.

The three major temperature records do rely on a large amount of raw data obtained from GHCN, though the HadCRUT temperature record in particular integrates additional data obtained from other, independent sources. As discussed above and throughout volume 1 of the RTP document, petitioners have not demonstrated any major flaws in the raw data. In addition, the processing of the GHCN data by the three groups is carried out independently from one another; therefore the similarities of the final temperature trends among the three groups provide additional confidence in those independent processing methodologies, and additional confidence in the consistent result that average global temperatures are increasing.

d. Implications of New Studies and Data Submitted by the Petitioners

Several petitioners identify scientific studies most (but not all) of which were published around the time of or shortly after the Administrator's December 2009 Endangerment Finding, as well as data not previously considered as part of the scientific record for the Endangerment Finding. Petitioners argue these studies and data have the potential to alter our under-standing of key aspects of the science and therefore warrant reconsideration of the Findings. Petitioners also argue that EPA ignored or misinterpreted scientific data that were significant and available when the Finding was made. These studies and data issues involve:

- Implications of a new study on stratospheric water vapor.
- Implications of material concerning whether carbon dioxide is well-mixed in the atmosphere and whether the airborne fraction of carbon dioxide has changed.
- Implications of new tropical cyclone studies.
- Implications of new data on observational snow cover trends.
- A claim that EPA ignored a satellite dataset.

Though some of these studies are new, they do not raise new issues that had not already been accounted for in the assessment literature used by EPA. Furthermore, petitioners misinterpret the findings of these new studies, make unsupportable claims, rely on incomplete and biased analyses, do not acknowledge important results, and, at times, ignore EPA's record. Contrary to the petitioners' claims, the new science cited by the petitioners does not undermine the key findings and conclusions that were reached in the assessment literature and the scientific foundation for the Administrator's Findings. EPA's study-by-study responses to the petitioners' assertions can be found in volume 1, section 1.5 of the RTP document.

2. Issues Raised by EPA's Use of the IPCC AR4 Assessment

The objections raised by petitioners involving EPA's use of IPCC AR4 include (a) claims that recently found errors in IPCC AR4 undermine the IPCC's credibility and therefore EPA's use of IPCC AR4 as a primary reference document to support the Findings; and (b) claims that the IPCC has a policy agenda and is not an objective scientific body. These issues are addressed here and in greater detail in volume 2 of the RTP document.

a. Claims That Errors Undermine the IPCC AR4 Findings and Technical Support for Endangerment

The petitioners allege certain errors and unsupported statements in IPCC AR4 show that the science EPA relied upon is uncertain and/or not credible. Petitioners focus on the errors found regarding the timing of future projected melting of Himalayan glaciers, the percentage of the Netherlands below sea level, and a few more minor issues highlighted in the petitions. Each of these identified and alleged errors in IPCC AR4 has been examined in detail by EPA in Volume 2 of the RTP document; the general response is provided here.

EPA has reviewed these IPCC AR4 issues in the context of the key IPCC AR4 conclusions that were germane to the Administrator's Endangerment Finding. The small number of errors and alleged errors in the IPCC AR4 report are not materially relevant for EPA's Endangerment Finding. Neither of the two errors that are verifiable (Netherlands sea level and Himalayan glaciers) are relevant to impacts in the United States and neither are part of the basis for the Endangerment Finding. Furthermore, there is no evidence that these two confirmed minor errors are an indication of a more serious problem with the quality and reliability of any other findings and conclusions from the IPCC AR4, including those that are relevant for the Endangerment Finding.

The remaining alleged errors, taken from non-peer-reviewed ("gray") literature, do not appear to be errors according to EPA's review. The IPCC provides guidance on how and when to use gray literature, and petitioners do not demonstrate that the guidance was not followed. Gray literature is not automatically incorrect or suspect, and an examination of the particular gray literature sources demonstrates that the petitioners' allegations regarding these alleged errors are unfounded. Furthermore, the IPCC AR4 statements at issue have no material relevance to EPA's Findings. Below are brief responses as to why the petitioners' assertions based on these known and alleged errors are unfounded and exaggerated. Additional detail on these issues is contained in Section 2.1, Volume 2 of the RTP document.

i. Percent of the Netherlands Below Sea Level

The IPCC AR4 erroneously stated that 55 percent of the Netherlands is below sea level, whereas the actual number is only 26 percent. The statistic quoted in the AR4 was inaccurate, and a correction was published by the Netherlands Environmental Assessment Agency. What should have been stated is that 55 percent of the Netherlands is at risk of flooding; 26 percent of the country is below sea level, and 29 percent is susceptible to river flooding. The error originated with the Netherlands Environmental Assessment Agency, not the IPCC. The IPCC published an official erratum (IPCC, 2010b)[33] correcting the mistake, and noted "The sea level statistic was used for background information only, and the updated information remains consistent with the overall conclusions."

EPA does not refer to or rely on this statistic in the Findings and the percentage of the Netherlands below sea level does not pertain to the endangerment of public health and welfare in the United States. This error is very minor and has no impact on the ***49577** climate science and health and welfare impacts supporting EPA's Endangerment Finding. Furthermore, there is no evidence that this minor error is somehow, as the petitioner would allege, an indication of flawed science and poor quality control practices sweeping across all conclusions of IPCC AR4.

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[33] IPCC (2010b). Fourth Assessment Report: Working Group II Erratum. Intergovernmental Panel on Climate Change (IPCC). 26 Jan. 2010. *http://www.ipcc.ch/publications_and_data/ar4/wg2/en/errataserrataerrata.html.*

ii. Himalayan Glacier Projection

Several petitioners state that the IPCC AR4 erred in projecting that glaciers in the Himalayas would disappear by 2035, and that EPA relied on this projection.

The IPCC did inaccurately state the year 2035 in that particular statement. The IPCC issued a correction concerning the melting of Himalayan glaciers (IPCC, 2010c)[34] which also found that its general conclusion (provided below) on this issue remains robust and "entirely consistent with the underlying science."

> Widespread mass losses from glaciers and reductions in snow cover over recent decades are projected to accelerate throughout the 21st century, reducing water availability, hydropower potential, and changing seasonality of flows in regions supplied by meltwater from major mountain ranges (*e.g.*, Hindu-Kush, Himalaya, Andes), where more than one-sixth of the world population currently lives.

EPA did not refer to the original IPCC projection in either its TSD or in the Administrator's Endangerment Finding. It does not impact climate change science findings or have any meaningful implication for the issue of endangerment in the United States. Furthermore, Volume 2, section 2.1.3 of the RTP document shows that EPA reviewed the entire discussion of glacial effects in IPCC AR4 and concludes that this single faulty projection does not compromise the IPCC's overall assessment of observed glacier loss, projected glacier loss, and the impacts of glacier loss on water resources in the Himalayas.

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[34] IPCC, 2010c. IPCC Statement on the Melting of Himalayan Glaciers, January 20, 2010. *http://www.ipcc.ch/pdf/presentations/Himalaya-statement-20january2010.pdf.*

iii. Characterization of Climate Change and Disaster Losses

The Southeastern Legal Foundation asserts that the IPCC AR4 mischaracterized the findings of a study on climate change and historic disaster losses. EPA addresses the specific study at issue in Volume 2, section 2.1.4 of the RTP document and provides its more general response to this study and this issue here.

First, EPA never cited or relied on the study at issue in its TSD. EPA did not discuss the link between climate change and the historic trends in the economic magnitude of disaster losses in the TSD. To support the Endangerment Finding, EPA cited the potential future impacts of climate change on the number and severity of extreme weather events, for which the Southeastern Legal Foundation levels no criticism. There are many different factors influencing the economic losses from a disaster, making it difficult to determine the impact of climate change from historic data on trends in economic disaster loss. Therefore, contrary to petitioners' claims, EPA did not rely on historic trends of economic disaster losses (the subject of the study at issue) to evaluate the likelihood that climate change would lead to an increase in the number or frequency of such weather events. EPA instead focused on the physical and environmental (not the economic) impacts associated with climate change. The Administrator's Endangerment Finding was clear that it was more forward-looking on this issue, stating:

> The evidence concerning how human-induced climate change may alter extreme weather events also clearly supports a finding of endangerment, given the serious adverse impacts that can result from such events and the increase in risk, even if small, of the occurrence and intensity of events such as hurricanes and floods. (74 FR 66526)

Furthermore, EPA's review of the particular study at issue in Volume 2, section 2.1.4 of the RTP document shows that IPCC did not mischaracterize this study (*e.g.*, IPCC included the appropriate caveats that were also stated in the underlying study), and that there were valid reasons for IPCC to use the study (*e.g.*, as the most recent study of its kind at the time).

iv. Validity of Alps, Andes, and African Mountain Snow Impacts

Several petitioners argue that IPCC claims of glacier melt in the Andes, the Alps, and parts of Africa arise from a magazine article and a Master's thesis, and thus should not be viewed as credible. This particular issue is addressed in Volume 2, section 2.1.5 of the RTP document, and EPA's response is summarized here.

First, the extent to which snow and glaciers in the Andes, Alps and parts of Africa are melting or are projected to melt is an issue that is tangential to the Administrator's decision that public health and welfare are endangered within the United States. Second, the petitioners mischaracterize these references within IPCC AR4, as these are actually references to "loss of ice climbs," not reductions in mountain glaciers. Loss of ice climbs is an indicator of warming over ice-covered areas. EPA acknowledges that these references come from gray literature but these citations are appropriate and within the IPCC's guidelines for use of gray literature. They provide additional evidence consistent with the peer-review-supported conclusion that in most places snowpack is declining and glaciers are melting worldwide. Furthermore, EPA did not rely on these references or refer to "loss of ice climbs" as an indicator of climate change.

v. (v) Validity of Amazon Rainforest Dieback Projection

Petitioners challenge the IPCC's statement that "[U]p to 40 percent of the Amazonian forests could react drastically to even a slight reduction in precipitation," alleging that it is unsubstantiated gray literature. EPA reviews this issue in Volume 2, section 2.1.6 of the RTP document and provides its general response here.

The IPCC AR4 statement in question about the Amazon appears to have been inadequately referenced but the content of the statement is correct according to the underlying literature. For this statement, the IPCC did cite gray literature[35], which itself cited a peer-reviewed study[36] and relied on other peer-reviewed literature. It is worth noting that a newspaper that originally reported this alleged problem with the IPCC's representation of this Amazon issue recently reversed itself and printed a correction on June 20, 2010.[37] Morever, this issue is not discussed in the TSD and is of no relevance to the Findings.

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[35] Rowell, A. and P.F. Moore (2000). Global Review of Forest Fires. World Wildlife Federation and The World

vi. Validity of African Rain-Fed Agriculture Projection

Some petitioners object that a statement in EPA's TSD based on a statement in IPCC AR4 concerning reduction of yields from rain-fed agriculture in some countries in Africa was from gray literature and is therefore not credible. EPA reviews this issue in Volume 2, section 2.1.7 of the RTP document and provides its general response here.

There is no evidence that the IPCC statement in question regarding African *49578 rain-fed agricultural yields is not credible, based on the underlying studies, nor is there any evidence that IPCC authors acted inappropriately by citing the material on which this statement is based. The IPCC

Conservation Union. available at: *http://data.iucn.org/dbtw-wpd/edocs/2000-047.pdf. (last accessed April 12, 2010).*

[36] Nepstad, D. C., *et al.* (1999). Large-scale impoverishment of Amazonian forests by logging and fire. Nature 398:505-508.

[37] Sunday Times correction. *http://www.thesundaytimes.co.uk/sto/news/uknews/Environment/article322890.ece.*

statement cites a report[38] published by the International Institute for Sustainable Development funded by Canada, U.S. AID, and other public and private institutions. The percent reduction number was obtained from vulnerability studies prepared under the UN Environmental Programme Global Environment Fund and National Communications of three African countries to the UNFCCC. This study was included due to the paucity of peer-reviewed material relating to some parts of the world, particularly Africa. This is consistent with the IPCC's guidance on the use of gray literature. Furthermore, the statement relates to impacts outside the United States, and it did not materially impact the Administrator's determination of endangerment of public health and welfare in the United States.

b. Response to Claims That the IPCC Has a Policy Agenda and is Not Objective and Impartial

Several petitioners raise various arguments to support their allegation that IPCC AR4 is advancing a policy agenda and is not an objective and impartial scientific body, thus questioning EPA's use of IPCC AR4 as a significant reference document to support the Administrator's Findings.

EPA reviews and responds to each of these claims in Volume 2, section 2.2 of the RTP document, and provides the more general responses here. EPA also previously responded to public comments about IPCC's report development procedures in the RTC document (*see* Volume 1, section 1 and Appendix A, "IPCC Principles and Procedures").

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[38] Agoumi, A. (2003). Vulnerability of North African Countries to Climatic Changes. International Institute for Sustainable Development and the Climate Change Knowledge Network. (2003). Available at: *http://www.cckn.net//pdf/north_africa.pdf*. Accessed April 12, 2010.

The petitioners submit four objections along with excerpts from the CRU e-mails related to: (1) Authorship and reviewer roles among IPCC personnel; (2) a CRU e-mail allegedly showing that IPCC authors were aware that citing their own papers could be seen as using the IPCC process to advance their own views rather than to present a neutral overview of the science; (3) allegations that the IPCC is a biased organization, including claims that IPCC lead authors encouraged other authors to focus on policy-prescriptive science; and (4) allegations that IPCC authors forced consensus and altered the contents of the assessment reports to eliminate any suggestion of non-consensus.

After reviewing the petitioners' arguments, EPA finds that the evidence and arguments provided by petitioners do not support their serious allegation that the peer-review and assessment report processes employed by the IPCC were "fundamentally corrupt" and policy prescriptive. The petitioners' arguments, which heavily rely on the selective use and narrow reading of CRU e-mails, as well as some newspaper articles, do not demonstrate that the IPCC peer-review and report development processes were inadequately designed or that they were not properly implemented. These allegations by the petitioners are devoid of any scientific evidence or scientific argument that would cause EPA to find that the key conclusions of IPCC AR4 are inaccurate or that they do not appropriately reflect the degree of scientific consensus on the scientific issues germane to the Administrator's Endangerment Finding. Therefore, petitioners' evidence and arguments do not support changing EPA's position, as stated in the Endangerment Finding, that the assessment literature, including IPCC AR4, represents the "best reference materials for determining the general state of knowledge on the scientific and technical issues before the agency in making an endangerment decision."

Volume 2, section 2.2.3.1 of the RTP document, for example, demonstrates that, contrary to petitioners' assertions, a few scientists that were not named as contributing authors for Chapter 6 of IPCC AR4, Working Group I[39] did not contribute significantly to the writing and editorial decisions of that chapter. Given their very limited role in the chapter (*e.g.*, providing input on a single figure), it is entirely reasonable that they were not named contributing authors, who are charged with writing parts of the report. Therefore, EPA finds that there is no basis for the claim that IPCC reviewer and author procedures were circumvented. EPA's review of this issue is consistent with the finding of the Independent Climate Change E-mails Review[40] which stated, among other things, that "There is no proscription in the IPCC rules to prevent the author team seeking expert advice when and where needed."

Petitioners appear concerned about the contributing author designation because these few scientists were expert reviewers of the IPCC AR4, and the petitioners believe that the act of providing even a limited amount of information, in addition to their reviewer roles, would have given them undo power to shape the report. This argument is baseless. EPA notes that although the expert review comments are available to the public[41], petitioners did not provide a single example from the comments of these individuals to support their claim of undo influence or abuse of their purported "power" over IPCC AR4 conclusions.

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[39] Jansen *et al.*, 2007.

[40] Russell, 2010.

Volume 2, section 2.2.3.2 of the RTP document examines the allegation by petitioners that the frequency with which IPCC authors cite their own studies should be viewed as unacceptable and seen as evidence that IPCC AR4 lacks objectivity. First, it should come as no surprise that for some of these fairly specialized fields of climate change science authors who publish the most on these topics would in turn be selected by IPCC to author chapters on those same topics. EPA finds the frequency with which IPCC authors cite their own peer-reviewed studies to be entirely acceptable and reasonable. Again, petitioners completely fail to show why this underlying cited literature itself is flawed or why the IPCC AR4 conclusions, based on this underlying literature, are flawed. Importantly, one of the CRU e-mails that petititioners use as purported evidence of IPCC authors engaged in foul play to cite their own work actually shows an IPCC coordinating lead author explicitly encouraging his IPCC co-authors to minimize citations to their own work, and to do so only "unless they are absolutely needed."

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[41] Reviewer comments and author responses for draft chapters of IPCC AR4 Working Group I and II volumes (the primary volumes at issue for the Endangerment Finding) are publically available at the following Web sites, respectively: *http://hcl.harvard.edu/collections/ipcc/* and *http://ipcc-wg2.gov/publications/AR4/ar4review.html.*

Volume 2, section 2.2.3.3 of the RTP document examines the petitioners' assertion that IPCC is biased and that IPCC authors worked to produce policy-prescriptive science and to reach preconceived conclusions. Here too, the petitioners do not address any of the IPCC AR4 science directly. Rather, petitioners refer to a selection of CRU e-mails by IPCC authors who wrote to other IPCC co-authors to urge them, for example, to focus on "policy relevant" science. First, "policy relevant" by no means implies "policy prescriptive" or scientifically biased. It is, in fact, policy informative and neutral, in direct contrast to the goal of policy ***49579** prescriptive statements. Second, petitioners do not identify how specific information in IPCC AR4 should be considered biased as a result of the private e-mail exchanges. Petitioners do not high-light the specific statements in the IPCC AR4 that are supposedly "policy prescriptive," never explain what policy agenda was being advanced, and never describe how the CRU e-mails support their claim that the science was actually manipulated in service of this unspecified agenda. The IPCC's own guidelines[42] state that its mission is to produce information that is "policy relevant and policy neutral, never policy prescriptive." There is no evidence provided by petitioners that IPCC authors deviated from this practice.

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[42] IPCC, 2010c.

In another example in Volume 2, section 2.2.3.3 of the RTP document, petitioners claim that a CRU e-mail exchange demonstrates that IPCC authors were colluding to make a strong case about a certain scientific conclusion rather than working to produce neutral science. EPA's review shows that there is no support for this claim. EPA's review shows that the CRU e-mails, in their full context, speak for themselves and simply show a small group of scientists working on various alternative ways to present a figure that was comprehensive and offered key contextual information on temperature trends over the past several centuries. Petitioners do not show that these alternatives—which are discussed in the e-mails—are biased, or explain why the option that was selected is not "neutral." If fact, the e-mail record shows that the alternative selected was the most comprehensive and transparent of the options.

In Volume 2, section 2.2.3.4 of the RTP document, EPA reviews petitioners' claim that certain IPCC authors kept out some studies with the goal of hiding any non-consensus on key issues. The CRU e-mail ex-changes among some IPCC authors are the only piec-es of evidence offered by petitioners to support this allegation. EPA's review of this issue demonstrates that the CRU e-mails simply do not show that the contents of the IPCC chapter in question, let alone the contents of the entire IPCC AR4, were altered to eliminate a suggestion of non-consensus, or IPCC authors actively tried to suppress (or were successful in suppressing) external challenges to consensus. It is not uncommon for scientists to critique the work of others, and the e-mails do not provide evidence that the IPCC authors acted unethically. Section 2.2.3.4 of the RTP document also addresses the now oft-cited e-mail where an IPCC author states, "I tried hard to balance the needs of the science and the IPCC, which were not always the same." Petitioners claim this e-mail demonstrates a biased IPCC process. A simple reading of the entire e-mail exchange reveals a different story. In fact, this IPCC author gets complimented from another for his objectivity and even-handedness in handling the challenges of working on IPCC AR4. This IPCC author also expressed frustration with the time spent away from doing new science, which is not the primary job of an IPCC chapter author or of the IPCC in general; the primary role of the IPCC is to assess existing science already published in the literature, *i.e.*, in this author's words, "the needs of the science and the IPCC" are not always the same. In context, it is clear that the needs of the IPCC in this case are the requirements of doing assessments of existing literature rather than producing "original and substantive" work. EPA's review demonstrates that when the e-mails are read in their full context, it is clear that the authors of these e-mails sought to convey the science accurately and address disagreements in a fair and even-handed way. Again, petitioners have selectively picked excerpts from these e-mails to make assertions attacking the underlying science of the Endangerment Finding, but these assertions simply have no support.

3. Process and Other Issues Raised by the Petitioners

The process and other issues raised by the petitioners include claims that (a) the USGCRP and the NRC are not separate and independent assessments from IPCC; (b) EPA's process to develop the scientific support for the Findings is flawed; (c) there are improper peer-review processes in the underlying scientific literature used by the major assessments; and (d) certain scientists did not adhere to Freedom of Information Act requests. Each of these issues is addressed below and in more detail in Volume 3 of the RTP document.

a. Claims That the Assessments by the USGCRP and NRC Are Not Separate and Independent Assessments

Two petitioners argue that the assessment reports upon which EPA relied are not from three separate, independent groups. They claim that the USGCRP and NRC assessment reports are not separate and independent because they are based on the findings of IPCC AR4. Petitioners claim the USGCRP and NRC reports regularly cite and rely on data, resources, and conclusions in the IPCC reports, contradicting arguments that all three of the assessments are separate and independent. The petitioners argue that because of this the USGCRP and NRC assessments must be flawed in the same way that IPCC AR4 is purported to be flawed by the petitioners. Volume 3, section 3.2 of the RTP document addresses this claim and EPA summarizes its response here.

EPA finds no merit to this argument. The organizational and personnel differences, and the detailed and robust report development procedures employed by the IPCC, USGCRP, and NRC demonstrate that these assessment reports are separate and independent. Petitioners' claims to the contrary are insufficient and unsubstantiated.

The similarity of the conclusions among the assessment reports from the three bodies, for example, provides evidence of the strength of the science in that it consistently points different scientific reviewers in the same direction. The fact that each of these bodies referenced many of the same studies and IPCC AR4 or arrived at consistent conclusions is not evidence that these reports are not independent assessments of the available science related to climate change. The test of separation and independence is not whether an assessment reaches a different result or conclusion, it is whether independent discretion and judgment were exercised. To assert, as the petitioners do, that consistency of results represents a weakness rather than a strength of the underlying science is an unwarranted argument that assumes fundamental flaws in the IPCC and a resulting grand ripple effect across all the major assessments used by EPA. EPA discusses above and further demonstrates throughout the RTP document that there is no material or reliable basis to question the validity and credibility of the body of science underlying the Administrator's Endangerment Finding, including the IPCC AR4 conclusions and its underlying studies, and therefore EPA rejects the premise of this argument.

Furthermore, the USGCRP, the IPCC, and NRC have their own, separate report development procedures. These separate processes have already been described in the TSD and in the RTC document, Volume 1. The differences in the organizations, the groups of scientists who developed the assessments, and scope of the assessments produced by each body is discussed in detail in Volume 1 of the RTC document.

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- The IPCC, created in 1988 by the United Nations Environment Programme and the World Meteorological Organization (WMO), is open to all member countries of the United Nations and the WMO. At regular intervals, the IPCC prepares comprehensive assessments of scientific, technical, and socio-economic information relevant for the understanding of human-induced climate change, potential impacts of climate change, and options for mitigation and adaptation all at global and regional scales. The most recent assessment—the AR4—included thousands of scientists from all over the world, who participated on a voluntary basis as authors, contributors, and reviewers (IPCC, 2007a). While many federal and non-federal scientists from the United States were involved in the development of the AR4, the United States is just one of 194 countries that contribute to the assessments.
- The USGCRP is part of the United States Executive Branch. Thirteen departments and agencies participate in the USGCRP, including EPA. A critical role of the interagency program is to coordinate research and integrate and synthesize information to achieve results that no single

agency, or small group of agencies, could attain. Between 2004 and 2009, the USGCRP produced 21 synthesis and assessment reports on a wide range of topics (*e.g.*, temperature trends in the lower atmosphere; weather and climate extremes in a changing climate; and the effects of climate change on agriculture, land resources, water resources, and biodiversity). The USGCRP assessment reports are developed to enhance understanding of natural and human-induced changes in the Earth's global environmental system; to monitor, understand, and predict global change in the United States; and to provide a sound scientific basis for national and international decision-making. Each of these reports had a unique team of authors, drawn from relevant disciplines. Many authors were federal scientists, and in some cases, nonfederal scientists contributed their expertise to the process. While some of the USGCRP authors participated in the development of the IPCC AR4, most did not.

- The NRC is an independent scientific organization that is not affiliated with either the IPCC or USGCRP. As described in Appendix C of Volume 1 of the RTC document, the NRC:

> enlist(s) the nation's foremost scientists, engineers, health professionals, and other experts to address the scientific and technical aspects of society's most pressing problems. Each year, more than 6,000 of these experts are selected to serve on hundreds of study committees that are convened to answer specific sets of questions. All serve without pay. Federal agencies are the primary financial sponsors of the Academies' work. Additional studies are funded by state agencies, foundations, other

> private sponsors, and the National Academies endowment. The Academies provide independent advice; the external sponsors have no control over the conduct of a study once the statement of task and budget are finalized. Study committees gather information from many sources in public meetings but they carry out their deliberations in private in order to avoid political, special interest, and sponsor influence.

Ten NRC reports are cited in the Endangerment Finding and TSD. Each of these reports has a unique author committee, selected based on their areas of expertise. While some of the NRC study committee members have participated in either the IPCC or USGCRP report development processes, many have not.

The USGCRP and NRC reports on which EPA relied were the result of an objective review and assessment of the scientific literature available at the time of their development (including any previously published assessments), related to the effects of greenhouse gas emissions on the climate system and the impacts of these changes on ecosystems and society. The organizations conducting the reviews were distinct and separate, and neither organization had control or supervision over the other. The groups of scientists involved in the reviews overlapped to some degree, but significant numbers of scientists were involved with one but not other reports. In all cases, personnel at NRC who supervised the review and preparation of the final reports were different from those who performed these functions for USGCRP.

Like the IPCC, the USGCRP and NRC provide public opportunities to provide input and comment during report development (*see* RTC document, Volume 1). In addition, the NRC reports undergo a rigorous, independent external review by experts whose comments are provided anonymously to the committee members.

Separate and apart from the issue of the independence of these assessment reports, the petitioners provide no information to demonstrate that the key scientific conclusions of the IPCC, USGCRP, and NRC are wrong or that EPA erred in relying upon them. The specific science issues raised by petitioners are discussed throughout this Decision and in the RTP document. Thus, whether or not the various assessment reports are separate and independent, EPA reasonably relied upon them as reflecting the current state of the science and the degree of broad consensus within the science community on these issues.

Bolstering the case that the IPCC, USGCRP and NRC assessments available at the time of the final Endangerment Finding in December 2009 were robust and appropriate for EPA to use, the May 2010 assessment of the NRC, "Advancing the Science of Climate Change," states that its major scientific conclusion is "consistent with the conclusions" of those previous assessments. Note also that this May 2010 NRC assessment was able to incorporate scientific literature published since EPA completed its scientific record to finalize the 2009 Endangerment Finding.

b. Approaches and Processes Used To Develop the Scientific Support for the Findings

Several petitioners object to the process and approach EPA used in developing the scientific support for the Endangerment Finding. One of these specific arguments is new whereby the petitioners allege that EPA ignored public concerns about the implications of the e-mails involving scientists at the CRU, and instead "plowed ahead with compromised data, undermining its core conclusions in the process." EPA discusses and responds to this issue in section (i) below and in section 3.1.2 of the RTP document. The petitioners also raise issues that EPA already responded to in Volume 1 of the RTC document. Some of the concerns submitted are supported with "new information" and some are not. In (ii) below, EPA summarizes the response to the claim that EPA did not independently judge the underlying science, and in (iii) below EPA concludes that the Agency did not violate the Information Quality Act (IQA, or the Data Quality Act), as alleged by petitioners. Section 3.1.3 of the RTP document more fully responds to these three allegations and other related concerns raised by the petitioners regarding the process and approach EPA used in developing the scientific support for the Endangerment Finding.

i. Issues Regarding Consideration of the CRU E-mails

The sole new argument raised by petitioners regarding the approach and process EPA used into develop the Findings is that EPA ignored public concerns about the implications of the e-mails involving scientists at CRU, and instead "plowed ahead with compromised data, undermining its core ***49581** conclusions in the process." EPA responds to this issue in Volume 3, section 3.1.2 of the RTP document and summarizes its response here.

Prior to finalizing the Endangerment Finding, EPA carefully reviewed many of the CRU e-mails, and determined that many of the issues raised therein had also been raised through the public comments on the proposed Findings. EPA reviewed the underlying scientific issues that were presented to EPA at the time (*see*, for example, RTC Volume 2). Based on that initial review, EPA concluded that the fundamental conclusions of the assessment literature remained sound as to the state of the science on greenhouse gases and climate change. EPA did not inappropriately "plow ahead;" EPA assessed the issues raised by commenters and the CRU e-mails in light of our comprehensive review of climate science and all of the objections to the science raised by commenters, and concluded that our review of the science and the conclusions based on it were sound.

Petitioners have now raised more specific concerns with respect to the CRU e-mails. EPA has reviewed all of the CRU e-mails, and our responses to the particular science issues raised by petitioners in light of these e-mails are provided in other sections of this Decision and in the RTP document. As discussed there, petitioners have routinely misunderstood or mischaracterized the scientific issues, drawn faulty scientific conclusions, resorted to hyperbole, impugned the ethics of climate scientists in general, characterized actions as "falsification" and "manipulation" with no basis or support, and placed an inordinate reliance on blogs, news stories, and literature that is often neither peer reviewed nor accurately summarized in their petitions. Petitioners often "cherry-pick" language that creates the suggestion or appearance of impropriety, without looking deeper into the issues or providing corroborating evidence that improper action actually occurred.

ii. Claims That EPA Did Not Independently Judge the Underlying Science

Several petitioners argue that the Administrator did not independently judge the primary scientific literature and data. Instead, they claim that she improperly relied on summary scientific reports produced by third parties or "foreign entities." This is not a new issue brought to EPA, but was raised and addressed during the public comment period. Section III.A of the Findings responds to comments that EPA should have conducted its own independent assessment of the primary scientific literature and not relied on scientific reports produced by third parties such as the USGCRP, NRC or IPCC. *See* also Volume 1 of RTC document, particularly Response 1-1.

It is useful to describe the process EPA followed in exercising its scientific judgment in making the Endangerment Finding. EPA did not passively and uncritically accept a scientific judgment and finding of endangerment supplied to it by outsiders. Instead, EPA evaluated all of the scientific information before it, determined the current state of the science on greenhouse gases, the extent to which they cause climate change, how climate change can impact public health and public welfare, and the degree of scientific consensus on this science. EPA applied this science to the legal criteria for determining endangerment, *i.e.*, whether greenhouses gases cause, or contribute to, air pollution that may reasonably be anticipated to endanger public health or welfare. EPA did this after presenting its scientific views before the public for comment and evaluating and considering all comments received, as well as documenting responses to all significant public comments (*see* volumes 1-11 of the RTC document). EPA properly and carefully exercised its own judgment in all matters related to the Endangerment Finding.

The core of petitioners' objection is that they do not agree with important parts of the scientific information upon which EPA relied. They frame this as a failure of EPA to exercise its own judgment, or as EPA ceding to an outside body its responsibility to exercise independent judgment. It is clear from the record for the Findings that EPA exercised its own judgment and did not cede its authority or judgment to anyone. The fact that petitioners disagree with the information EPA relied upon and EPA's conclusions is not evidence of a lack of exercise of discretion or judgment.

EPA relied on the existing assessment reports of the USGCRP, IPCC, and NRC as a primary source for determining the current state of the science relating to greenhouse gases and climate change, and for determining the degree of scientific consensus on these issues. EPA's view then and now is that these assessment reports represent the best primary references to provide the scientific underpinnings to inform the Administrator's judgment regarding endangerment. These assessment reports provide exactly the kind of information that is required, *i.e.*, they demonstrate how greenhouse gases are affecting the climate now, are projected to affect climate in the future, and how these current and projected climate changes impact public health and welfare. These assessment reports also bring together and synthesize the numerous individual studies in the scientific literature to draw overarching conclusions about the state of the science. Finally, each of these assessment reports go through rigorous and transparent peer-review processes, such that the conclusions carry significant weight in a way that is typically not possible for one individual study in a scientific journal. EPA's review of the objections raised by petitioners to the process and the substance of the various assessment reports does not support changing this view.

The petitioners appear to imply that EPA would have drawn different conclusions had it conducted its own separate assessment. After examining the breadth and quality of the USGCRP, IPCC, and NRC assessments, EPA disagrees. These reports already reflect the body of underlying scientific literature that EPA itself would have had to synthesize had it decided to conduct yet another assessment, independent from USGCRP, IPCC and NRC. These assessments have been reviewed and formally accepted by, commissioned by, and in some cases authored by U.S. government agencies and individual government scientists. By relying on the assessment literature, EPA is benefitting from the confidence and strength of an entire federal research enterprise. There is no reason to think that these assessments do not represent the best primary source material to determine the state of science on the relevant issues.

Petitioners disagree with some of the conclusions of the assessment literature and believe that not all scientific points of view were fully considered therein. However, there was a robust public comment process on EPA's proposed Endangerment Finding, which provided an opportunity for the public to evaluate and comment on EPA's preliminary scientific conclusions. Many commenters provided literature and/or arguments to support their views and EPA reviewed such literature and arguments in the Agency's responses. EPA's final judgment was based on EPA's evaluation of both the assessment literature and the additional information and views provided through public comment. EPA has no reason to believe that putting this significant body of work aside and attempting to develop a new and separate assessment would ***49582** provide any better scientific basis for making the endangerment decision.

iii. Claims That EPA Violated the Information Quality Act

EPA already provided a detailed response to arguments of alleged IQA violations in RTC Volume 1. The petitioners now make essentially the same general argument that EPA's use of third-party assessment reports violates the IQA. EPA notes that the petitioners are reraising this issue in the petitions for reconsideration because they believe that the CRU e-mails show that "IPCC authors deleted information and hid behind foreign laws to avoid disclosure of key data" and that EPA would not have been able to obtain the data anyway. EPA responds to allegations involving the behavior of CRU scientists, including the allegation that data was destroyed, in (c) below, Volume 1 of the RTP document and Sections 3.3 and 3.4 of the RTP document. As stated in these sections, the evidence submitted by the petitioners in the form of the CRU e-mails does not support their allegation that data were destroyed. Therefore, the "new" information presented by the petitioners does not call into question the overall integrity of the science, nor does it call into question the process EPA used in developing the Findings. As noted in RTC Volume 1, the IQA requires that an agency issue guidelines regarding data quality and ensure their implementation. EPA complied with the IQA by issuing its *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by the Environmental Protection Agency* (U.S. EPA, 2002)[43] and has acted consistently with these guidelines in developing the Findings. As stated in RTC Volume 1, EPA's use of the assessment literature "is consistent with these guidelines because we thoroughly reviewed and evaluated the author selection, report preparation, expert review, public review, information quality, and approval procedures of IPCC, USGCRP/CCSP, and NRC to ensure the information adhered to a basic standard of quality, including objectivity, utility, and integrity."

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[43] U.S. EPA (2002). Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency. Washington, DC: U.S. Environmental Protection Agency. EPA/260/R-02/008.

The CRU e-mails cited by the petitioners do not undermine this view. EPA's responses on the science issues raised by petitioners concerning these e-mails are discussed in detail in several other sections of this Decision as well as in the RTP document. As our detailed responses show, petitioners' science-based claims do not support the conclusion that the IPCC or other assessment reports were biased, inaccurate, or scientifically incorrect.

c. Freedom of Information Act Issues

Several petitioners claim that the CRU e-mails provide evidence that leading climate scientists deliberately withheld key data and computer codes and attempted to obstruct or avoid UK Freedom of Information (FOI) and U.S. Freedom of Information Act (FOIA) requests from "climate skeptics." These claims are addressed in Volume 3, section 3.4 of the RTP document and EPA's response is summarized here.

EPA's review of the CRU e-mails indicates that in many cases, the data at issue were in fact released by the scientists, including data concerning a human "fingerprint" in the tropics, data underlying the HadCRUT temperature record, and data concerning historic temperature reconstructions. In addition, significant data were publicly available. Petitioners have not explained or shown why the amount of data and other information that was available was not adequate for researchers to replicate or otherwise evaluate key findings, or to conduct other research. In addition, there was a robust and public process to submit, review, and publicly respond to comments on the scientific issues involved in all parts of the IPCC AR4. Petitioners do not rely on science or science based arguments to support their claim that the assessment report resulting from this robust process should not be relied upon by EPA. Instead, they rely on unsupported conclusions drawn from e-mails concerning a FOI request for personal communications between various scientists, where it appears that the appropriate University FOI officers had determined that these e-mails were exempt from release. This evidence does not support petitioners' claims that the IPCC AR4 should not be considered as part of the scientific basis for the Endangerment Finding.

EPA agrees with the results of the various investigations, which found that the scientists at issue conducted their research with scientific integrity and rigor, the research utilized methods which are fair and satisfactory, and that their actions were consistent with the common practice in climate research at that time. EPA also agrees with the recommendations of the Independent Climate Change E-mails Review supporting greater transparency in the future in this area of climate research. Petitioners' evidence, however, does not support their conclusions that the research produced by these scientists was suspect, flawed, or biased, or that IPCC AR4 or other assessment reports were suspect, flawed, or biased. Their evidence does not support the conclusion that the science at issue should not be relied upon by EPA.

EPA has reviewed the petitioners' claims and the e-mails and finds that in many cases, the petitioners make overly broad generalizations based on suggestions of inappropriate actions that are not supported by the evidence provided by the petitioners. Regarding the quote from the UK Information Commissioner's Office, the recent inquiry by the UK House of Commons Science and Technology Committee (2010)[44] concluded that this statement was the personal opinion of the Deputy Information Commissioner and was not based on the results of a formal government investigation.

EPA finds that most of the language in the CRU e-mails that petitioners allege shows impropriety is taken out of context. Petitioners do not provide corroborating evidence that improper action actually occurred, let alone evidence that any alleged improper action led to biased or inaccurate science that was ultimately used by EPA to support the Findings. Based on our review of the e-mails, the authors were dismayed at what they viewed as frivolous requests that were wasting their time, not that the requestors were going to uncover "fraud" or "wrongdoing" with regard to their research, as has been alleged by the petitioners.

EPA finds from its review that the e-mail authors expressed significant frustration at repeated requests for specific explanations and computer codes when the basic data had already been made available and the methodology for replicating particular studies had already been published in the literature. This type of approach was considered to be common practice at the time, as the UK House of Commons Science and Technology Committee (2010)[45] also found in their analysis of the CRU e-mails: "In the context of the sharing of data and methodologies, we consider that Professor Jones's actions ***49583** were in line with common practice in the climate science community. It is not standard practice in climate science to publish the raw data and the computer code in academic papers." EPA finds that the petitioners' evidence does not provide a basis to question the scientific integrity or conclusions of the climate change research conducted by CRU researchers.

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[44] UK Parliamentary (2010). House of Commons, Science and Technology Memoranda. Available at: *http://www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/memo/climatedata/contents.htm*.

d. Integrity of Peer-Reviewed Literature

Several petitioners claim that the CRU e-mails provide evidence that leading climate scientists engaged in actions to suppress dissenting views about anthropogenic global warming. Specifically, petitioners claim that these scientists unfairly gave favorable reviews of each other's manuscripts while providing negative reviews of manuscripts authored by "climate skeptics," made efforts to unfairly expedite publication of their responses to papers by "climate skeptics," conspired to remove editors of prominent journals that had published dissenting views of climate change, and boycotted the journals in reprisal. The petitioners argue that the cumulative effect of these alleged actions with regard to peer-reviewed literature has been to create an artificial consensus about anthropogenic climate change that has "tainted [climate change literature] in favor of desired papers." Some petitioners conclude that EPA has lost the basis for its Findings because the Agency assumed a "legitimate, objective 'consensus' regarding anthropogenic global warming" existed among scientists and disregarded any contrary views or contrary evidence. EPA responds to these claims in Volume 3, section 3.3 and summarizes its response here.

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[45] UK Parliamentary (2010). House of Commons, Science and Technology Memoranda. Available at: *http://www.publications.parliament.uk/pa/cm200910/cmselect/cmsctech/memo/climatedata/contents.htm*.

Petitioners' claims are not based on scientific analysis or arguments, and their evidence does not support changing or revising EPA's use of the major assessments of peer-reviewed literature or the overall scientific conclusions about climate change reached from the thousands of papers considered in the assessments. The objections raised by the petitioners have not called into question or changed EPA's conclusion that the science supporting the Endangerment Findings is robust, compelling, and has been appropriately characterized by EPA.

EPA disagrees with the petitioners' argument that the Findings were based on a false consensus regarding anthropogenic climate change, and that EPA disregarded contrary views or evidence including those not represented in the peer-reviewed literature. For reasons stated throughout this Decision and section 3.3 of the RTP document, EPA's view is that the state of the science has been carefully and appropriately characterized by EPA and properly interpreted by the Administrator in the Endangerment Finding.

Many diverging viewpoints and a variety of findings are represented in the scientific literature on climate change. The assessment reports routinely identified the degree of certainty around any conclusion and recognized the existence of ongoing debate within the scientific community on all of these issues, as is the norm in all science endeavors. The Administrator's Endangerment Finding relied on a careful consideration of the full weight of scientific evidence and a thorough review of hundreds of thousands of public comments, which contained many different opinions and interpretations of the science. Therefore, to claim, as the petitioners do, that these e-mails demonstrate that EPA did not take into account any dissenting views on the subject of climate change science is a gross mischaracterization of the total record that supports the Administrator's Findings.

The petitioners rely upon some CRU e-mails (typically taken out of context), a small number of papers, and both actual and alleged events regarding scientific journals to claim that leading climate scientists conspired to keep dissenting views of climate change out of the broad body of peer-reviewed literature and create an artificial consensus about anthropogenic climate change. In all cases presented by the petitioners it appears the scientists involved were making their scientific objections known, and were basing their objections on the science and not on assumptions or speculation. The evidence presented by petitioners does not support their claims of bias, either for the specific papers and individuals at issue, or for the much broader and sweeping challenges made concerning the integrity of all peer-reviewed climate literature.

For the few papers at issue, the petitioners do not argue based on scientific merits, and instead assume that the few papers they cite received unjustified unfavorable reviews and were unfairly rejected for publication without providing supporting evidence. Petitioners do not address the possibility that these papers were scientifically inadequate and that the scientists were justified in recommending that they not be published. EPA notes that there is no evidence presented beyond these few papers of the claimed general effort to manipulate the peer-reviewed journal publication process.

The evidence provided by the petitioners also does not show that the scientists engaged in improper behavior or sabotage of the two journals that are discussed in the e-mails, or their editors, nor is there evidence to conclude that any action on the part of these scientists involved in the e-mail correspondence resulted in the replacement of the journal editors. Our review of the full discussion of the e-mails indicates, again, that petitioners have exaggerated the significance of actual or purported events in an attempt to cast doubt on the underlying science and the processes relied upon to produce the science.

F. Petitioners' Arguments Do Not Meet the Standard for Reconsideration

As discussed above, petitioners must demonstrate that their objections are of central relevance to the outcome of the underlying decision, and must demonstrate either that it was impracticable to raise the objections during the public comment period or that the grounds for raising such objections arose after the close of the comment period (but within the time specified for judicial review). The above analysis shows that science-based and other objections discussed in this Section III and the accompanying support document are not of central relevance to the Administrator's decision on endangerment and thus reconsideration is properly denied.

An objection is of central relevance if it provides substantial support for the argument that the underlying decision should be revised. As shown above, none of the petitioners' arguments related to climate science and data issues, issues raised by EPA's use of IPCC AR4, and process issues provide substantial support for the argument that the Administrator's Endangerment Finding should be revised. The petitioners' arguments and evidence are inadequate, generally unscientific, and do not show that the underlying science supporting the Endangerment Finding is flawed, misinterpreted by EPA, or inappropriately applied by EPA. Importantly, petitioners' claims and the information they submit do not change or undermine our understanding of how human emissions of greenhouse gases cause climate change and how human-induced climate change generates risks and impacts to public health and welfare. The information provided by petitioners does not change any of the scientific conclusions that underlie the Administrator's Findings, nor do the petitions lower the degrees of ***49584** confidence associated with each of these major scientific conclusions.

A petition for reconsideration cannot merely cite to new information and claim that is sufficient to require initiating a reconsideration process, attendant with the same procedures as the original decision. Mere allegations that information is of central relevance will not suffice. New information, even new information related to an agency decision, does not by itself warrant undermining the finality of agency decision making. To justify reconsideration a petitioner must show why the new information demonstrates that the agency's decision should be changed.

Petitioners fail to do this. The core defect in petitioners' arguments is that these arguments are not based on consideration of the body of scientific evidence. Petitioners fail to address the breadth and depth of the scientific evidence and instead rely on an assumption of inaccuracy in the science that they extend even to the body of science that is not directly addressed by information they provide or by arguments they make. Petitioners routinely take private e-mail communications out of context and assert they are "smoking gun" evidence of wrongdoing and scientific manipulation of data. In contrast, EPA's careful examination of the e-mails and their full context shows that the petitioners' claims are exaggerated and are not a material or reliable basis to question the validity and credibility of the body of science underlying the Administrator's Endangerment Finding or the Administrator's decision process articulated in the Findings themselves. Petitioners' assumptions and subjective assertions regarding what the e-mails purport to show about the state of climate change science are woefully inadequate pieces of evidence to challenge the voluminous and well documented body of science that is the technical foundation of the Administrator's Endangerment Finding.

Petitioners' objections that a limited number of factual mistakes now identified in the IPCC AR4, as well as other claimed mistakes, call into question the climate science supporting the Administrator's Endangerment Finding, are similarly flawed. The two factual mistakes in IPCC AR4 confirmed by EPA's review are tangential and minor and do not change the key IPCC AR4 conclusions that are central to the Administrator's Endangerment Finding.

Finally, as shown above, regarding objections based on allegedly new scientific studies and data, EPA's review of these claims shows that in many cases the issues raised by the petitioners are not new, but were in fact considered prior to issuing the Endangerment Finding. In other cases, the petitioners have misinterpreted or misrepresented the meaning and significance of recent scientific literature, findings, and data. Finally, there are instances where the petitioners have failed to acknowledge other new studies in making their arguments. Thus, petitioners have failed to demonstrate that their objections related to climate science and data issues, issues raised by EPA's use of IPCC AR4, and process issues provide substantial support for the argument that the Administrator's decision on endangerment should be revised.

Moreover, regarding many of their objections, peti-tioners also fail to demonstrate that it was impracticable to raise the objections during the public comment period or that the grounds for raising such objections arose after the close of the comment period (but within the time specified for judicial review). In many but not all cases EPA has identified instances where petitioners fail to base an objection on such new information. Given the volume of individualized comments and objections, EPA is identifying some of the types of situations where the objection, or grounds for the objection, raised by a petitioner does not satisfy this requirement for reconsideration. Several types of objections are premised on studies and other information that were available before the close of the comment period. In some cases petitioners basically repeat or raise the same arguments that were raised and responded to in the rulemaking. In other cases, petitioners raise allegedly new grounds, such as CRU e-mails, that they claim should cause EPA to reconsider a prior comment, or that justifies petitioners' raising a new issue for the first time in the reconsideration petition. But as explained above and throughout this Denial and supporting documents, the allegedly new information is not of central relevance, and therefore, EPA essentially is left with arguments that either were made previously during the comment period, or could have been raised during the comment period. Thus, many of the petitioners' objections not only are not of central relevance, but they also fail to meet the temporal requirement for a petition for reconsideration.

IV.Other Issues

In this section, EPA responds to various objections to the Endangerment Finding based on concerns raised with respect to the impact of stationary source permitting requirements, the relationship of the Findings to NHTSA's recent CAFE rule, the effects of the Findings and subsequent rulemakings on states and businesses, the need for a Formal Rulemaking

Process, and EPA's justification for its exercise of discretion in making the Endangerment Finding.

A. The Tailoring Rule/Impacts of PSD and Title V Permitting Are Not of Central Relevance to the Findings

Several petitioners raise objections based on EPA's proposed rule to tailor the Prevention of Significant Deterioration (PSD) and title V permit programs for greenhouse gases. Proposed Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas Tailoring Rule, 74 FR 55292 (Oct. 27, 2009) (Proposed Tailoring Rule).[46] Specifically, petitioners argue that EPA's statements in the Proposed Tailoring Rule demonstrate that the Findings are contrary to law and/or arbitrary and capricious. Because the Proposed Tailoring Rule was issued after the close of the comment period, but before the period for judicial review ran, petitioners argue that it presents reasons for EPA to reconsider the Findings in general.

Petitioners argue that the Proposed Tailoring Rule is of central relevance to the Findings because it involves the PSD and title V permitting requirements that flow as an inevitable result of the Findings, and the impacts of such permitting are relevant to the Findings. *e.g.*, SLF 5th Supp. at 15; Ohio Coal Assn. at 4. They point to the fact that the Tailoring Rule was proposed, and comments thereon were received, after the close of the comment period for the

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[46] The Final Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas Tailoring Rule was signed on May 13, 2010, and published June 3, 2010. 75 FR 31514 (June 3, 2010).

Findings, and request that EPA grant reconsideration and reopen the Findings docket "to allow the public to comment on the implications of the Tailoring Rule[sic] to the form and content of the Endangerment Finding," SLF 5th Supp. at 15, and to "further explore the extent to which implementation of the Endangerment Finding is practically impossible * * * since impossibility calls into question all justification for the Endangerment Finding." Ohio Coal Assn. at 4.

At least one petitioner points to the alleged implementation problems identified in the Proposed Tailoring Rule and comments received thereon as a basis for reconsidering the appropriateness of the Findings. Ohio Coal Assn. at 6-9. The petitioner argues ***49585** that despite statements in the final Findings that EPA did not consider, and indeed could not have considered, policy concerns about the repercussions of impact of the finding when making the endangerment finding, EPA did "give credence and expression" and "did in fact consider the widespread and economically crippling" PSD permitting implementation issues. Ohio Coal Supp. at 15, 18. Therefore, the petitioner continues, new information about EPA's ability to tailor the PSD program justifies granting reconsideration. Specifically, the petitioner cites to comments filed by state permitting authorities that they allege call into question the approach EPA proposed in the Tailoring Rule to address the negative impacts that EPA acknowledges "would inexorably flow from the Endangerment Finding—that is, triggering the PSD and Title V permitting requirements at the low applicability levels provided under the Clean Air Act." Ohio Coal Supp. at 16-18. They claim that statements made by state permitting agencies about the ability of the proposal to address state law concerns, and the remaining burden even at the higher thresholds all undermine EPA's claim that it can fashion a reasonable and common-sense solution to the perceived problem. Thus, petitioners conclude, the "most viable and sensible option" would be instead for EPA to withdraw the Findings until the impacts of the PSD and title V permitting programs can be fully assessed and resolved. Ohio Coal Assn. at 8; Ohio Coal Supp. at 22.

Another petitioner provides slightly different reasons for claiming the Proposed Tailoring Rule necessitates granting reconsideration and reopening the Findings for comment.[47] This petitioner argues that the Proposed Tailoring Rule reflects an acknowledgement by EPA that regulating GHG under the CAA is absurd. Chamber at 3. The petitioner also argues that new information demonstrates that some of the public health and welfare effects from stationary source emission reductions that EPA expected when issuing the Findings will be legally unavailable. *Id.* at 9-10. The petitioner alleges that EPA recognized the "ill-fit" between pollutants like greenhouse gases, which become well-mixed in the atmosphere and cause global problems, and the existing structure of the CAA. The petitioner further claims that it was because of this ill-fit that EPA crafted the Tailoring Rule in order to avoid the absurd result of trying to regulate GHGs under part of the CAA. Petitioner's suggested solution is for EPA to reconsider the Findings in light of EPA's recognition that regulation of GHGs under the CAA is "absurd." In so doing, the petitioner reiterates comments it, and others, submitted during the public comment period arguing that EPA retains discretion under *Massachusetts* to consider, among other things, the impacts of an endangerment finding when deciding whether to issue an endangerment findings. Chamber at 10-12.

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[47] This petitioner also stated in its petition that if EPA had neither "granted the petition nor contacted the [petitioner] to establish a mutually agreeable schedule for reconsideration by April 14, 2010, such inaction will be deemed a denial of the petition." Chamber at 1. No EPA action, or in-action, other than this Decision and supporting material constitutes a denial of the petitions. *See, e.g.*, Final LDVR, 75 FR at 25402; EPA's Combined Opposition to Remand (filed April 29, 2010 in DC Cir. No. 09-1322).

More specifically, the petitioners argue that the Supreme Court decision did not address the issue of whether GHGs could be regulated under the CAA consistent with Congress' intent and without triggering absurd results. Chamber at 11. Rather, they contend, the Supreme Court decision was about the narrow issue of whether GHGs were air pollutants under CAA section 202(a). Chamber at 11. Some petitioners argue that EPA should have informed the Supreme Court of the impact of a positive endangerment finding under CAA section 202(a) on stationary source permitting, and the fact that it may require EPA to resort to the absurdity doctrine; if EPA had, they continue, the Court may have issued a different opinion. CEI Supp. at 4-5. Another petitioner argues that the Supreme Court left open the option of EPA declining to make an endangerment finding, and that in making its decision EPA must adhere to the customary mode of statutory interpretation in *Chevron* v. *NRDC*, 467 U.S. 837 (1984), considering all relevant statutory language, legislative history and absurd results that may apply when regulating GHGs under the CAA. Chamber at 12.

Based on this alleged premise, the petition then turns to EPA's statements in the Proposed Tailoring Rule concerning the potential absurd results that could result from applying the statutory permitting thresholds of 100 and 250 tons per year (tpy) to GHGs, and the additional administrative impossibility that would result from applying these statutory thresholds immediately when GHGs are regulated under CAA section 202(a). Petitioner submits additional evidence it alleges demonstrates the absurdity of regulating GHGs from stationary sources: (1) The PSD program is designed to address pollutants with localized impacts in specific geographic areas (*e.g.*, the NAAQS), and not global pollutants like GHGs; (2) the statutory thresholds would require burdensome, expensive, individualized emissions controls at hundreds of thousands of small emissions sources, contrary to Congressional intent; and (3) the application of permitting to GHGs would jeopardize economic growth, which would be particularly absurd in the current economic situation. Chamber at 15-17.

Thus, according to this and other petitioners, EPA must reconsider the Findings in light of the absurd results that would result from GHGs being regulated pollutants under the PSD and title V permitting programs. *See, e.g.*, Chamber at 18; CEI Supp. at 5. Specifically, petitioners argue that the absurdity doctrine demands that EPA consider whether regulating GHGs under the CAA as a whole is absurd or not, but that EPA completely ignored this possibility when developing the Findings. Rather than relying on the absurd results doctrine to merely "tailor" the PSD and title V permitting programs, petitioners argue that EPA should rely on it to avoid creating the permitting program dilemma in the first place, or at the very least take comment on that option. Chamber at 18-19; CEI Supp. at 5. At least one petitioner contends that case law regarding the absurd results doctrine requires adopting the narrowest, most restrictive interpretation of the statute, and that there may be an interpretation that authorizes EPA to avoid making the endangerment finding in the first place, not one that merely addresses the PSD and title V statutory thresholds (*e.g.*, by interpreting "emissions" or "major emitting facility" narrowly). Chamber at 18-19. Petitioners argue that given EPA's failure to consider this alternative, coupled with the alleged acknowledgement that the CAA motor vehicle rules are not necessary to achieve public health and welfare advantages in light of the NHTSA CAFE rule (*see* below), EPA must reconsider the Findings. *See, e.g.*, Chamber at 23.

Finally, other petitioners argue that the Proposed Tailoring Rule itself is illegal, pointing to numerous industry comments filed on the proposal. They contend that since the Tailoring Rule is illegal, it is "a patently unconstitutional attempt by the Executive Branch to unilaterally amend a statute." SLF 5th Supp. at 16. In summary, they conclude that since EPA cannot regulate GHGs under the CAA without ignoring part of the statute, it cannot regulate GHGs in a manner consistent with the CAA and ***49586** any attempt to do so is beyond EPA's legal authority, arbitrary and capricious, and an abuse of discretion.

Id. at 17-19. The petitioners also contend that EPA's Endangerment Finding is arbitrary and capricious and an abuse of discretion because, they allege, it is climatically pointless as well. They state that rather than undertake a course of illegal action, especially one that they allege does not have any detectable effect, EPA should start over and reconsider the Findings. *Id.*

EPA is denying the petitions for reconsideration that raise objections based on the Proposed Tailoring Rule because these objections are not of central relevance to the outcome of the final Findings and/or could have been raised during the public comment period.

These objections are not of central relevance to the Findings for three primary reasons discussed in more detail below. First, as EPA noted in the Findings, the impact of regulations that may flow from a positive endangerment finding, even if absurd, is not a relevant consideration to the science based question of whether air pollution may reasonably be anticipated to endangerment public health or welfare. *See*, 74 FR at 66501, 66515-16; RTC volume 11 at 4-5. Thus, EPA disagrees with a fundamental basis for petitioners' objections based on the Proposed Tailoring Rule—*i.e.*, that EPA could or must decline to issue an endangerment finding under CAA section 202(a), regardless of the scientific evidence relevant to determining endangerment, based on concerns with implementing stationary source permitting. Second, even if the absurd results doctrine could influence EPA's interpretation of CAA section 202(a) after the Supreme Court's decision in *Massachusetts*, EPA's approach to resolving the absurdity is reasonable because it focuses narrowly on that part of the CAA where the absurdity originates while giving effect to other statutory provisions, in order to balance the goal of improving public health and the environment with the goal of avoiding absurd results. Third, EPA disagrees with the petitioners who argue that because EPA is relying on the absurd results doctrine as a result of the Findings, the Findings themselves must therefore be illegal. Reliance on a doctrine of administrative law when interpreting a statute is not an indication of the illegality of agency action; indeed, it shows just the opposite. By applying, *inter alia*, the doctrines of absurd results and administrative necessity, EPA has been able to issue effective regulations addressing greenhouse gases while avoiding the absurd results that could arise from immediately applying the statutory thresholds for PSD and title V to greenhouse gases. Thus, petitioners' objections do not provide substantial support for the argument that the final Findings should be revised.

More specifically, EPA stated the following in the Findings in response to comments urging EPA to delay making an endangerment finding based on, among other things, concerns about the impact of the PSD program:

> "EPA agrees with the commenters who argue that the Supreme Court decision held that EPA is limited to consideration of science when undertaking an endangerment finding, and that EPA cannot delay issuing a finding due to policy concerns if the science is sufficiently certain (as it is here). The Supreme Court stated that "EPA can avoid

> taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do" 549 U.S. at 533. Some commenters point to this last provision, arguing that the policy reasons they provide are a "reasonable explanation" for not moving forward at this time. However, this ignores other language in the decision that clearly indicates that the Court interprets the statute to allow for the consideration only of science. For example, in rejecting the policy concerns expressed by EPA in its 2003 denial of the rulemaking petition, the Court noted that "it is evident [the policy considerations] have nothing to do with whether greenhouse gas emissions contribute to climate change. Still less do they amount to a reasoned justification for declining to form a *scientific judgment*. *Id.* at 533-34 (emphasis added).

Moreover, the Court also held that "[t]he statutory question is whether sufficient information exists to make an endangerment finding" *Id.* at 534. Taken as a whole, the Supreme Court's decision clearly indicates that policy reasons do not justify the Administrator avoiding taking further action on the question here" (74 FR 66501, December 15, 2009).

Furthermore, EPA noted the following when responding to comments arguing that EPA should consider the impact of regulating GHGs when determining whether they endanger public health and welfare:

> "At their core, these comments are not about whether commenters believe greenhouse gases may reasonably be anticipated to endanger public health or welfare, but rather about commenters' dissatisfaction with the decisions that Congress made regarding *the response* to any endangerment finding that EPA makes under CAA section 202(a). * * *
>
> What these comments object to is that Congress has already made some decisions about next steps after a finding of endangerment, and the commenters are displeased with the results. But if this is the case, commenters should take up their concerns with Congress, not EPA. EPA's charge is to issue new motor vehicle standards under CAA section 202(a) applicable to emissions of air pollutants that cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. It is not to find that there is no endangerment in order to avoid issuing those standards, and dealing with any additional regulatory impact.
>
> Indeed, commenters' argument would insert policy considerations into the endangerment decision, an approach already rejected by the Supreme Court. First, as discussed in Section I.B of these Findings, in *Massachusetts* v. *EPA*, the court clearly indicated that the Administrator's decision

> must be a "scientific judgment." 549 U.S. at 534. She must base her decision about endangerment on the science, and not on policy considerations about the repercussions or impact of such a finding" FR at 66515; December 15, 2009).

Thus, petitioners are wrong in their claim that either EPA statements in the Proposed Tailoring Rule, or comments received thereon, regarding potential implementation difficulties in the PSD or title V permitting programs are legally relevant at all, let alone of central relevance, to EPA's Endangerment Findings.[48] The agency's statements in the Findings that it "does not believe that the impact of regulation under the CAA as a whole * * * will lead to the panoply of adverse consequences that commenters predict," and that "EPA has and will continue to take a measured approach to address greenhouse gas emissions" do not mean that EPA gave "credence and expression to one key negative impact" as one petitioner alleges. Ohio Coal Supp. at 15. These statements, which immediately follow

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[48] We note that EPA has addressed the concerns about the approach set forth in the Proposed Tailoring Rule raised by state permitting authorities. In response to the very comments raised by petitioners here, as well as other comments, EPA revised its approach for implementing its tailoring rule approach to allow for faster state adoption of the solution. Final Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas Tailoring Rule 75 FR at 31518, 31579-84 (June 3, 2010) (Final Tailoring Rule). Moreover, EPA also finalized applicability thresholds that are higher than those proposed, and otherwise refined the phase-in of permitting for GHGs to better accommodate the workload. *Id.* at 31523-25.

EPA's explanation of how the Administrator must look at the science and not policy consideration, are merely EPA's response to the dire predictions submitted by commenters. EPA did not and could not consider such impacts in making its science based judgment on endangerment.

EPA further disagrees with the arguments that it must grant ***49587** reconsideration and reopen the Findings because since the close of the comment period EPA has recognized that the Findings would lead to the LDVR, which triggers the PSD and title V requirements, which in turn would give rise to "absurd results" in the permitting provisions applicable to some stationary sources. The fact that the impacts from PSD and title V permitting may be absurd does not mean that EPA can reinterpret section 202(a) to allow the consideration of those absurd results, and then find no endangerment or avoid making a determination on endangerment.

What petitioners fail to analyze is how, given the overwhelming science supporting the endangerment finding (*see* above), EPA could decline to issue the Findings because of policy/implementation concerns unrelated to the science and unrelated to the question of whether there is endangerment, and not violate the Supreme Court's decision in *Massachusetts* v. *EPA*. As discussed above, EPA disagrees with petitioners who argue that "*Massachusetts* requires EPA to carefully consider [the absurdity doctrine] implications for the Agency's overall statutory interpretation." Chamber at 13. The Supreme Court was clear that GHG fit within the definition of "air pollutant" under the CAA, and that when considering the question of endangerment the Administrator may consider only the science. EPA "must ground its reasons for action or inaction in the statute," and the statutory endangerment provision in section 202(a) required that EPA's "exercise of judgment must relate to whether an air pollutant 'cause[s], or contribute[s] to, endangerment." This was a "direction to exercise discretion within defined statutory limits," and the Court explicitly rejected EPA's authority to exercise its judgment for policy reasons not related to "compl[iance] with this clear statutory command." *Massachusetts* at 532-533. Petitioners would have us ignore the clear mandate of the Court's decision on the premise that if the case had been argued differently, the Court would have rendered a different opinion. EPA reasonably followed the instructions from the Supreme Court as provided in *Massachusetts*.

Even if EPA had the authority and could reconsider its statutory authority under CAA section 202(a) in light of the absurdity doctrine, rather than follow petitioners' implied approach, EPA would follow the approach set out in the Final Tailoring Rule—a narrow solution that focuses on that part of the CAA where the absurdity originates. EPA's approach balances the goal of improving public health and the environment by tackling air pollution problems with the goal of avoiding absurd results.[49] Petitioners would apply the absurd results doctrine too broadly, under-taking a sweeping approach that negates any and all regulation of GHGs under the CAA in order to avoid problems that have arisen in specific programs. EPA's targeted use of the absurd results doctrine in the Tailoring Rule is the better approach to reconciling all its obligations under the CAA. EPA has interpreted the statute as a whole, and interpreted it in a manner that does not allow difficulties in one program to nullify the various other Congressional provisions that may be relevant to climate change under the CAA.

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[49] In response to objections which are based in part on allegations that EPA must reconsider its final decision because new evidence allegedly shows that the LDVR will not get meaningful reductions, EPA has already stated in the final Findings that it does not need to find that any attendant regulations flowing from an endangerment finding would "fruitfully attack" or prevent at least a

Applying the Chevron two step test, EPA must, at Step 1, determine Congressional intent. *Chevron U.S.A.* v. *NRDC*, 467 U.S. 837 (1984). Under the absurd results doctrine "the literal meaning of statutory requirements should not be considered to indicate Congressional intent if that literal meaning would produce a result that is senseless or that is otherwise inconsistent with—and especially one that undermines—underlying congressional purpose." Final Tailoring Rule, 75 FR at 31517. Looking at section 202(a) of the CAA, congressional intent

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substantial part of the danger in order to find endangerment. 74 FR at 66507-08.

Moreover, contrary to one petitioner's implied allegation, EPA did not consider the benefits resulting from stationary source emissions reductions when issuing the Findings, and the petitioner did not point to any evidence that EPA did base the Findings on such considerations. Finally, to the extent petitioners are arguing that EPA should reevaluate its approach to absurd results because there is little environment or public health benefit from the LDVR which followed the Findings, EPA disagrees. *See* Section IV.B responding to comments regarding NHTSA rules.

appears clear, under *Chevron* Step 1, that Congress intended the Administrator to regulate emissions of air pollutants from new motor vehicles if the Administrator found that such emissions cause or contribute to air pollution which endangered public health or welfare. The Supreme Court stated that "[i]f EPA makes a finding of endangerment, the Clean Air Act requires the agency to regulate emissions of the deleterious pollutant from new motor vehicles." *Massachusetts* at 533. Moreover, the Supreme Court has held that when making the endangerment finding the Administrator must look only at the science. There are no absurd results in the specific actions under section 202(a) of either issuing an endangerment finding itself or in issuing standards applicable to GHG emissions from new motor vehicles. The absurd results stem from the contents of other statutory provisions, the PSD and Title V provisions discussed in the Tailoring Rule, not section 202(a). Even for those provisions, in the Final Tailoring Rule EPA specifically determined that the PSD and title V provisions indicate a clear congressional intent to cover at least the largest sources of GHGs under these programs. *Id.* at 31517. Taking all of these facts together, EPA's approach to utilization of the absurdity doctrine gives the greatest effect to the various provisions of the CAA and the overall congressional intent under the CAA, by minimizing the scope of limitation on statutory provisions in the application of the absurd results doctrine.

As EPA discussed in the Tailoring Rule:

> "[i]n determining and implementing congressional intent, it is important that the

statutory provisions at issue be considered together—(1) The obligation to make a determination on endangerment and contribution under CAA section 202(a); (2) if affirmative endangerment/cause or contribute findings are made, the obligation to promulgate standards applicable to the emissions of any such air pollutant from new motor vehicles or new motor vehicle engines under CAA section 202(a); and (3) the PSD and title V applicability provisions. The most appropriate reading, and certainly a reasonable reading, is that we are required to take the action we have taken, that is to issue the findings, promulgate the LDVR, and promulgate the Tailoring Rule. Our approach gives effect to as much of Congress's intent for each of these provisions, and the CAA as whole, as possible.

With respect to the endangerment/cause or contribute findings under CAA section 202(a), congressional intent is clear that, as we stated in making the Findings and the Supreme Court held in *Massachusetts* v. *EPA*, we are precluded from considering factors other than the science based factors relevant to determining the health and welfare effects of the air pollution in question. Accordingly, as discussed above, EPA determined that the Agency was precluded from deferring or foregoing the findings due to concern over impacts on stationary sources affected by PSD or title V requirements. *See* 74 FR at 66496, 66500-01

> ("Taken as a whole, the Supreme Court's decision clearly indicates that policy reasons do not justify the Administrator avoiding taking further action on the questions here."); *see also Massachusetts* v. *EPA*, 549 U.S. at 533; *see also* (74 FR 66515-16, December 9, 2009) (The Administrator "must base her decision about endangerment on the science, ***49588** and not on the policy considerations about the repercussions or impact of such a finding."). Moreover, as EPA also noted, "EPA has the ability to fashion a reasonable and common-sense approach to address greenhouse gas emissions and climate change. 74 FR at 66516." (75 FR 31574, June 3, 2010)(footnote omitted).[50]

The petitioners merely continue to disagree with EPA's interpretation of the Supreme Court decision and question EPA's ability to address permitting concerns, rather than provide anything new in their petitions on this topic.

To the extent the petitioners are requesting that EPA reconsider and defer or forego issuance of the Findings to avoid causing an absurd result from implementation of the separate PSD and title V programs until such time as EPA could fully implement these programs without an absurd result, underlying this claim is the assumption that this approach would allow EPA to avoid the "absurd results" that are discussed in the Tailoring Rule, which states:

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[50] This reasonable and common-sense approach includes the kind of step by step approach that includes regulation of GHG emissions from new motor vehicles, as described by Justice Stevens in *Massachusetts*, when discussing the issue of standing. *Id.* at 524.

> "* * * there is no basis at this point to determine that streamlining will ultimately allow full compliance with the PSD and title V requirements. Rather, it is possible that EPA may conclude that none of the available streamlining techniques will allow all GHG sources at the statutory thresholds to comply with PSD and title V requirements in a manner that does not impose undue costs on the sources or undue administrative burdens on the permitting authorities. Under these circumstances, EPA may then permanently exclude GHG source categories from PSD or title V applicability under the absurd results doctrine. Moreover, it may well take many years before EPA is in a position to come to a conclusion about the extent to which streamlining will be effective and therefore be able to come to a conclusion as to whether any source categories should be permanently excluded from PSD or title V applicability. In our rulemaking today, we describe what actions we expect to take in the first 6 years after PSD and title V are triggered for GHG sources, and we may well be in a situation in which we continue to evaluate streamlining measures and PSD and title V applicability to GHG sources after this 6-year period.

Accordingly, deferring the endangerment/cause or contribute findings and LDVR until such time that PSD and title V streamlining would allow full implementation of these programs at the statutory limits would serve only to delay the benefits of the LDVR, as well as the benefits that come from phasing in implementation of the PSD program to cover larger sources first. It would rely on an assumption that is unfounded at this point, that is, that such full compliance will be required at some point in the future. Delaying the emissions benefits of the LDVR and the related emissions benefits from partial implementation of the PSD program fails to implement Congress' intent that the endangerment/cause or contribute findings "shall" lead to emissions standards for new motor vehicles contributing to the endangerment, and related emissions controls for the same air pollutant under the PSD program. EPA need not determine at this time what approach would be appropriate if there was a determination that full compliance with PSD and title V would in fact occur at some point in the future. In this case, absent such a determination, it would be improper to rely on speculation of such a future possibility as a basis under section 202(a) to defer or forego issuance of the LDVR on the grounds that EPA should defer or forego the LDVR to avoid causing an absurd result. Likewise there is no basis to defer proceeding at this time with the streamlining of the PSD and title V programs.

With respect to the PSD and title V applicability requirements, as we discuss elsewhere, we believe that Congress expressed a clear intent to apply PSD and title V to GHG sources and that the phase-in approach incorporated in the Tailoring Rule is fully appropriate. Proceeding now with the endangerment/contribution findings and LDVR, even if phasing-in of the PSD and title V programs is required, is consistent with our interpretation of the PSD and title V applicability requirements. Delaying the endangerment/contribution findings or LDVR, and thereby delaying the triggering of PSD and title V requirements for GHG sources, would lead to the loss of a practicable opportunity to implement the PSD and title V requirements in important part, and thereby lead to the loss of important benefits. As discussed elsewhere, promulgating the LDVR and applying the PSD and title V requirements to the largest GHG sources, as we do in this Tailoring Rule, is practicable because the sources that would be affected by the initial implementation steps we promulgate in this rule are able to bear the costs and the permitting authorities are able to bear the associated administrative burdens. Promulgating the LDVR now provides important advantages because the sources that would be affected by the initial steps are responsible for most of the GHG emissions from stationary sources.

It should also be noted that as discussed elsewhere in this rulemaking, our ability to develop appropriate streamlining techniques for PSD and title V requirements is best done within the context of actual implementation of the permitting programs, and not in isolation of them. That is, because the great majority of GHG sources have not been subject to PSD and title V requirements, we will need to rely on the early experience in implementing the permitting requirements for the very large sources that initially will be subject to those requirements in order to develop streamlining techniques for smaller sources. It is the real world experience gained from this initial phase that will allow EPA to develop any further modifications that might be necessary. This would not and could not occur if the LDVR were delayed indefinitely or permanently, so that PSD and title V requirements were not triggered. It is unrealistic to expect that delaying action until a future tailoring rule could resolve all of the problems identified in this rulemaking, absent any real world implementation experience.

At its core, commenters' argument is that EPA should delay (if not forego altogether) doing anything to address GHG emissions and the problems they cause until it can do so in a way that does not cause any implementation challenges, even if that delay results in continued endangerment to public health and welfare. EPA does not take such a myopic view of its duties and responsibilities under the CAA. Congress wrote the CAA to, among other things, promote the public health and welfare and the productive capacity of the population. CAA § 101(b)(1). EPA's path forward does just this. Thus, proceeding with the endangerment/cause or contribute findings, the LDVR, and with PSD and title V through the phase-in approach of the Tailoring Rule maximizes the ability of EPA to achieve the Congressional goals underlying CAA sections 202(a) and the PSD and title V provisions, and the overarching CAA goal of protecting public health and welfare. Congress called for EPA (1) to determine whether emissions from new motor vehicles contribute to air pollution that endangers, (2) if that the determination is affirmative, to issue emissions standards for new motor vehicles to address the endangerment, and (3) to implement the PSD and Title V program to address similar emissions in their permitting program as another tool to address the air pollutant at issue. Delaying both the LDVR and PSD/title V implementation, as commenters have called for, would run directly counter to these Congressional expectations. Commenters' calls for deferral or foregoing of the findings or LDVR are generally phrased in a conclusory fashion, and do not demonstrate how EPA could take the required CAA actions concerning GHGs while remaining within the requirements of each of the various CAA provisions, and achieving the overall goals of the CAA. As

> such the comments do not provide a valid basis for the deferral of agency action they suggest." (75 FR 31575-56; June 3, 2010).

As explained above, EPA is resolving the absurdity caused by the statutory thresholds in the PSD and title V permitting programs not by avoiding an endangerment finding or avoiding all regulation under the CAA, but rather by interpreting the statute in a way that gives effect to the greatest extent possible to both section 202(a) and the applicable permitting provisions. This gives the greatest effect possible to the congressional intent about addressing air pollutant problems that endanger public health and welfare, while also focusing the permitting programs, at least initially, on large stationary sources. EPA's targeted use of the absurd results doctrine in the Tailoring Rule is a reasonable approach to reconcile the various statutory obligations under the CAA at issue here.

***49589** EPA also disagrees with petitioners who argue either implicitly or explicitly that EPA has admitted, through its invocation of the absurd results doctrine in the Proposed Tailoring Rule, that it cannot regulate GHGs under the CAA without violating the statute. While, in the Tailoring Rule, EPA has noted that applying the statutory thresholds in the PSD and title V programs to greenhouse gases immediately for all sources would present problems, and may indeed lead to absurd results even in the long run, EPA did not and does not take the position that all regulation of GHGs under the CAA leads to absurd results or is illegal. In fact, just the opposite is true. EPA has issued reasonable, effective GHG emissions standards for light duty vehicles, and has announced plans for further GHG emissions standards for later model year light-duty vehicles. EPA also plans to propose the same for heavy-duty motor vehicles. Moreover, by applying, *inter alia*, the doctrines of absurd results and administrative necessity, EPA has been able to avoid the absurd results that could arise from applying the statutory thresholds for PSD and title V to greenhouse gases.[51] The concept behind the absurd results doctrine is that an agency can (if not must) ignore the literal meaning of a statute in order to effectuate congressional intent. That is exactly what EPA's approach does—ignore only the statutory thresholds for PSD and title V in order to effectuate congressional intent under the CAA as a whole. EPA's reliance on one or more doctrines of administrative law when interpreting the statute is not evidence of the illegality of EPA's actions; rather it is evidence of the reasonable approach EPA took to interpreting and implementing the statute.

Finally, EPA is also denying the petitions because, while the Tailoring Rule was proposed after the close of the comment period for the Findings, EPA discussed the impact of applying the PSD and title V statutory thresholds to GHGs, and the potential need to tailor those programs as appropriate, in the July 2008 ANPR. 73 FR 44354, 44497-514, 44503 ("we have identified two legal doctrines that may provide EPA with discretion to tailor the PSD program to GHGs: Absurd results and administrative necessity."), 44512 (discussing same legal theories in context of title V). Indeed, EPA received comments from some of the same entities that are petitioning for reconsideration now regarding the Agency's position about its ability to craft a reasonable approach to addressing GHGs under the CAA, including the CAA permitting programs. *See*, *e.g.*, Comments submitted by Marlo Lewis for the Competitive Enterprise Institute (EPA-HQ-OAR-2009-0171-2898.1). Thus, while EPA itself may have elaborated regarding the potential for absurd results from GHG permitting at the statutory thresholds in the Proposed Tailoring Rule, the issue was not raised for the first time in the Tailoring Rule; it had already been raised in the ANPR, and there was nothing preventing petitioners from commenting on the issue in their comments on the proposed Findings (as indeed some did). Commenters on the proposed Findings also argued that the Supreme Court was unaware of the impacts of the permitting programs when deciding *Massachusetts*. RTC Volume 11 at 5. Thus, objections based on the need to apply the absurd results doctrine to the PSD and title V programs, and on arguments related to how EPA defended its actions in *Massachusetts*, could have been (and indeed were) raised during the comment period on the Findings and are not appropriately raised in petitions for reconsideration.

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[51] Contrary to one petitioner's argument, EPA did not craft the Tailoring Rule in response to the global nature of greenhouse gas concentrations and climate change. Rather, it is the much higher amounts at which greenhouse gases are emitted by stationary sources, compared to existing criteria and other regulated air pollutants, that necessitated EPA's reasonable approach to permitting. The absurdity that EPA was trying to avoid was permitting stationary sources much smaller than Congress intended when writing the permitting provisions of the CAA. The global nature of greenhouse gases and climate change was not the reason for the Tailoring Rule.

B. NHTSA Rule

The Chamber of Commerce raised objections based on the authority of the National Highway Traffic Safety Administration (NHTSA) to issue Corporate Average Fuel Economy (CAFE) standards for new motor vehicles. Specifically, the Chamber argued that the federal government must choose between two alternative regulatory approaches: Seeking to regulate GHG emissions using NHTSA's authority, under EPCA as revised by EISA or, alternatively, regulating such emissions on authority of Title II of the CAA. According to the Chamber, NHTSA has recently acknowledged it has adequate legal authority under EPCA and EISA to regulate greenhouse gas emissions, independent from EPA's authority under CAA section 202(a), therefore EPA must reconsider the Endangerment Finding because it cannot claim to generate the public health benefits from CAA mobile source GHG emissions reductions. The Chamber argues that according to EPA, the Endangerment Finding, standing alone, produces no current public health or welfare benefits but will instead produce such benefits in the future, but only if it effectively serves as a pre-condition for the regulation of GHG emissions from new motor vehicles or some other category of emission sources. Thus, the Chamber concludes, EPA has justified the Endangerment Finding as a means to the end of new motor vehicle regulation.

The Chamber claims that this core rationale for EPA's Endangerment Finding and regulatory program can no longer bear scrutiny. It argues that if EPA affirmatively wishes to pursue an Endangerment Finding to regulate emissions from new motor vehicles, it must explain what it can add to a NHTSA-only rulemaking. According to the Chamber, EPA may not rely on a presumed need for motor vehicle regulations that could be accomplished through NHTSA regulations alone. (Chamber, 19-23)

Petitioner claims that EPA issued and justified the Endangerment Finding based on the need for emissions reductions from EPA regulation of new motor vehicles, and the expectation that such EPA regulation would achieve the expected emissions reductions. That argument mischaracterizes EPA's position.

Consistent with the statutory language, legislative history and Supreme Court case law, EPA determined whether atmospheric concentrations of greenhouse gases are reasonably anticipated to endanger public health or welfare, and based that determination on the scientific and other evidence relevant to the issues of endangerment. As EPA made clear, CAA section 202(a) limited the issues EPA could consider in making a determination concerning endangerment, and they did not include consideration of the degree of reductions that would reasonably be achieved by regulations to control emissions from new motor vehicles. EPA clearly stated that:

> "As the Supreme Court made clear in *Massachusetts* v. *EPA*, EPA's judgment in making the endangerment and contribution findings is constrained by the statute, and EPA is to decide these issues based solely on the scientific and other evidence relevant to that decision. EPA may not "rest[] on

reasoning divorced from the statutory text," and instead EPA's exercise of judgment must relate to whether an air pollutant causes or contributes to air pollution that endangers. *Massachusetts* v. *EPA*, 549 U.S. at 532. As the Supreme Court noted, EPA must "exercise discretion within defined statutory limits." *Id.* at 533. EPA's belief one way or *49590 the other regarding whether regulation of greenhouse gases from new motor vehicles would be "effective" is irrelevant in making the endangerment and contribution decisions before EPA. *Id.* Instead "[t]he statutory question is whether sufficient information exists to make an endangerment finding" *Id.* at 534.

The effectiveness of a potential future control strategy is not relevant to deciding whether air pollution levels in the atmosphere endanger. It is also not relevant to deciding whether emissions of greenhouse gases from new motor vehicles contribute to such air pollution. Commenters argue that Congress implicitly imposed a third requirement, that the future control strategy have a certain degree of effectiveness in reducing the endangerment before EPA could make the affirmative findings that would authorize such regulation. There is no statutory text that supports such an interpretation, and the Supreme Court makes it clear that EPA has no discretion to read this kind of additional factor into CAA section 202(a)'s endangerment and contribution criteria. In fact, the Supreme Court rejected similar

> arguments that EPA had the discretion to consider various other factors besides endangerment and contribution in deciding whether to deny a petition. ***Massachusetts*** v. ***EPA***, 549 U.S. at 532-35." (74 FR 66496, 66507-8; December 15, 2009).

This excerpt was in response to comments arguing that EPA should take into account the emissions impacts of EPA's then upcoming rule to control emissions of greenhouse gases from light-duty vehicles and trucks, and consider that the CAFE standards issued by NHTSA would effectively achieve the same reductions. *Id.* at 66501, 66507. Just as the effectiveness of future motor vehicle regulations was not relevant to determining endangerment, EPA made it clear that CAA section 202(a) did not allow EPA to consider issues such as future adaptation and mitigation, which reflected how society responded to the issue of endangerment, not whether endangerment existed. *Id.* at 66512-514.

Thus, it is clear that EPA did not justify or base its Endangerment Finding on either the need for emissions reductions from EPA regulations of new motor vehicles, or the expectation that such an EPA regulation would achieve emissions reductions. EPA rejected suggestions during the rulemaking that EPA refrain from issuing and Endangerment Finding because NHTSA has the authority to issue CAFE standards that also reduce greenhouse gases, as discussed above. The Chamber is raising basically the same issue raised in the rulemaking, and has presented no reason that would support any different response. EPA is rejecting Chamber's request for the same reasons it rejected these same kinds of requests in the rulemaking.

It is also clear that it was eminently practicable for the Chamber to raise this issue in the comment period. As described above, various commenters pointed to NHTSA's separate authority, and argued that NHTSA would effectively achieve the same reductions as EPA, undermining the basis for EPA's Endangerment Finding. *Id.* at 66507. Also *see* 66544, in the context of the Contribution Finding. The Chamber raises the same kind of objection here, and could have raised it during the comment period. While they point to a subsequent statement by NHTSA indicating that NHTSA's statutory authority is separate from EPA's, that is not new or different information concerning NHTSA's authority and does not change the nature of the Chamber's objection. Their failure to raise their objection in a timely manner is another reason to reject their request to reconsider on these grounds.

As part of their argument, the Chamber claims that EPA must explain what it can add to a NHTSA-only rulemaking. This is one part of the argument raised above, and is rejected for the same reasons. As with the arguments discussed above, the Chamber could have raised this argument during the comment period, and the failure to do so is another reason to reject their request to reconsider on these grounds.

In any case, EPA has explained in detail how the recently issued regulations under CAA section 202(a) to control emission of greenhouse gases from light-duty vehicles and trucks differ from NHTSA's CAFE program for the same vehicles, and why it was important for EPA to issue its rule. In the final rule issuing greenhouse gas emissions standards for new motor vehicles, EPA responded to comments that it should delay issuance of the motor vehicle standards until a later time, to avoid concerns over stationary source permitting impacts. EPA stated:

> "[The Supreme Court in *Massachusetts*] stated that under section 202(a), "[i]f EPA makes [the endangerment and cause or contribute findings], the Clean Air Act requires the agency to regulate emissions of the deleterious pollutant." 549 U.S. at 534. As discussed above, EPA has made the two findings on contribution and endangerment. 74 FR 66496 (December 15, 2009). Thus, EPA is required to issue standards applicable to emissions of this air pollutant from new motor vehicles.
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> The Court properly noted that EPA retained "significant latitude" as to the "timing * * * and coordination of its regulations with those of other agencies" (*id.*). However it has now been nearly three years since the Court issued its opinion, and the time for delay has passed. In the absence of these final standards, there would be three separate Federal and State regimes independently regulating light-duty vehicles to increase fuel economy and reduce GHG emissions: NHTSA's CAFE standards, EPA's GHG standards, and the GHG standards applicable in California and other states adopting the California standards. This joint EPA-NHTSA program will allow automakers

to meet all of these requirements with a single national fleet because California has indicated that it will accept compliance with EPA's GHG standards as compliance with California's GHG standards. 74 FR at 49460. California has not indicated that it would accept NHTSA's CAFE standards by themselves. Without EPA's vehicle GHG standards, the states will not offer the Federal program as an alternative compliance option to automakers and the benefits of a harmonized national program will be lost. California and several other states have expressed strong concern that, without comparable Federal vehicle GHG standards, the states will not offer the Federal program as an alternative compliance option to automakers. Letter dated February 23, 2010 from Commissioners of California, Maine, New Mexico, Oregon and Washington to Senators Harry Reid and Mitch McConnell (Docket EPA-HQ-OAR-2009-0472-11400). The automobile industry also strongly supports issuance of these rules to allow implementation of the national program and avoid "a myriad of problems for the auto industry in terms of product planning, vehicle distribution, adverse economic impacts and, most importantly, adverse consequences for their dealers and customers." Letter dated March 17, 2010 from Alliance of Automobile Manufacturers to Senators Harry Reid and Mitch McConnell, and Representatives Nancy Pelosi and John Boehner (Docket

> EPA-HQ-OAR-2009-0472-11368). Thus, without EPA's GHG standards as part of a Federal harmonized program, important GHG reductions as well as benefits to the automakers and to consumers would be lost. In addition, delaying the rule would impose significant burdens and uncertainty on automakers, who are already well into planning for production of MY 2012 vehicles, relying on the ability to produce a single national fleet. Delaying the issuance of this final rule would very seriously disrupt the industry's plans" (75 FR 25314, 25402; May 7, 2010).

EPA also noted that the greenhouse gas standards issued by EPA achieved greater overall reductions in greenhouse gases than NHTSA's CAFE standards. *Id.* at n.165, 25402; also *see* 25397, 25549-50. Thus, EPA has explained in full the reasons for refusing to delay issuance of EPA's motor vehicle emissions standards, and what EPA's rule adds to NHTSA's CAFE rule. As noted above, these issues are not relevant to the issues EPA considers in making a determination on endangerment under CAA section 202(a).

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C. *Other Issues*

1. Effects of the Findings and Subsequent Rulemakings on States and Businesses

Many of the petitioners provide detailed information regarding the impact that they allege would flow from the Findings; these discussions are in addition to arguments based on the Proposed Tailoring Rule (*see* Section IV.A of this Notice for the response to the arguments based on the Proposed Tailoring Rule). For example, the State of Texas, in addition to providing information regarding efforts the State has made to address GHGs, details harm it predicted could occur to the State through allegedly adverse impacts to its farming and ranching, mineral interest revenue stream, and oil and gas sector. Texas at 5-7, 32-34. The State also discusses what it describes as the "fallout" from the Findings. *Id.* at 34-38. More specifically, the State of Texas discusses resolutions and bills that have been introduced in the U.S. House of Representatives and the U.S. Senate, comments from the Small Business Administration's Office of Advocacy on the Proposed Tailoring Rule,[52] and various inquiries into, or statements about, the CRU e-mails and IPCC.

The State of Virginia, while not providing any additional information regarding the alleged impacts of the Findings, states that "EPA's remote finding of endangerment to health and welfare fail to consider and properly weigh the offsetting harms to health and welfare necessarily flowing from economically destructive regulation." Virginia at 3.

The petitioners' information regarding the impact to petitioners and others often follows sections of the petitions in which petitioners raise allegedly new concerns with the science underlying the Findings.

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[52] The State of Texas stated that this letter was provided to the endangerment docket (EPA-HQ-OAR-2009-0171), but it was actually submitted to the docket for the Proposed Tailoring Rule (EPA-HQ-OAR-2009-0571).

The information regarding the impact from the Findings is most often provided in order to emphasize to EPA the necessity of reconsidering the Findings based on those earlier concerns.[53] *See, e.g.*, Texas at 35 ("In light of these * * * concerns * * * the Administrator's improper handling of the scientific assessment process takes on an even greater meaning."); Letter from WV Coal Assn. at 1 ("EPA's findings would have a grave impact on our industry and the thousands of West Virginians who depend on the production and use of our high quality coal everyday * * *. This makes it all the more important that EPA suspend its decision and reconsider it in light of these important new developments.").

The objections based either explicitly or implicitly on EPA's decision to not consider the impacts of green-house gas regulations when making the Findings could have been, and indeed were, raised during the public comment period on the Findings. Thus, they are not properly raised in CAA section 307(d) petition for reconsideration and are therefore denied.

Moreover, as discussed elsewhere in this Decision and supporting material, this information is essentially irrelevant to the scientific based questions before EPA when making the endangerment and contribution findings. EPA already explained in the Findings how the potential impacts from the regulations that may follow an endangerment finding are not proper considerations when determining whether GHGs may reasonably be anticipated to endanger public health or welfare. See generally, *74 FR at 66515-16*; see also *id. at 66515* (The Administrator "must base her decision about endangerment on the science, and not on policy considerations about the repercussions or impact of such a finding."); *id. at 66516* ("Therefore, it is reasonable to interpret the endangerment test as not requiring the consideration of the impacts of implementing the statute in the event of an endangerment finding as part of the endangerment finding itself.").

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[53] Petitioners also provide this information in the context of requesting an administrative stay of the Findings from EPA. *See* Section II for a discussion of EPA's denial of these stay requests.

Finally, as detailed elsewhere in this Decision and RTP document, the CRU e-mails and other scientific information provided by the petitioners do not call into question the underlying science, EPA's reliance on it, or the Administrator's final determination.

2. A Formal Rulemaking Process Is Not Required

One petitioner discusses why EPA should not only reconsider the Findings, but also utilize the formal rulemaking process in the reconsideration proceedings. Peabody Energy at IX-9 to IX-18. Essentially, the petitioner believes that the questions raised by the CRU e-mails and errors in IPCC AR4 are so serious that EPA's responsibilities to address them can be discharged only through granting reconsideration, and undertaking a formal rulemaking process. More specifically, the petitioner states that "[a]n on-the-record proceeding is necessary to rectify the substantial flaws in the process that EPA has employed, flaws that stem from the abuses infecting the studies on which the

Endangerment Finding is principally based." Peabody Energy at IX-9.

In support of its argument, petitioner first notes that while EPA may not be required by the CAA to under-take an on-the-record proceeding, nothing prohibits EPA from undertaking more process than is required by statute. *Id. at IX-9 to IX-10.* The petitioner then argues that case law and "other authoritative guidance," specifically guidance from the Administrative Conference of the United States (ACUS), "make clear than an evidentiary hearing" on the petitions for reconsideration is warranted. *Id.* at IX-10. The petitioner contends that a formal evidentiary hearing will fix EPA's record, which they claim is "wholly inadequate" and cannot justify finding endangerment to public health.[54] More specifically, they claim that a "responsive thrust and parry" about the science underlying the Administrator's decision, including "secondary sources" such as the IPCC, should occur and that the informal rulemaking proceeding EPA undertook does not allow for this. Peabody Energy at IX-16.

Comments suggesting that EPA undertake a formal rulemaking process, not only could have been raised, but were raised, during the comment period for the Findings. 74 FR at 66504-05, 66510-12. Thus, they are not appropriately raised in petitions for reconsideration. Please *see* the above portions of the Findings, RTC Volume 1, and Section III of this Decision for further discussion on why EPA's denial of the request for formal hearing in the Findings, and the agency's continued reliance on the assessment reports, is reasonable.

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[54] EPA responds to the argument regarding the public health finding in section IV.B.I of the Findings and Volume 5 of the RTC document.

To the extent that the petitioners are reraising these comments in light of the CRU e-mails and IPCC developments, and asking for EPA to reconsider its prior denial of the request for a formal rulemaking hearing, for the reasons explained elsewhere in this Decision and supporting materials, these materials do not necessitate EPA granting reconsideration, let alone initiating the exceedingly rare process of a formal, on-the-record rulemaking. When all is said and done, the CRU e-mails and IPCC errors do not call into question the science supporting the Administrator's decision. They surely do not rise to the level of "extremely *49592 compelling circumstances" that petitioner argues would justify a court dictating that EPA under-take formal rulemaking procedures. Peabody Energy at IX-10.

Petitioner argues that while EPA is not required by the CAA to follow a formal rulemaking process, EPA has the authority to convene such a hearing and nothing in the CAA should be read to "limit EPA's discretion in deciding whether to do so." Peabody Energy at IX-9. n. 494. The petition also notes that EPA is equipped to undertake such a hearing, citing the existing procedures for adjudications, 40 CFR 22.3(a). While EPA may have the discretion to provide more process than the minimum required by CAA section 307(d), EPA notes that the petition does not discuss how a formal on-the-record hearing process would fit within the informal rulemaking proceedings mandated by the CAA. *See* 74 FR at 66505 (noting that original request also did not discuss how a formal hearing would fit with CAA requirements). Nor does it discuss how the 40 CFR part 22 regulations, which are entitled "Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and Revocation/Termination or Suspension of Permits" and cover administrative adjudicatory proceedings for specifically delineated civil penalty or permit actions, would authorize the type of hearing petitioner suggests, or even how they would work assuming EPA chose to apply them as suggested by petitioner.

The cases cited by petitioner stand for the unsurprising proposition that some circumstances justify more or different procedures than others. But they do not, as petitioner alleges, lead to the inevitable conclusion that the only reasonable recourse for EPA is to undertake a formal rulemaking process.[55] Indeed, that would be a departure "from the very basic tenet of administrative law that agencies should be free to fashion their own rules of procedure." *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519, 544 (1978). In *Vermont Yankee* the Supreme Court rejected an argument similar to that being made by petitioner here—that the issues before the agency were so complex and important that they necessitated more process, including cross-examination, even if such procedures were beyond the minimum required. *Id.* at 539-49. Also *see Kennecott*, 684 F.2d at 1020 fn 33.

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[55] The extremely compelling circumstances found by courts in the cases cited by petitioners do not exist here. *See People of the State of Illinois v. United States*, 666 F.2d 1066, 1082-83 (7th Cir. 1981) (court relied upon a combination of unique factors including that the Interstate Commerce Commission had allowed cross-examination on some information in an adjudicatory proceeding, but not other similar information, and the cross-examination had been found to be "critical to achieving an accurate determination of the facts."); *National Wildlife Federation v. Marsh*, 721 F.2d 767, (11th Cir. 1983) (the court merely required the Army Corps of Engineers to follow its own longstanding internal procedures when issuing a permit). EPA also notes that two of the cases the petitioner cites for the proposition that "cross examination is the most effective way to ascertain the truth," Peabody at IX-15, are criminal cases, therefore it is not surprising that cross-examination was at issue. The third, discussed above, involved a decision in which the agency had already decided to allow cross-examination. *People*, 666 at 1083.

To the extent that petitioner argues that EPA's record is inadequate if it does not include the "thrust and parry" of a formal rulemaking hearing, with cross examination, EPA disagrees. Congress clearly indicated that the robust informal rulemaking procedures of CAA section 307(d) are appropriate for the myriad complex issues that EPA must address when issuing particular CAA rules. Nothing that petitioners have provided call into question EPA's decision to follow the clear direction provided in section 307(d).

Indeed, the robust informal rulemaking requirements of section 307(d) of the CAA ensure adequate and appropriate notice and comment for CAA decisions. *See* generally 74 FR 66500-05 (discussing the public involvement in development of the Findings, including EPA's careful review and response to more than 380,000 public comments). Moreover, the section 307(d) reconsideration process provides ample opportunity for petitioners, and any other interested party, to submit to EPA for consideration new information which they believe is of central relevance to the Administrator's final decision, and hence necessitates reconsideration of that decision. Other than continuing to disagree with EPA's denial of the original request for a formal rulemaking, and continuing to state its opinion that the science and regulatory impact from an endangerment finding demands more process, petitioner has not demonstrated why the clearly applicable procedures of section 307(d) are inadequate, let alone why only the rarely-used formal rulemaking process is the only reasonable path forward. Petitioners have submitted over 500 pages of reconsideration petitions, as well as attachments consisting of hundreds of pages that contain information including dozens of studies, more than 300 pages of computer code, and more than 1000 e-mails. Peabody Energy and other petitioners have had a full opportunity, both in the underlying rulemaking and in the reconsideration process, to submit whatever information or evidence they want concerning the variety of scientific and other issues of concern to them, such as those identified at Peabody IX-12. EPA's lengthy and detailed Denial, including this document and the RTP document, carefully examines each objection raised and explains why each objection is untimely and/or not of central relevance. The CAA reconsideration process provides ample opportunity for interested parties to present new information to EPA, and for EPA to examine that information. Petitioner has not identified what cross examination it thinks is required to "ensure that results reached by EPA reflect scientific truths". For example, do they envision cross examination of all of the authors of the thousands of studies discussed in the rulemaking, or discussed in an assessment report? Cross examination of every author and other participant in an assessment report? Cross examination of agency scientists? And for all of these, on what subjects and issues? The administrative record includes the assessment reports and their integration of the science within areas of climate research and across various areas of climate research, as well as EPA's TSD and additional reports and studies provided by commenters. The proposed and final Findings also included the Administrator's judgments and conclusions on all of this evidence. Petitioners have failed to explain what facts they would like cross examination on, what witnesses they envision cross examining, and how any such examination would add in any way, much less a practical way, to the ability they already have, through submission of comments and petitions to reconsider, to attack and contest at length any and all of these parts of the informal rulemaking record. They have failed to demonstrate how their broad, general assertions of a better process would actually work as a practical way to better ensure the scientific integrity of the record before the Agency. It is quite reasonable for EPA to rely on the robust and indepth informal rulemaking procedures followed in this rulemaking, as mandated by Congress, rather than embark on the rarely-used formal rulemaking pathway.

As discussed in the final Findings, the ACUS guidelines are non-binding recommendations regarding "important circumstances tending to suggest the desirability of such procedural devices". 1 U.S.C. 305.76-3(1). EPA notes that the ACUS recommendations cited by petitioner are not specifically for the formal rulemaking proceedings *49593 suggested by petitioner. Rather, they are more general, for "[h]earing argument and other oral presentation, when the presiding agency official or officials may ask questions, including questions submitted by interested persons." 1 U.S.C. 305.76-3(1)(f). The CAA requires a hearing and opportunity for oral presentation, CAA section 307(d)(5), and EPA held two hearings during which interested parties could present their arguments and information and EPA could ask questions. Thus, EPA has already undertaken procedures similar to those recommended by the ACUS.

Last, part of the recommendation of the ACUS not raised by petitioner is the following:

> An agency should employ any of the devices specified in paragraph 1 or permit cross-examination only to the extent that it believes that the anticipated costs (including those related to increasing the time involved and the deployment of additional agency resources) are offset by anticipated gains in the quality of the rule and the extent to which the rulemaking procedure will be perceived as having been fair.

1 U.S.C. 305.76-3(3).

For all the reasons stated above, in the final Findings, and elsewhere in this document and supporting material, EPA does not believe that the potential for gains in the quality of the Administrator's decision, if any, would offset the costs, both in terms of agency resources and delay. Moreover, the section 307(d) rulemaking process is quite fair, providing adequate opportunity for everyone, and not just parties who could afford to participate in a formal hearing, to present their views. Contrary to petitioner's argument, it resulted in a record that is both scientifically sound and adequate.

For all the foregoing reasons, the request to reconsider its prior decision and undertake a formal rulemaking, evidentiary hearing process, is denied.

3. Discretion in Making an Endangerment Finding

Peabody Energy argues that whatever discretion EPA may have in making an Endangerment Finding, it must justify and defend the specific findings of endangerment it actually made. More specifically, Peabody Energy argues that EPA did not assess the danger as low risk/high magnitude. It found instead both a high risk and high magnitude of harm, citing the following quotes from the Findings—"[t]he scientific evidence is compelling that elevated concentrations of heat-trapping greenhouse gases are the root cause of recently observed climate change" and "[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations," with "very likely" defined as 90-99% probability. Thus, they conclude, EPA must now defend its high risk/high harm conclusion, even if arguendo it had discretion to make a lower finding of endangerment.

Peabody Energy argues that this distinction between the Endangerment Finding that EPA might be authorized to make and the Endangerment Finding it actually made is crucial in light of the CRU material. Peabody contends that even if EPA might still be able to make an Endangerment Finding of some kind (a fact that Peabody does not concede), that would not justify the Endangerment Finding that EPA actually made and would not form a sufficient basis to allow EPA to deny the petitions for reconsideration. Peabody argues that the regulation that EPA ultimately proposes must be guided by the nature and extent of the endangerment that EPA has found, because a high risk/high magnitude endangerment finding might justify one level of regulation, while a different finding might justify a different level. Thus, Peabody Energy claims the question that EPA must answer at the endangerment phase is not just "endangerment, yes or no?," but specifically what type of endangerment. In that context, Peabody Energy argues that the revelations in the CRU material mean that EPA must reconsider its Endangerment Finding no matter what level of legal discretion the Agency has. Peabody Energy at IX-6 to 9.

Peabody Energy vastly oversimplifies the basis for EPA's Endangerment Finding, characterizing it as a simple "high risk/high magnitude" decision. With respect to existence of climate changes and attribution to anthropogenic emissions of greenhouse gases, the Administrator concluded that:

> the scientific evidence linking human emissions and resulting elevated atmospheric concentrations of the six well-mixed greenhouse gases to observed global and regional temperature increases and other climate changes to be sufficiently robust and compelling.

74 FR at 66523.

Based on this, the Administrator considered a wide variety of categories of public health and welfare that could be affected by the climate changes. The Administrator:

> considered the state of the science on how human emissions and the resulting elevated atmospheric concentrations of well mixed greenhouse gases may affect each of the major risk categories, *i.e.*, those that are described in the TSD, which include human health, air quality, food production and agriculture, forestry, water resources, sea level rise and coastal areas, the energy sector, infrastructure and settlements, and ecosystems and wildlife. The Administrator understands that the nature and potential severity of impacts can vary across these different elements of public health and welfare, and that they can vary by region, as well as over time.

Id. at 66509.

For each of these categories the Administrator took into account the varying degree of certainty of an impact as well as the potential magnitude of an impact. She considered both beneficial as well as adverse impacts. *Id.* at 66524-537. There was no simple "high risk/high magnitude" paradigm. Instead, the Administrator was aware that:

> because human-induced climate change has the potential to be far reaching and multi-dimensional, not all risks and potential impacts can be characterized with

> a uniform level of quantification or understanding, nor can they be characterized with uniform metrics. Given this variety in not only the nature and potential magnitude of risks and impacts, but also in our ability to characterize, quantify and project into the future such impacts, the Administrator must use her judgment to weigh the threat in each of the risk categories, weigh the potential benefits where relevant, and ultimately judge whether these risks and benefits, when viewed in total, are judged to be endangerment to public health and/or welfare.

Id. at 66523-24.

Instead of the simple approach described by Peabody Energy, the Administrator properly exercised her judgment by taking into consideration the complexity and breadth of the range of risks and harms presented by the evidence.

In this context, Peabody Energy and other petitioners focus their arguments and claims almost exclusively on the question of the existence of climate change and its attribution to anthropogenic emissions of green-house gases. After considering their claims, EPA is denying the petitions to reconsider for the reasons described above. They have not provided substantial support for the argument that the Endangerment Finding should be revised, and EPA continues to find that the "scientific evidence linking human emissions and resulting elevated atmospheric concentrations of the six well-mixed greenhouse gases to observed global and regional temperature increases and other climate changes to be sufficiently robust and compelling."

In sum, contrary to Peabody Energy's assertion EPA did not employ a simplified "high risk/high magnitude" paradigm in making the Endangerment Finding. Instead the Administrator *49594 carefully and comprehensively considered the recognized broad range of varying risks and harms across multiple sectors of public health and welfare. In addition, EPA is not now changing its Endangerment Finding or using its discretion under section 202(a) to base it on a "lower finding of endangerment".

V. Conclusion

For all of the reasons discussed above and in the accompanying RTP document, the petitions to reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act are denied, as are the petitions for an administrative stay.

Dated: July 29, 2010.

Lisa P. Jackson,

Administrator.

[FR Doc. 2010-19153 Filed 8-12-10; 8:45 am]

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 50, 51, 70, and 71

[EPA-HQ-OAR-2009-0597; FRL-9133-6]

RIN 2060-AP87

Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs

Friday, April 2, 2010

AGENCY: Environmental Protection Agency.

***17004**

ACTION: Final Action on Reconsideration of Interpretation.

SUMMARY: EPA has made a final decision to continue applying the Agency's existing interpretation of a regulation that determines the scope of pollutants subject to the Federal Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA or Act). In a December 18, 2008 memorandum, EPA established an interpretation clarifying the scope of the phrase "subject to regulation" found within the definition of the term "regulated NSR pollutant." After considering comments on alternate interpretations of this term, EPA has decided to continue to interpret it to include each pollutant subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant. Thus, this action explains that EPA will

continue following the interpretation in the December 18, 2008 memorandum with one exception. EPA is refining its interpretation to establish that the PSD permitting requirements will not apply to a newly regulated pollutant until a regulatory requirement to control emissions of that pollutant "takes effect." In addition, this notice addresses several questions regarding the applicability of the PSD and Title V permitting programs to greenhouse gases (GHGs) upon the anticipated promulgation of EPA regulations establishing limitations on emissions of GHGs from vehicles under Title II of the CAA. Collectively, these conclusions result in an EPA determination that PSD and Title V permitting requirements will not apply to GHGs until at least January 2, 2011.

DATES: This final action is applicable as of March 29, 2010.

FOR FURTHER INFORMATION CONTACT: Mr. David Svendsgaard, Air Quality Policy Division (C504-03), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone number: (919) 541-2380; fax number: (919) 541-5509, e-mail address: svendsgaard.dave@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

Entities potentially affected by this action include sources in various industry groups and State, local, and tribal governments.

B. How is this document organized?

This document is organized as follows:

- I. General Information
- II. Background
- III. This Action
  - A. Overview
  - B. Analysis of Proposed and Alternative Interpretations for Subject to Regulation
    - 1. Actual Control Interpretation
    - 2. Monitoring and Reporting Interpretation
    - 3. State Implementation Plan (SIP) Interpretation
    - 4. Endangerment Finding Interpretation
    - 5. Section 209 Waiver Interpretation
  - C. Other Issues on Which EPA Solicited Comment
    - 1. Prospective Codification of Interpretation
    - 2. Section 821 of the Clean Air Act Amendments of 1990
    - 3. Timing of When a Pollutant becomes Subject to Regulation
- IV. Application of PSD Interpretive Memo to Permitting for GHGs
  - A. Date by Which GHGs Will Be "Subject to Regulation"
  - B. Implementation Concerns
  - C. Interim EPA Policy To Mitigate Concerns Regarding GHG Emissions from Construction or Modification of Large Stationary Sources
  - D. Transition for Pending Permit Applications
- V. PSD Program Implementation by EPA and States

VI. Application of the Title V Program to Sources of GHGs
VII. Statutory Authority
VIII. Judicial Review

II. Background

On December 18, 2008, then-EPA Administrator Stephen Johnson issued a memorandum setting forth EPA's interpretation regarding which pollutants were "subject to regulation" for the purposes of the Federal PSD permitting program. *See* Memorandum from Stephen Johnson, EPA Administrator, to EPA Regional Administrators, RE: EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program (Dec. 18, 2008) ("PSD Interpretive Memo" or "Memo"); *see also* 73 FR 80300 (Dec. 31, 2008) (public notice of Dec. 18, 2008 memo). The Memo interprets the phrase "subject to regulation" to include pollutants "subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant," while excluding pollutants "for which EPA regulations only require monitoring or reporting." *See* Memo at 1. The Memo was necessary after issues were raised regarding the scope of pollutants that should be addressed in PSD permitting actions following the Supreme Court's April 2, 2007 decision in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007).

In *Massachusetts* v. *EPA*, the Supreme Court held that GHGs, including carbon dioxide (CO_2), fit within the definition of air pollutant in the CAA. The case arose from EPA's denial of a petition for rulemaking filed by more than a dozen environmental, renewable energy, and other organizations requesting that EPA control emissions of GHGs from new motor vehicles under section 202(a) of the CAA. The Court found that, in accordance with CAA section 202(a), EPA was required to determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.[1]

On November 13, 2008, the Environmental Appeals Board (EAB) issued a decision in a challenge to a PSD permit to construct a new electric generating unit in Bonanza, Utah. *In re Deseret Power Electric Cooperative*, PSD Appeal No. 07-03 (EAB Nov. 13, 2008) ("*Deseret*"). The permit was issued by EPA Region 8 in August 2007 and did not include best available control technology (BACT) limits for CO_2. At the time, the Region acknowledged *Massachusetts* but found that decision alone did not require PSD permits to include limits on CO_2 emissions. In briefs filed in the EAB case, EPA maintained the position that the Agency had a binding, historic interpretation of the phrase "subject to regulation" in the Federal PSD regulations that required PSD permit limits to apply only to those pollutants already subject to actual control of emissions under other provisions of the CAA. Response of EPA Office of Air and Radiation and Region 8 to Briefs of Petitioner and Supporting Amici (filed March 21, 2008). Accordingly, EPA argued that the regulations contained in 40 CFR part 75, which require monitoring of CO_2 at some sources, did not make CO_2 subject ***17005** to PSD regulation. The order and opinion issued by the EAB remanded the permit after finding that prior EPA actions were insufficient to establish a historic, binding interpretation that "subject to regulation" for PSD purposes included only those pollutants subject to regulations that require actual control of emissions. However, the EAB also rejected arguments that the CAA compelled only one interpretation of the phrase "subject to regulation" and found "no evidence of a Congressional intent to compel EPA to apply BACT to pollutants that are subject only to monitoring and reporting requirements." Thus, the Board remanded the permit to the Region to "reconsider whether or not to impose a CO_2 BACT limit in light of the 'subject to regulation' definition under the CAA." The Board encouraged EPA to consider "addressing the interpretation of the phrase 'subject to regulation under this Act' in the context of an action of nationwide scope, rather than through this specific permitting proceeding." *See Deseret* at 63-64.

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[1] On December 15, 2009, EPA published the final endangerment and cause or con-tribute findings for GHGs under section 202(a) of the CAA. *See* 74 FR 66496.

EPA issued the PSD Interpretive Memo shortly after the *Deseret* decision with the stated purpose to "establish[ ] an interpretation clarifying the scope of the EPA regulation that determines the pollutants subject to the Federal Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA or Act)" by providing EPA's "definitive interpretation" of the definition of the term "regulated NSR pollutants" found at 40 CFR 52.21(b)(50) and resolving "any ambiguity in subpart ([iv]) of that paragraph, which includes 'any pollutant that otherwise is subject to regulation under the Act.'" *See* Memo at 1. As the Memo explains, the statute and regulation use similar language the regulation defines a regulated NSR pollutant to include "[a]ny pollutant that otherwise is subject to regulation under the Act" and requires BACT for "each regulated NSR pollutant," per 40 CFR 52.21(b)(50) and (j), while the Act requires BACT for "each pollutant subject to regulation under this [Act]," per CAA sections 165(a)(4) and 169. The EAB had determined that "the meaning of the term 'subject to regulation under this Act' as used in [CAA] sections 165 and 169 is not so clear and unequivocal as to preclude the Agency from exercising discretion in interpreting the statutory phrase" in implementing the PSD program. *See Deseret* at 63.

The PSD Interpretive Memo seeks to resolve the ambiguity in implementation of the PSD program by stating that "EPA will interpret this definition of 'regulated NSR pollutant' to exclude pollutants for which EPA regulations only require monitoring or reporting but to include each pollutant subject to either a provision in the Clean Air Act or regulation adopted by EPA under the Clean Air Act that requires actual control of emissions of that pollutant." The Memo states that "EPA has not previously issued a definitive interpretation of the definition of 'regulated NSR pollutant' in section 52.21(b)(50) or an interpretation of the phrase 'subject to regulation under the Act' that addressed whether monitoring and reporting requirements constitute 'regulation' within the meaning of this phrase." The Memo, however, explains that the interpretation reflects the "considered judgment" of then-Administrator Johnson regarding the PSD regulatory requirements and is consistent with both historic Agency practice and prior statements by Agency officials. *See* Memo at 1-2.

The PSD Interpretive Memo is not a substantive rule promulgated under section 307(d) of the CAA, but rather an interpretation of the terms of a regulation at 40 CFR 52.21(b)(50).[2] An interpretive document is one that explains or clarifies, and is consistent with, existing statutes or regulation. *See National Family Planning and Reproductive Health Ass'n* v. *Sullivan*, 979 F.2d 227, 236-37 (D.C. Cir. 1992). The PSD Interpretive Memo explains and clarifies the meaning of the definition of "regulated NSR pollutant" in section 52.21(b)(50) of the existing NSR regulations, and does not alter the meaning of the definition in any way that is inconsistent with the terms of the regulation. As a result, EPA concluded that the PSD Interpretive Memo was an interpretive rule that could be issued without a notice and comment rulemaking process.

However, the PSD Interpretive Memo observed that the adoption of an interpretation of a rule without a notice and comment process does not preclude subsequent action by the Agency to solicit public input on the interpretation. Indeed, given the significant public interest in the issue addressed in the December 18, 2008 memorandum, EPA subsequently elected to seek public input on the memorandum and alternative readings of the regulations.

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[2] The PSD Interpretive Memo also reflects EPA's interpretation of sections 165(a)(4) and 169(3) of the CAA, which use language similar to the EPA regulations that are based on these provisions of the statute. The Memo discusses the Agency's interpretation of the CAA and concludes that the Agency's interpretation of its regulations is not precluded by the terms of the CAA.

On December 31, 2008, EPA received a petition for reconsideration of the position taken in the PSD Interpretive Memo from Sierra Club and 14 other environmental, renewable energy, and citizen organizations. *See* Petition for Reconsideration, In the Matter of: EPA Final Action Published at 73 FR 80300 (Dec. 31, 2008), entitled "Clean Air Act Prevention of Significant Deterioration (PSD) Construction Permit Program; Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD Permit Program." Petitioners argued that the PSD Interpretive Memo "was impermissible as a matter of law, because it was issued in violation of the procedural requirements of the Administrative Procedures [*sic*] Act * * * and the Clean Air Act * * *, it directly conflicts with prior agency actions and interpretations, and it purports to establish an interpretation of the Act that conflicts with the plain language of the statute." *See* Petition at 2. Accordingly, Petitioners requested that EPA reconsider and retract the PSD Interpretive Memo. Petitioners later amended their Petition for Reconsideration to include a request to stay the effect of the Memo pending the outcome of the reconsideration request. Amended Petition for Reconsideration (filed Jan. 6, 2009).[3]

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[3] On January 15, 2009, a number of environmental organizations that filed this Petition for Reconsideration also filed a petition challenging the PSD Interpretive Memo in U.S. Court of Appeals for the District of Columbia Circuit. *Sierra Club* v. *E.P.A.*, No. 09-1018 (D.C. Cir., filed Jan. 15, 2009). Thereafter, various parties moved to intervene in that

On February 17, 2009, EPA granted the Petition for Reconsideration, on the basis of the authority conferred by section 553(e) of the Administrative Procedure Act (APA), and announced its intent to conduct a rulemaking to allow for public comment on the issues raised in the Memo and on any issues raised by the EAB's *Deseret opinion*, to the extent they do not overlap with the issues raised in the Memo.[4] Because the Memo was not a substantive rule promulgated under section 307(d) of the APA, the reconsideration action was not a reconsideration under the authority of section 307(d)(7)(B) of the CAA. *See* Letter from Lisa P. Jackson, EPA Administrator, to David Bookbinder, Chief Climate Counsel at Sierra Club (Feb. 17, 2009). EPA did not stay the effectiveness of the PSD Interpretive Memo pending reconsideration, but the Agency did reiterate that the Memo ***17006** "does not bind States issuing [PSD] permits under their own State Implementation Plans." *Id.* at 1.

On October 7, 2009 (74 FR 51535), EPA proposed a reconsideration of the PSD Interpretive Memo that solicited comment on five possible interpretations of the regulatory phrase "subject to regulation"–the "actual control" interpretation (adopted by the Memo); the "monitoring and reporting" interpretation

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action or filed similar petitions challenging the Memo. The consolidated D.C. Circuit cases have been held in abeyance pending this reconsideration process. *Id.*, Order (filed March 9, 2009).

[4] Because the grant of reconsideration directed the Agency to conduct this reconsideration using a notice and comment process, the proposal did not address the procedural challenge presented in the Petition for Reconsideration.

(advocated by Petitioners); the inclusion of regulatory requirements for specific pollutants in SIPs (discussed in both the Memo and the Petition for Reconsideration); an EPA finding of endangerment (discussed in the Memo); and the grant of a section 209 waiver interpretation (raised by commenters in another EPA action). EPA also addressed, and requested public comment on, other issues raised in the PSD Interpretive Memo and related actions that may influence this reconsideration.

Of the five interpretations described in the proposed reconsideration notice, EPA expressly favored the actual control interpretation, which has remained in effect since issuing the memorandum, notwithstanding the EPA's grant of reconsideration. The proposal explained that the actual control interpretation best reflects EPA's past policy and practice, is in keeping with the structure and language of the statute and regulations, and best allows for the necessary coordination of approaches to controlling emissions of newly identified pollutants. While the other interpretations may represent reasoned approaches for interpreting "subject to regulation," no particular one is compelled by the statute, nor did the EAB determine that any one of them was so compelled. Because EPA had overarching concerns over the policy and practical application of each of the alternative interpretations, the Agency proposed to retain the actual control interpretation. Nevertheless, EPA requested comment on all five of the interpretations.

III. This Action

A. Overview

EPA has made a final decision to continue applying (with one limited refinement) the Agency's existing interpretation of 40 CFR 52.21(b)(50) that is articulated in the PSD Interpretive Memo. For reasons explained below, and addressed in further detail in the document "Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs: EPA's Response to Public Comments", after reviewing the comments, EPA has concluded that the "actual control interpretation" is a permissible interpretation of the CAA and is the most appropriate interpretation to apply given the policy implications. However, EPA is refining its interpretation in one respect to establish that PSD permitting requirements apply to a newly regulated pollutant at the time a regulatory requirement to control emissions of that pollutant "takes effect" (rather than upon promulgation or the legal effective date of the regulation containing such a requirement). In addition, this notice addresses several outstanding questions regarding the applicability of the PSD and Title V permitting programs to GHGs upon the anticipated promulgation of EPA regulations establishing limitations on emissions of GHGs from vehicles under Title II of the CAA.[5]]

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[5] On September 28, 2009, EPA proposed a rule establishing emissions standards for new motor vehicles, starting with Model Year 2012, that would reduce GHGs and improve fuel economy from motor vehicles. This proposal was a joint

EPA received 71 comments on the proposed reconsideration notice published on October 7, 2009 (74 FR 51535).[6] Commenters represented a range of interests, including State regulatory agencies, corporations that may need to obtain PSD permits, trade associations representing various industrial sectors, and environmental and public interest groups. Commenters representing States and regulated entities generally expressed support for the actual control interpretation, while environmental and public interest groups generally favored the alternative interpretations. States and regulated entities also supported EPA's proposed action to apply PSD requirements at the point in time when an actual control requirement becomes effective, with many entities specifically requesting that EPA interpret "effective" to mean the compliance date of a rule. Environmental stakeholders supported retaining the position in the existing PSD Interpretive Memo that PSD requirements apply to a pollutant upon the promulgation of the relevant requirement for that pollutant.

EPA has not been persuaded that the Agency is compelled by the CAA, the terms of EPA regulations, or prior EPA action to apply any of the four

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proposal by EPA and the U.S. Department of Transportation (DOT), with DOT proposing to adopt corporate average fuel economy (CAFE) standards for model years 2012 and after. *See* 74 FR 49453.

[6] In some cases, a commenter on the proposed reconsideration of the PSD Interpretive Memo addressed an issue or topic that is under consideration in the forthcoming PSD and Title V GHG Tailoring Rule. Accordingly, EPA refers the reader to that rulemaking for EPA responses to those comments.

alternatives to its preferred interpretation described in the October 7, 2009 notice—monitoring and reporting requirement, EPA-approved SIP, endangerment finding, or CAA section 209 waiver. EPA has likewise not been persuaded that all of the alternative interpretations are precluded by the CAA. However, since Congress has not precisely spoken to this issue, EPA has the discretion to choose among the range of permissible interpretations of the statutory language. Since EPA's interpretation of the regulations is not precluded by the statutory language, EPA is electing to maintain that interpretation on policy grounds. EPA has concluded that the "actual control" interpretation is not only consistent with decades of past practice, but provides the most reasonable and workable approach to developing an appropriate regulatory scheme to address newly identified pollutants of concern. Thus, except as to the one element that EPA proposed to modify, EPA is reaffirming the PSD Interpretive Memo and its establishment of the actual control interpretation as EPA's definitive interpretation of the phrase "subject to regulation" under the PSD provisions in the CAA and EPA regulations.

EPA has been persuaded by public comments on the proposed reconsideration to modify the portion of its interpretation regarding the timing of when a pollutant becomes subject to regulation under the CAA and thus covered by the requirements of the PSD permitting program. Specifically, EPA is modifying its interpretation of 40 CFR 52.21(b)(50) of its regulations, and the parallel provision in 40 CFR 51.166(b)(49), to establish that the PSD requirements will not apply to a newly regulated pollutant until a regulatory requirement to control emissions of that pollutant "takes effect." EPA has concluded that this approach is consistent with the CAA and a reasonable reading of the regulatory text.

Based on these final determinations, EPA will continue to apply the interpretation reflected in the PSD Interpretive Memo with one refinement. For the reasons discussed in more detail below, EPA has not generally found cause to change the discussion or reasoning reflected in the Memo. As a result, EPA does not *see* a need to either withdraw or reissue the Memo. However, this notice refines one paragraph of that memorandum to reflect EPA's current view that a pollutant becomes subject to regulation ***17007** at the time the first control requirements applicable to a pollutant take effect. Public comments raised several questions regarding the application of the PSD program and Title V permits to GHGs that EPA did not specifically raise in the October 7, 2009 proposed notice of reconsideration. Some of these comments raised significant issues that the Agency recognizes the need to address at this time to ensure the orderly transition to the regulation of GHGs under these permitting programs. Thus, this notice reflects additional interpretations and EPA statements of policy on topics not discussed in the October 7, 2009 notice. These interpretations and polices have been developed after careful consideration of the public comments submitted to EPA on this action and related matters. In subsequent actions, EPA may address additional topics raised in public comments on this action that the Agency did not consider necessary to address at this time.

Regarding GHGs, EPA has concluded that PSD program requirements will apply to GHGs upon the date that the anticipated tailpipe standards for light-duty vehicles (known as the "LDV Rule") take effect. Based on the proposed LDV Rule, those standards will take effect when the 2012 model year begins, which is no earlier than January 2, 2011. While the LDV Rule will become "effective" for the purposes of planning for the upcoming model years as of 60 days following publication of the rule, the emissions control requirements in the rule do not "take effect" — *i.e.*, requiring compliance through vehicular certification before introducing any Model Year 2012 into commerce—until Jan. 2, 2011, or approximately 9 months after the planned promulgation of the LDV Rule. Furthermore, as EPA intends to explain soon in detail in the final action on the PSD and Title V GHG Tailoring Rule (known as the "Tailoring Rule"),[7] in light of the significant administrative challenges presented by the application of the PSD and Title V requirements for GHGs (and considering the legislative intent of the PSD and Title V statutory provisions), it is necessary to defer applying the PSD and Title V provisions for sources that are major based only on emissions of GHGs until a date that extends beyond January 2, 2011.

B. Analysis of Proposed and Alternative Interpretations for Subject to Regulation

1. Actual Control Interpretation

EPA has concluded that the "actual control" interpretation (as articulated in the PSD Interpretive Memo) is permissible under the CAA and is preferred on policy grounds. Thus, EPA will continue to interpret the definition of "regulated NSR pollutant" in 40 CFR 52.21(b)(50) to exclude pollutants for which EPA regulations only require monitoring or reporting but to include each pollutant subject to either a provision in the CAA or regulation promulgated by EPA under the CAA that requires actual control of emissions of that pollutant. As discussed further below, EPA will also interpret section 51.166(b)(49) of its regulations in this manner. This interpretation is supported by the language and structure of the regulations and is consistent with past practice in the PSD program and prior EPA statements regarding pollutants subject to the PSD program. The CAA is most effectively implemented by making PSD emissions limitations applicable to pollutants after a considered judgment by EPA (or Congress) that particular pollutants should be subject to control or limitation. The actual control interpretation promotes the orderly administration of the permitting program by allowing the Agency to first assess whether there is a justification for controlling emissions of a particular pollutant under relevant criteria in the Act before applying the requirements of the PSD permitting program to a pollutant.

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[7] The proposed "Tailoring Rule" can be found at 74 FR 55291 (Oct. 27, 2009).

Because the term "regulation" is susceptible to more than one meaning, there is ambiguity in the phrase "each pollutant subject to regulation under the Act" [8]that is used in both sections 165(a)(4) and

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[8] The CAA requires BACT for "each pollutant subject to regulation under this Act." *See* CAA 165(a)(4), 169(3). The United States Code refers to "each pollutant regulated under this chapter," which is a reference to Chapter 85 of Title 42 of the Code, where the CAA is codified. *See* 42 U.S.C.

169(3) of the CAA. As discussed in the Memo, the term "regulation" can be used to describe a rule contained in a legal code, such as the Code of Federal Regulations, or the act or process of controlling or restricting an activity. The primary meaning of the term "regulation" in Black's Law Dictionary (8th Ed.) is "the act or process of controlling by rule or restriction." However, an alternative meaning in this same dictionary defines the term as "a rule or order, having legal force, usu. issued by an administrative agency or local government." The primary meaning in Webster's dictionary for the term "regulation" is "the act of regulating: The state of being regulated." Merriam-Webster's Collegiate Dictionary 983 (10th Ed. 2001). Webster's secondary meaning is "an authoritative rule dealing with details of procedure" or "a rule or order issued by an executive authority or regulatory agency of a government and having the force of law." Webster's also defines the term "regulate" and the inflected forms "regulated" and "regulating" (both of which are used in Webster's definition of "regulation") as meaning "to govern or direct according to rule" or to "to bring under the control of law or constituted authority." *Id.*

The PSD Interpretive Memo reasonably applies a common meaning of the term "regulation" to support a permissible interpretation that the phrase "pollutant subject to regulation" means a pollutant subject to a provision in the CAA or a regulation issued by EPA under the Act that requires actual control of emissions of that pollutant. Public

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7475(a)(4), 7479(3). For simplicity, this notice generally uses "the Act" and the CAA section numbers rather than the U.S. Code citation.

comments have not demonstrated the dictionary meanings of the term "regulation" described in the Memo are no longer accepted meanings of this term. In light of the different meanings of the term "regulation," EPA has not been persuaded by public comments that the CAA plainly and unambiguously requires that EPA apply any of the other interpretations described in the October 7, 2009 notice. Moreover, the Memo carefully explains how the actual control interpretation is consistent with the overall context of the CAA in which sections 165(a)(4) and 169(3) are found. After consideration of public comment, EPA continues to find this discussion persuasive. The "subject to regulation" language appears in the BACT provisions of the Act, which themselves require actual controls on emissions. The BACT provisions reference the New Source Performance Standards (NSPS) and other control requirements under the Act, which establish a floor for the BACT requirement. *See* 42 U.S.C. 7479(3). Other provisions in the CAA that authorize EPA to establish emissions limitations or controls on emissions provide criteria for the exercise of EPA's judgment to determine which pollutants or source categories to regulate. Thus, it follows that Congress expected that pollutants would only be regulated for purposes of the PSD program after: (1) The EPA promulgated regulations requiring control of a particular ***17008** pollutant on the basis of considered judgment, taking into account the applicable criteria in the CAA, or (2) EPA promulgates regulations on the basis of Congressional mandate that EPA establish controls on emissions of a particular pollutant, or (3) Congress itself directly imposes actual controls on emissions of a particular pollutant. In addition, considering other sections in the Act that require reasoned decisionmaking and authorize the collection of emissions data prior to establishing controls on emissions, it is also consistent with the Congressional design to require BACT limitations for pollutants after a period of data collection and study that leads to a reasoned decision to establish control requirements. Public commenters did not demonstrate that it was erroneous for EPA to interpret the PSD provisions in this manner, based on the context of the Act.

Furthermore, the actual control interpretation is consistent with the terms of the regulations EPA promulgated in 2002.[9] EPA continues to find the reasoning of the PSD Interpretive Memo to be persuasive. The structure and language of EPA's definition of "regulated NSR pollutant" at 40 CFR 52.21(b)(50) supports the actual control interpretation. The first three parts of the definition describe pollutants that are subject to regulatory requirements that mandate control or limitation of the emissions of those pollutants, which suggests that the use of "otherwise subject to regulation" in the fourth prong of the definition also intended some prerequisite act or process of control. The definition's use of "subject to regulation" should be read in light of the primary meanings of "regulation" described above, which each use or incorporate the concept of control.

One commenter stated that EPA's suggestion that its proposed interpretation will allow for a more practical approach to determining whether emissions of air pollutants endanger health and human welfare amounts only to a policy preference. The commenter argued that EPA's policy preference should be subordinate to statutory language and Congressional intent. Another commenter made similar comments and stated that EPA cannot avail itself of additional, non-statutory *de facto* extensions of time to fulfill its statutory obligations.

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[9] *See* 67 FR 80186-80289.

Where the governing statutory authority is susceptible to more than one interpretation, it is not impermissible for EPA to apply policy preferences when determining which interpretation to apply, so long as the interpretation EPA elects to follow is a permissible one. The PSD Interpretive Memo provides a persuasive explanation for why the interpretation reflected in that memorandum is consistent with the terms of the CAA and Congressional intent. In this instance, EPA's policy preferences are fully consistent with that intent. As explained above, Congress intended for EPA to gather data before establishing controls on emissions and to make reasoned decisions.

EPA continues to prefer the actual control interpretation because it ensures an orderly and manageable process for incorporating new pollutants into the PSD program after an opportunity for public participation in the decision making process. Several commenters who supported EPA's proposal to continue applying the "actual control" interpretation identified these considerations as important reasons that EPA should continue doing so. EPA agrees with these comments. As discussed persuasively in the PSD Interpretive Memo, under this interpretation, EPA may first assess whether there is a justification for controlling emissions of a particular pollutant under relevant criteria in the Act before imposing controls on a pollutant under the PSD program. In addition, this interpretation permits the Agency to provide notice to the public and an opportunity to comment when a new pollutant is proposed to be regulated under one or more programs in the Act. It also promotes the orderly administration of the permitting program by providing an opportunity for EPA to develop regulations to manage the incorporation of a new pollutant into the PSD program, for example, by promulgating a significant emissions rate (or *de minimis* level) for the pollutant when it becomes regulated. *See* 40 CFR 52.21(b)(23). Furthermore, this interpretation preserves the Agency's ability to gather data on pollutant emissions to inform their judgment regarding the need to establish controls on emissions without automatically triggering such controls. This interpretation preserves EPA's authority to require control of particular pollutants through emissions limitations or other restrictions under various provisions of the Act, which would then trigger the requirements of the PSD program for any pollutant addressed in such an action.

Some commenters who opposed the actual control interpretation argued that this deliberate approach leads to "analysis paralysis" and is subject to political manipulation. The commenter further noted that the case-by-case BACT requirement does not contemplate waiting years for EPA to conduct analyses and "develop" control options; rather, BACT must be based on control options that are available. Then, permitting agencies are to make "case-by-case" determinations "taking into account energy, environmental, and economic impacts and other costs," thereby ensuring that the decision is informed by the available solutions, their efficacy and costs.

While this analysis may sometimes take more time than the commenter would prefer, a deliberative and orderly approach to regulation is in the public interest and consistent with Congressional intent. It would be premature to impose the BACT requirement on a particular pollutant if neither EPA nor Congress has made a considered judgment that a particular pollutant is harmful to public health and welfare and merits control.

Once the Agency has made a determination that a pollutant should be controlled using one or more of the regulatory tools provided in the CAA and those controls take effect, EPA agrees that a BACT analysis must then be completed based on available information. As the commenter points out, the BACT process is designed to determine the most effective control strategies achievable in each instance, considering energy, environmental, and economic impacts. Thus, EPA agrees that the onset of the BACT requirement should not be delayed in order for technology or control strategies to be developed. Furthermore, EPA agrees with the commenter that delaying the application of BACT to enable development of guidance on control strategies is not necessarily consistent with the BACT requirement. The BACT provisions clearly contemplate that the permitting authority will develop control strategies on a case-by-case basis. Thus, EPA is not in this final action relying on the need to develop guidance for BACT as a justification for choosing to continue applying the actual control interpretation. However, in the absence of guidance on control strategies from

EPA and other regulatory agencies, the BACT process may be more time and resource intensive when applied to a new pollutant. Under a mature PSD permitting program, successive BACT analyses establish guidelines and precedents for subsequent BACT determinations. However, when a new pollutant is regulated, the first permit applicants and permitting authorities that are faced with determining BACT for a new ***17009** pollutant must invest more time and resources in making an assessment of BACT under the statutory criteria. Given the potentially large number of sources that could be subject to the BACT requirement when EPA regulates GHGs, the absence of guidance on BACT determinations for GHGs presents a unique challenge for permit applicants and permitting authorities. EPA intends to address this challenge in part by deferring, under the Tailoring Rule, the applicability of the PSD permitting program for sources that would become major based solely on GHG emissions. EPA is also developing guidance on BACT for GHGs.

Several commenters expressed concern with EPA's explanation that the actual control interpretation best reflects EPA's past practice. One commenter argued that the *Deseret* decision rejects the idea that "past policy and practice" is a sufficient justification for EPA's preferred interpretation. In addition, several commenters argued that the memorandum was in fact not consistent with past EPA practice, based on their interpretation of a statement made in the preamble to a rule which promulgated PSD regulations in 1978.

While the record continues to show that the actual control interpretation is consistent with EPA's historic practice, EPA agrees that continuity with past practice alone does not justify maintaining a position when there is good cause to change it. In this case, however, EPA has not found cause to change an interpretation that is consistent with Congressional intent and supported by the policy considerations described earlier. Thus, EPA is not retaining the actual control interpretation simply to maintain continuity with historic practice. The record reflects that EPA's past practice was grounded in a permissible interpretation of the law and supported by rational policy considerations. Commenters have not otherwise persuaded EPA to change its historic practice in this area.

A review of numerous Federal PSD permits shows that EPA has been applying the actual control interpretation in practice—issuing permits that only contained emissions limitations for pollutants subject to regulations requiring actual control of emissions under other portions of the Act. Furthermore, in 1998, well after promulgation of the initial CO_2 monitoring regulations in 1993, EPA's General Counsel concluded that CO_2 would qualify as an "air pollutant" that EPA had the authority to regulate under the CAA, but the General Counsel also observed that "the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act."[10] The 1978 **Federal Register** notice promulgating the initial PSD regulations stated that pollutants "subject to regulation" in the PSD program included "any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations." Commenters argue this statement illustrates that EPA has in fact applied the PSD BACT requirement to any pollutant subject to only a monitoring requirement codified in this portion of the Code of Federal Regulations. However, this comment overlooked the discussion in the PSD Interpretive Memo regarding the differing meanings of the term "regulation" and "regulate." The 1978 preamble did not amplify the meaning of the term "regulated in." Thus, commenters have not demonstrated that EPA had concluded in 1978 that monitoring requirements equaled "regulation" within the meaning of sections 165(a)(4) and 169(3) of the CAA, nor have commenters provided any examples of permits issued by EPA after 1978 that demonstrate EPA's interpretation was inconsistent with the practice described in the PSD Interpretive Memo.

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[10] Memorandum from Jonathan Z. Cannon, General Counsel to Carol M. Browner, Administrator, entitled *EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources* (April 10, 1998).

Therefore, EPA affirms that the actual control interpretation expressed in the PSD Interpretive Memo continues be the operative statement for the EPA interpretation of the meaning of the regulatory phrase "subject to regulation" within the Federal PSD rules.

2. Monitoring and Reporting Interpretation

EPA is not persuaded that the monitoring and reporting interpretation is compelled by the CAA, and the Agency remains concerned that application of this approach would lead to odd results and make the PSD program difficult to administer. EPA continues to find the reasoning of the PSD Interpretive Memo persuasive.

The monitoring and reporting interpretation would make the substantive requirements of the PSD program applicable to particular pollutants based solely on monitoring and reporting requirements (contained in regulations established under section 114 or other authority in the Act). This approach would lead to the perverse result of requiring emissions limitations under the PSD program while the Agency is still gathering the information necessary to conduct research or evaluate whether to establish controls on the pollutant under other parts of the Act. Such a result would frustrate the Agency's ability to gather information using section 114 and other authority and make informed and reasoned judgments about the need to establish controls or limitations for particular pollutants. If EPA interpreted the requirement to establish emissions limitations based on BACT to apply solely on the basis of a regulation that requires collecting and reporting emissions data, the mere act of gathering information would essentially dictate the result of the decision that the information is being gathered to inform (whether or not to require control of a pollutant). Many commenters representing State permitting agencies and industry groups agree with the policy arguments advanced by EPA and others that EPA's critical information gathering activities will be constrained, with likely adverse environmental and public health consequences, if monitoring requirements are necessarily associated with the potentially significant implementation and compliance costs and resource constraints of the PSD program. Commenters expressed concern that without the ability to gather data or investigate unregulated pollutants, for fear of triggering automatic regulation under the CAA, EPA will not have the flexibility to review the validity of controlling new pollutants.

EPA agrees that a monitoring and reporting interpretation would hamper the Agency's ability to conduct monitoring or reporting for investigative purposes to inform future rulemakings involving actual emissions control or limits. In addition, it is not always possible to predict when a new pollutant will emerge as a candidate for regulation. In such cases, the Memo's reasoning is correct in that EPA would be unable to promulgate any monitoring or reporting rule for such a pollutant without triggering PSD under this interpretation.

An environmental organization disagreed with the proposed notice of reconsideration, and commented that EPA has issued monitoring and reporting regulations for CO_2 in 40 CFR part 75, promulgated pursuant to section 821 of the 1990 CAA Amendments. The commenter felt that these monitoring and reporting rules are "regulation" in that they are contained in a legal code, have the force of law, and bring the subject matter under the control of law and the EPA. Furthermore, the commenter says that EPA itself has characterized these ***17010** monitoring and reporting requirements as "regulations." In contrast, another commenter argued that an agency's interpretation of a statute should focus first on the ordinary dictionary meaning of the terms used and that monitoring emissions does not fit within any of the types of activities understood to constitute "regulation" of those emissions in the ordinary meaning of that term. Each of these commenters focuses on only one of the two potential meanings of the term "regulation" described above.

The commenter that favors the "monitoring and reporting" interpretation appears to focus only on the dictionary meanings that describe a rule contained in a legal code. The commenter has not demonstrated that it is impermissible for EPA to construe the CAA on the basis of another common meaning of the term "regulation." In the context of construing the Act, the EAB observed in the *Deseret* case that a plain meaning could not be ascertained from looking solely at the word "regulation." The Board reached this conclusion after considering the dictionary definitions of the term "regulation" cited above. *See Deseret* slip op. at 28-29. EPA continues to find the reasoning of the EAB and the PSD Interpretive Memo to be persuasive. The EAB found "no evidence of Congressional intent to compel EPA to apply BACT to pollutants that are subject only monitoring and reporting requirements." *See Deseret* at 63.

Comments have not convincingly shown that Congress clearly intended to use the term "regulation" in section 165(a)(4) and 169(3) to describe any type of rule in a legal code. Some commenters presented alternative theories of Congressional intent regarding the BACT provisions, but they have not persuasively demonstrated that the interpretation of Congressional intent based on the context of the CAA described in the PSD Interpretive Memo is erroneous.

For example, one commenter opposed to EPA's proposed action commented that the PSD

Interpretive Memo ignores the Congressionally-established purpose of PSD to protect public health and welfare from actual and potential adverse effects. *See* CAA section 160(1). Specifically, this commenter stated that to limit application of BACT until after control requirements are in place following an endangerment finding ignores the broad, protective purpose of the PSD program. The commenter said that the emphasis on "potential adverse effect[s]" distinguishes PSD the requirement from the National Ambient Air Quality Standards (NAAQS) and NSPS programs, which require that EPA make an endangerment finding before establishing generally applicable standards such as the NSPS or motor vehicle emissions standards. According to this commenter, BACT's case-by-case approach provides the dynamic flexibility necessary to implement an emission limitation appropriate to each particular source. This commenter feels that the PSD program's ability to address potential adverse effects is hindered by the position that an endangerment determination and actual control limits must be first established.

EPA does not agree that the terms of section 160 cited by the commenter compel EPA to read sections 165(a)(4) and 169(3) to apply to a pollutant before the Agency has established control requirements for the pollutant. Section 160(1) describes PSD's purpose to "protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipated to occur from air pollution." Thus, this goal contemplates an exercise of judgment by EPA to determine that an actual or potential adverse effect may reasonably be anticipated from air pollution. In that sense, this goal is consistent with NAAQS and NSPS programs, which contemplate that regulation of a pollutant will not occur until a considered judgment by EPA that a substance or source category merits control or restriction. The commenter has not persuasively established that the "potential adverse effect" language in section 160(1) makes this provision markedly different than the language used in sections 108(a)(1)(A) and 111(b)(1)(A). All three sections use the phrase "may reasonably be anticipated." Furthermore, section 160 contains general goals and purposes and does not contain explicit regulatory requirements. The controlling language in the PSD provisions is the "subject to regulation" language in sections 165(a)(4) and 169(3). As discussed earlier, the "actual control" interpretation is based on a common and accepted meaning of the term "regulation." To the extent the goals and purpose in section 160 are instructive as to the meaning of other provisions in Part C of the Act, section 160(1) is just one of several purposes of the PSD program that Congress specified. The Act also instructs EPA to ensure that economic growth occurs consistent with the preservation of existing clean air resources. *See* CAA section 160(3). EPA's interpretation is consistent with this goal because it allows EPA to look at the larger picture by coordinating control of an air pollutant under the PSD program with control under other CAA provisions.

EPA finds the logic of the PSD Interpretive Memo more persuasive. The Memo considers the full context of the CAA, including the health and welfare criteria that generally must be satisfied to establish control requirements under other parts of the Act, information gathering provisions that contemplate data collection and study before pollutants are controlled, and requirements for reasoned decision making. While some commenters presented arguments for why it might be possible or beneficial to apply the BACT requirement before a control requirement is established for a pollutant elsewhere under the Act, these arguments do not demonstrate that the contextual reading of the CAA described in the Memo is erroneous. Thus, the comments have at most provided another permissible reading of the Act, but they do not demonstrate that EPA must require BACT limitations for pollutants that are not yet controlled but only subject to data collection and study.

EPA continues to believe that the monitoring and reporting interpretation is inconsistent with past agency practice because, as the Memo notes, "EPA has not issued PSD permits containing emissions limitations for pollutants that are only subject to monitoring and reporting requirements," including CO_2 emissions. Further, the Memo determines that the monitoring and reporting interpretation is not required under the 1978 preamble language, explaining that the preamble language could be interpreted in a variety of ways and "did not specifically address the issue of whether a monitoring or reporting requirement makes a pollutant 'regulated in' [Subpart C of Title 40] of the Code of Federal Regulations." *See* Memo at 11-12. Commenters have not demonstrated that the Agency specifically intended, through this statement, to apply the PSD requirements to pollutants that were covered by only a monitoring and reporting requirement codified in this part of the CFR.

One commenter questioned EPA's basis for rejecting the monitoring and reporting interpretation because they believe EPA has not identified a pollutant other than CO_2 that would be affected by the monitoring and reporting interpretation. However, EPA's GHG Reporting Rule covers six GHGs, not just CO_2. Further, EPA has promulgated regulations that require monitoring of oxygen (O_2) in the stack of a boiler under certain circumstances. *See* 40 *17011 CFR 60.49Da(d). These examples help demonstrate why monitoring and reporting requirements alone should not be interpreted to trigger PSD and BACT requirements.

For the reasons discussed above, EPA affirms the Memo's rejection of the monitoring and reporting interpretation for triggering PSD requirements for a new pollutant.

3. State Implementation Plan (SIP) Interpretation

In discussing the application of the actual control interpretation to specific actions under the CAA, the PSD Interpretive Memo rejects an interpretation of "subject to regulation" in which regulatory requirements for a particular pollutant in the EPA-Approved State Implementation Plan (SIP) for a single State would "require regulation of that pollutant under the PSD program nationally." (Hereinafter, referred to as the "SIP interpretation.") In this action, EPA affirms and supplements the rationale for rejecting the SIP interpretation provided in the PSD Interpretive Memo and the reconsideration proposal. Since the meaning of the term "subject to regulation" is ambiguous and susceptible to multiple interpretations, the SIP interpretation is not compelled by the structure and language of the Act. Furthermore, there would be negative policy implications if EPA adopted this interpretation.

The Memo reasons that application of the SIP interpretation would convert EPA's approval of regulations applicable only in one State into a decision to regulate a pollutant on a nationwide scale for purposes of the PSD program. The Memo explains that the establishment of SIPs is better read in light of the "cooperative federalism" underlying the Act, whereby Congress allowed individual States to create and apply some regulations more stringently than Federal regulations within its borders, without allowing individual States to set national regulations that would impose those requirements on all States. *See Ellis* v. *Gallatin Steel Co.*, 390 F.3d 461, 467 (6th Cir. 2004). In rejecting the SIP interpretation, the Memo also explains that EPA adopted a similar position in promulgating the NSR regulations for fine particulate matter (or "$PM_{2.5}$"), without any public comments opposing that position. *See* Memo at 15-16.

EPA continues to believe that the CAA and EPA's implementing regulations are intended to provide States flexibility to develop and implement SIPs to meet the air quality goals of their individual State. Each State's implementation plan is a reflection of the air quality concerns in that State, allowing a State significant latitude in the treatment of specific pollutants of concern (or their precursors) within its borders based on air quality, economic, and other environmental concerns of that State. As such, pollutant emissions in one State may not present the same problem for a State a thousand miles away. As expressed in the PSD Interpretive Memo, EPA continues to have concerns that the SIP interpretation would improperly limit the flexibility of States to develop and implement their own air quality plans, because the act of one State to establish regulatory requirements for a particular pollutant would drive national policy. If EPA determined that a new pollutant becomes "subject to regulation" nationally within the meaning of section 165 based solely on the provisions of an EPA-approved SIP, then all States would be required to subject the new pollutant to PSD permitting whether or not control of the air pollutant was relevant for improving that State's air quality. Whether one State, five States, or 45 States make the decision that their air quality concerns are best addressed by imposing regulations on a new pollutant, EPA does not think those actions should trump the cooperative federalism inherent in the CAA. While several States may face similar air quality issues and may choose regulation as the preferred approach to dealing with a particular pollutant, EPA is concerned that allowing the regulatory choices of some number of States to impose PSD regulation on all other States would do just that.

Some commenters support the SIP interpretation, and fault the Agency's rejection of the interpretation by stating that neither the Act, nor the Memo, provides a basis for a position that regulation by a single State is not enough to constitute "regulation under the Act" on a nationwide basis for purpose of section 165. Petitioners and another commenter also assert that CO_2 is already "subject to regulation under the Act" and take the position that any requirement EPA adopts and approves in an implementation plan makes the covered pollutant "subject to regulation under the Act" because it is approved by the EPA "under the Act," and because it becomes enforceable by the State, by EPA and by citizens "under the Act" upon approval.

EPA disagrees with the Petitioner and with this commenter that this reasoning necessarily means that a pollutant regulated in one SIP approved by EPA must automatically be regulated through the PSD program nationally. In fact, Congress demonstrated intent, in the language and structure of the Act, for SIP requirements to have only a local or regional effect.

In section 102(a) of the CAA, Congress directs EPA to encourage cooperative activities among States, and the adoption of uniform State and local laws for the control of air pollution "as practicable in light of the varying conditions and needs." This language informs the issue of whether SIP requirements have nationwide applicability in two ways. First, there would be no need for EPA to facilitate uniform adoption of standards in different air quality control regions, if the regulation of an air pollutant by one region would automatically cause that pollutant to be regulated in another region. Second, Congress bounded its desire to promote uniformity by recognizing that addressing local air quality concerns may preempt national uniformity of regulation.

Indeed, section 116 of the CAA grants States the right to adopt more stringent standards than the uniform, minimum requirements set forth by EPA.

See 42 U.S.C. 7416. The legislative history of the 1977 CAA Amendments shows that Congress understood that States may adopt different and more stringent standards then the Federal minimum requirements. *See, e.g.*, 122 Cong. Rec. S12456 (daily ed. July 26, 1976) (statement of Sen. Randolph) ("[T]he States are given latitude in devising their own approaches to air pollution control within the framework of broad goals. * * * The State of West Virginia has established more stringent requirements than those which, through the Environmental Protection Agency, are considered as adequate * * *"); 122 Cong. Rec. S12458 (daily ed. July 26, 1976) (statement of Sen. Scott) ("The States have the right, however, to require higher standards, and they should have under the police powers.") Congress could not have intended States to have latitude to implement their own approaches to air pollution control, and simultaneously, require that air pollutants regulated by one State automatically apply in all other States.

Importantly, the legislative history also shows that Congress intended to limit the EPA's ability to disapprove a State's decision to adopt more stringent requirements in setting forth the criteria for approving State submissions under section 110. This intent is supported by the following passage:

> State implementation plans usually contain a unified set of requirements and frequently do not make distinctions between the controls needed to achieve one kind of ***17012** ambient standard or another. To try to separate such emission limitations and make judgments as to which are necessary to

> achieving the national ambient air quality standards assumes a greater technical capability in relating emissions to ambient air quality than actually exists.
>
> A federal effort to inject a judgment of this kind would be an unreasonable intrusion into protected State authority. EPA's role is to determine whether or not a State's limitations are adequate and that State implementation plans are consistent with the statute. Even if a State adopts limits which may be stricter than EPA would require, EPA cannot second guess the State judgment and must enforce the approved State emission limit.[11]

123 Cong. Rec. S9167 (daily ed. June 8, 1977) (statement of Sen. Muskie).

This Congressional intent is reflected within the statutory language. Under section 110(k)(3), the EPA Administrator "shall approve" a State's submittal if it meets the requirements of the Act, and under section 110(l) "shall not" approve a plan revision "if the revision would interfere with any other applicable requirement of this Act." Courts have similarly interpreted this language to limit EPA's discretion to approve or disapprove SIP requirements. *See, e.g., State of Connecticut* v. *EPA*, 656 F.2d 902, 906 (2d. Cir. 1981) ("As is illustrated by Congress's use of the word 'shall,' approval of an SIP revision by the EPA

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[11] Notably, the legislative record refers to "State" emission limit, and makes no note of this State emission limitation having broader applicability.

Administrator is mandatory if the revision has been the subject of a proper hearing and the plan as a whole continues to adhere to the requirements of section 110(a)(2)") (referencing *Union Electric Co.* v. *EPA*, 427 U.S. 246, 257 (1976); and *Mission Indus., Inc.* v. *EPA*, 547 F.2d 123 (1st Cir. 1976)). These provisions of the statute do not establish any authority or criteria for EPA to judge the approvability of a State's submission based on the implications such approval would have nationally. The absence of such authority or criteria in the applicable standard argues against nationwide applicability of SIP requirements and the SIP interpretation.

Moreover, under section 307(b) of the CAA, Congress assigns review of specific regulations promulgated by EPA and "any other nationally applicable regulations promulgated or final action taken, by the Administrator under this Act" only to the U.S. Court of Appeals for the District of Columbia Circuit ("D.C. Circuit"). In contrast, "the Administrator's action in approving and promulgating any implementation plan under Section 110 * * * or any other final action of the Administrator under this Act * * * which *is local or regionally applicable* may be filed only in the United States Court of Appeals for the appropriate circuit." 42 U.S.C. 7607(b) (*emphasis added*). Thus, Congress set forth its intended applicability of these regulations in assigning judicial venue and clearly articulated that requirements in a SIP are generally "local or regionally applicable."

Even if the Act could be read to support EPA review of the national implications of State SIP submissions, such an approach would be undesirable for policy reasons. As highlighted in the reconsideration proposal, one practical effect of allowing State-specific concerns to create national regulation is that EPA's review of SIPs would likely be much more time-consuming, because EPA would have to consider each nuance of the SIP as a potential statement of national policy. Thus, EPA would have heightened oversight of air quality actions in all States—even those regarding local and State issues that are best decided by local agencies. EPA approval of SIPs would be delayed, which would in turn, delay State's progress toward improving air quality. And, EPA would be required to defend challenges to the approval of a SIP with national implications in the D.C. Circuit Court of Appeals rather than the local Circuit Court of Appeals. The potential increased burden of reviewing and approving SIPs to analyze the national implications of each SIP, and the associated delay in improving air quality, creates a compelling policy argument against adoption of the SIP interpretation.

Petitioners also fault EPA's reliance on *Connecticut* v. *EPA*, 656 F.2d 902 (2d Cir. 1981) and assert that this case has nothing to do with the issue of whether a pollutant is "subject to regulation under the Act." In the PSD Interpretive Memo, EPA cited *Connecticut* to support the notion that while a State is free to adopt air quality standards more stringent than required by the NAAQS or other Federal law provisions, Congress precludes those stricter requirements from applying to other States. The Agency agrees with commenter that the circumstances involved in that case are not directly analogous, but, nevertheless, the case supports the inference that EPA has drawn from it. The Court concluded that "[n]othing in the Act, however, indicates that a State must respect its neighbor's air quality standards (or design its SIP to avoid interference therewith) if those standards are more stringent than the requirements of Federal law." If a State is not required to respect the more stringent requirements of a neighboring State in developing its own implementation plan, then by inference, the State would also not be compelled to follow the more stringent standards.

In sum, after reconsidering the legal and policy issues, EPA declines to adopt the SIP interpretation.

4. Endangerment Finding Interpretation

The PSD Interpretive Memo states that the fourth part of the regulated NSR pollutant definition ("[a]ny pollutant that otherwise is subject to regulation") should not be interpreted "to apply at the time of an endangerment finding." *See* Memo at 14 (hereinafter, referred to as the "endangerment finding interpretation."). After considering public comments, EPA is affirming the position expressed in the PSD Interpretative Memo that an endangerment finding alone does not make the requirements of the PSD program applicable to a pollutant. EPA maintains its view that the terms of EPA's regulations and the relevant provisions of the CAA do not compel EPA to conclude that an air pollutant becomes "subject to regulation" when EPA finds that it endangers public health or welfare without contemporaneously promulgating control requirements for that pollutant.

As explained in EPA's Endangerment and Cause or Contribute Findings for GHGs under section 202(a) of the CAA, there are actually two separate findings involved in what is often referred to as an endangerment finding. 74 FR 66496 (Dec. 15, 2009). The first finding addresses whether air pollution may reasonably be anticipated to endanger public health or welfare. The second finding involves an assessment of whether emissions of an air pollutant from the relevant source category cause or contribute to this air pollution. In this notice, EPA uses the phrase "endangerment finding" to refer to EPA findings on both of these questions. The EPA interpretation described here applies to both findings regardless of whether they occur together or separately.

As explained in the proposed reconsideration, an interpretation of "subject to regulation" that does not include endangerment findings is consistent with the first three parts of the definition of "regulated NSR pollutant" in section 52.21(b)(50) of EPA's regulations. Unlike the first three parts of the definition, an endangerment finding does not itself contain any restrictions (*e.g.*, regarding the level of air pollution or emissions or use). Moreover, two parts of the definition involve actions that can occur only after ***17013** an endangerment finding of some sort has taken place. In other words, other parts of the definition already bypass an endangerment finding and apply the PSD trigger to a later step in the regulatory process.

Specifically, under the first part of that definition, PSD regulation is triggered by promulgation of a NAAQS under CAA section 109. However, in order to promulgate NAAQS standards under section 109, EPA must first list, and issue air quality criteria for a pollutant under section 108, which in turn can only happen after EPA makes an endangerment finding and a version of a cause or contribute finding, in addition to meeting other requirements. *See* CAA sections 108(a)(1) and 109(a)(2). Thus, if EPA were to conclude that an endangerment finding, cause or contribute finding, or both would make a pollutant "subject to regulation" within the meaning of the PSD provisions, this would read all meaning out of the first part of the "regulated NSR pollutant" definition because a pollutant would become subject to PSD permitting requirements well before the promulgation of the NAAQS under section 109. *See* 40 CFR 52.21(b)(50)(i).

Similarly, the second part of the definition of "regulated NSR pollutant" includes any pollutant that is subject to a standard promulgated under section 111 of the CAA. Section 111 requires the EPA Administrator to list a source category, if in his or her judgment, "it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." *See* CAA section 111(b)(1)(A). After EPA lists a source category, it promulgates NSPS for that source category. For a source category not already listed, if EPA were to list it on the basis of its emissions of a pollutant that was not previously regulated, and such a listing made that pollutant "subject to regulation" within the meaning of the PSD provisions, this chain of events would result in triggering PSD permitting requirements for that pollutant well in advance of the point contemplated by the second prong of the regulated NSR pollutant definition. *See* 40 CFR 52.21(b)(50)(ii).

Furthermore, as discussed in the Memo, waiting to apply PSD requirements at least until the actual promulgation of control requirements that follow an endangerment finding is sensible. The Memo explains that when promulgating the final regulations establishing the control requirements for a pollutant, EPA often makes decisions that are also relevant to decisions that must be made in implementing the PSD program for that pollutant. *See* Memo at 14. For example, EPA often does not make a final decision regarding how to identify the specific pollutant subject to an NSPS standard until the NSPS is issued, which occurs after both the endangerment finding and the source category listing.

Public comments echoed these concerns. One commenter said that subjecting the pollutant to PSD requirements, including imposition of BACT emission limits, before the Agency has taken regulatory action to establish emission controls would turn the CAA process on its head. Another commenter indicated that triggering PSD review upon completion of an endangerment finding, but potentially before the specific control requirement that flows directly from the endangerment finding, clearly undermines the orderly process created by Congress for regulation of new air pollutants. A third commenter added that establishing controls without having a standard to be achieved leads to uncertainty in the permitting program.

In further support of EPA's interpretation that an endangerment finding does not make an air pollutant "subject to regulation" is the fact that an endangerment finding is not a codified regulation; it does not contain any regulatory text. The PSD Interpretive Memo explains, and numerous commenters agree, that an endangerment finding should not be construed as "regulating" the air pollutant(s) at issue because there is no actual regulatory language applicable to the air pollutant at this time in the Code of Federal Regulations. Rather, the finding is a prerequisite to issuing regulatory language that imposes control requirements. This is true even if the endangerment finding is a "rule" for purposes of administrative processes; that does not alter the fact that there is no regulation or regulatory text attached to the endangerment finding itself. Since an endangerment finding does not establish "regulation" within the common meaning of the term applied by EPA, EPA does not believe the CAA compels EPA to apply PSD requirements to a pollutant on the basis of an endangerment finding alone.

EPA's interpretation is also consistent with the Supreme Court's decision in ***Massachusetts***. In its decision, the Court acknowledged that EPA "has significant latitude as to the manner, timing, content and coordination" of the regulations that would result from a positive endangerment finding under section 202(a). *See* 549 U.S. at 532. Just as EPA has discretion regarding the timing of the section 202(a) control regulations that would flow from an endangerment finding under that section, it also has some discretion regarding the timing of the triggering of PSD controls that the statute requires based on those section 202(a) regulations. EPA has reasonably determined that PSD controls should not precede any other control requirements. Some commenters cited *Massachusetts* in support of EPA's position.

For the foregoing reasons, EPA affirms that the prerequisite act of making an endangerment finding, a cause or contribute finding, or both, does not make a pollutant "subject to regulation" for the purposes of the PSD program. This interpretation applies to both steps of the endangerment finding—the finding that air pollution may reasonably be anticipated to endanger public health or welfare, and the finding that emissions of an air pollutant from a particular source category causes or contributes to this air pollution—regardless of whether the two findings occur together or separately. As explained above, EPA believes that there are strong legal and policy reasons for rejecting the endangerment finding interpretation.

5. Section 209 Waiver Interpretation

EPA is affirming its position that an Agency decision to grant a waiver to a State under section 209 of the CAA does not make the PSD program applicable to pollutants that may be regulated under State authority following a grant of such a waiver. For the reasons discussed below, the granting of a waiver does not make the pollutants that are regulated by a State after obtaining a section 209 waiver into pollutants regulated under the CAA. Furthermore, EPA is also affirming the position that PSD requirements are not applicable to a pollutant in all States when a handful of States besides the one obtaining the waiver adopt identical standards under section 177 of the CAA that are then approved into State SIPs by EPA.

As explained in the proposal, neither the PSD Interpretive Memo nor the Petition for Reconsideration raise the issue of whether a decision to grant a waiver under the section 209 of the CAA triggers PSD requirements for a pollutant regulated by a State after obtaining a waiver. EPA received comments in response to the notice of an application by California for a CAA section 209 waiver to the State of California to adopt and enforce GHG emission standards for new motor vehicles that suggested that arguments might be made that the grant of the waiver made GHGs subject to regulation ***17014** across the country for the purposes of PSD. *See* 74 FR 32744, 32783 (July 8, 2009). Those commenters requested that EPA state clearly that granting the California Waiver did not render GHGs subject to regulation under the CAA, while others commented that the question of when and how GHGs should be addressed in the PSD program or otherwise regulated under the Act should instead be addressed in separate proceedings. At that time, EPA stated that these interpretation issues were not a part of the waiver decision and would be more appropriately addressed in another forum.

In the proposed reconsideration notice, EPA proposed to affirm the following position that EPA previously explained to Congress: "a decision to grant a waiver under section 209 of the Act removes the preemption of State law otherwise imposed by the Act. Such a decision is fundamentally different from the decisions to establish requirements under the CAA that the Agency and the [EAB] have considered in interpreting the provisions governing the applicability of the PSD program." Letter from Lisa P. Jackson, EPA Administrator, to Senator James M. Inhofe (March 17, 2009). Specifically, EPA proposed to find that neither the CAA nor the Agency's PSD regulations make the PSD program applicable to pollutants that may be regulated by States after EPA has granted a waiver of preemption under section 209 of the CAA. Accordingly, EPA said that the Agency's decision to grant a section 209 waiver to the State of California to establish its own GHG emission standards for new motor vehicles does not trigger PSD requirements for GHGs.

Several commenters disagreed with EPA's proposed position on the section 209 waiver provisions, and assert that EPA's granting of the waiver results in "actual control." According to these commenters, even under EPA's interpretation of "subject to regulation," CO_2 is now subject to BACT. One of these commenters argues that EPA's granting of a waiver is an EPA regulatory action that "controls" CO_2 by allowing California and 10 other States to "regulate" CO_2 under the Act. Another one of these commenters states that 10 States used section 177 of the CAA to adopt the California Standards into their SIPs, thus making these provisions enforceable by both EPA and citizens under the CAA. *See*, *e.g.*, 42 U.S.C. 7413; 42 U.S.C. 7604(a)(1), (f)(3). EPA has not been persuaded to change its proposed position based on these comments.

EPA does not disagree that the regulations promulgated by the State pursuant to the waiver will require control of emissions and thus constitute "regulation" of GHGs under the meaning applied by

EPA. However, the principal issue here is whether this regulation occurs under the authority of the Clean Air Act (*i.e.*, "under the Act.").

In the proposed reconsideration notice, EPA explained that a waiver granted under CAA section 209(b)(1) simply removes the prohibition found in section 209(a) that forbids States from adopting or enforcing their own standards relating to control of emissions from new motor vehicles or new motor vehicle engines. Thus, the grant of the waiver does not lead to regulation "under the Act" because it simply allows California to exercise the same authority to adopt and enforce State emissions standards for new motor vehicles that California could have exercised without the initial prohibition in section 209(a). Several other commenters agreed with EPA's position and reasoning. They explained that a waiver constitutes a withdrawal of Federal preemption that allows a State to develop its own State standards to regulate vehicle emissions; the waiver does not transform these State standards into Federal standards. Other supporting commenters also assert that there is nothing in the legislative history that supports a conclusion that Congress intended section 209 waivers to result in application of PSD requirements. The opposing comments have not convincingly articulated a mechanism through which EPA's action granting the waiver in fact requires control of emissions (as opposed to the States action under State law). If EPA granted the waiver alone and the State ultimately decided not to implement its regulation, there would be no control requirement in effect under the CAA.

As explained in the proposed reconsideration notice, EPA also finds it instructive that enforcement of any emission standard by the State after EPA grants a section 209 waiver would occur pursuant to State enforcement authority, not Federal authority. EPA would continue to enforce the Federal emission standards EPA promulgates under section 202. EPA does not enforce the State standard. EPA only conducts testing to determine compliance with the Federal standard promulgated by EPA and any enforcement would be for violation of EPA standards, not the State standards. As one commenter noted, CAA section 209(b)(3) provides that where a State has adopted standards that have been granted a waiver "compliance with such State standards shall be treated as compliance with applicable Federal standards for purposes of this subchapter," but does not say that such State standards actually become the Federal standards. Accordingly, EPA finds the absence of legislative history supporting the contrary position, and the language in section 209(b)(3) instructive as Congress clearly recognized the coexistence of the Federal and State standards. This shows Congress did not intend that State regulations replace, or transform State standards into Federal regulations "under the Act." EPA agrees with supporting commenters' conclusions summarized here, and is not persuaded to change the proposed position.

EPA has also concluded that the adoption of identical standards by several States under section 177 does not make a pollutant covered by those standards "subject to regulation under the Act" in all States. Like section 209, section 177 only grants States authority to regulate under State authority by removing Federal preemption. Adoption of California standards by other States does not change the fact that those standards are still State standards enforced under State law and Federal law is approved in a SIP. However, EPA agrees that when a State adopts alternate vehicle standards into its SIP pursuant to section 177, and EPA approves the SIP, these standards become enforceable by EPA and citizens under the CAA. Nonetheless, EPA does not agree that this compels an interpretation that any pollutant included in an individual State SIP requirement becomes "subject to regulation" in all States under the CAA. As discussed earlier, EPA rejects the theory that a regulation of a pollutant in one or more States in an EPAapproved implementation plan necessarily makes that pollutant subject to regulation in all States. Such an approach is inconsistent with the fundamental principle of cooperative federalism embodied in the CAA.

In summary, EPA concludes that neither the act of granting a section 209 waiver of preemption for State emission standards nor the EPA-approval of standards adopted into a SIP pursuant to section 177 makes a pollutant "subject to regulation under the Act" in all States for the purposes of the PSD program.

C. Other Issues on Which EPA Solicited Comment

1. Prospective Codification of Interpretation

Through the proposed reconsideration notice, EPA requested comment on whether the Agency should codify its final interpretation of the "subject to regulation" in the statute and regulation *17015 by amending the Federal PSD rules at 40 CFR 52.21. EPA received a number of comments both in support of and opposing codification.

EPA does not believe it is necessary to codify its interpretation in the regulatory text. EPA feels it is important to promptly communicate and apply these final decisions regarding the applicability of the PSD program in light of recent and upcoming actions related to GHGs. More specifically, EPA recently finalized the "Mandatory Reporting of Greenhouse Gases" rule (known as the "Reporting Rule"),[12] which added monitoring requirements for additional GHGs not covered in the Part 75 regulations. Further, EPA is poised to finalize by the end of March 2010 the LDV Rule that will establish controls on GHGs that take effect in Model Year 2012, which starts as early as January 2, 2011. Thus, these actions make it important that EPA immediately apply its final interpretation of the PSD regulations on this issue (as refined in this action). Furthermore, even if EPA modified the text of the Federal rules, many States may continue to proceed under an interpretation of their rules. EPA thus believes overall implementation of PSD permitting programs is facilitated by this notice that describes how existing requirements in Federal regulations at 40 CFR 52.21 are interpreted by EPA and how similar State provisions may be interpreted by States.

Likewise, EPA does not believe it is necessary to reissue the PSD Interpretive Memorandum. The Agency has not identified any legal requirement for the Agency to reissue an interpretive rule after a process of reconsideration. No comparable procedure is required after the reconsideration of substantive rule. In the latter situation, a notice of final action is sufficient to conclude the reconsideration process and an Agency may simply decline to revise an existing regulation that remains in effect. EPA has therefore concluded that this notice of final action is sufficient to conclude the reconsideration process initiated on February 17, 2009 and that there is no need to reissue the entire memorandum in order for EPA to continue applying the interpretation reflected therein, as refined in this notice.

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[12] *See* 74 FR 56259 (Oct. 30, 2009).

2. Section 821 of the Clean Air Act Amendments of 1990

In the October 7, 2009 notice, EPA also solicited comment on the question of whether section 821 of the Clean Air Act Amendments of 1990 is part of the Clean Air Act. EPA indicated that the Agency was inclined against continuing to argue that section 821 was not a part of the CAA, as the Office of Air and Radiation and Region 8 had done in briefs submitted to the EAB in the *Deseret* matter. This question bears on the determination of whether the CO_2 monitoring requirements in EPA's Part 75 regulations are requirements "under the Act." In the proposed reconsideration notice, EPA explained that it would be necessary to resolve whether or not the CO_2 monitoring and reporting regulations in Part 75 were promulgated "under the Act" if EPA adopted the monitoring and reporting interpretation. EPA received public comments on both sides of this issue, with one environmental organization pressing EPA to drop the position that section 821 is not a part of the

CAA and several industry parties requesting that EPA affirm it.

EPA has not yet made a final decision on this question, and it is not necessary for the Agency to do so at this time. Since EPA is not adopting the monitoring and reporting interpretation, the status of section 821 is not material to the question of whether and when CO_2 is "subject to regulation under the Act." Because there are currently no controls on CO_2 emissions, the pollutant is not "subject to regulation." Given that the provisions in Part 75 do not "regulate" emissions of CO_2, it is unnecessary determine whether such provisions are "under the Act" or not to determine PSD applicability. Furthermore, the promulgation of EPA's Reporting Rule makes this issue even less material. In that rule, which became effective in December 2009 and required monitoring to begin in January of this year, EPA established monitoring and reporting requirements for CO_2 and other GHGs under sections 114 and 208 of the CAA. Thus, there can be no dispute that monitoring and reporting of CO_2 (as well as other GHGs) is now occurring under the CAA, regardless of the status of section 821 of the 1990 amendments. At this point, the section 821 issue would only become relevant if a court were to find that the monitoring and reporting interpretation is compelled by the CAA and a party subsequently seeks to retroactively enforce such a finding against sources that had not obtained a PSD permit with any limit on CO_2 emissions. If this situation were to arise, EPA will address the section 821 issue as necessary.

3. Timing of When a Pollutant Becomes Subject to Regulation

The October 7, 2009 notice also solicited comment on whether the interpretation of "subject to regulation" should also more clearly identify the specific date on which PSD regulatory requirements would apply. In the PSD Interpretive Memo, EPA states that the language in the definition of "regulated NSR pollutant" should be interpreted to mean that the fourth part of the definition should "apply to a pollutant upon promulgation of a regulation that requires actual control of emissions." *See* Memo at 14. After evaluating the underlying statutory requirement in the CAA and the language in all parts of the regulatory definition more closely, EPA proposed to modify its interpretation of the fourth part of the definition with respect to the timing of PSD applicability. The Agency proposed to interpret the term "subject to regulation" in the statute and regulation to mean that PSD requirements apply when the regulations addressing a particular pollutant become final and effective.

Based on public comments and other considerations raised in the proposal, EPA has determined that it is necessary to refine the portion of the PSD Interpretive Memo that addresses the precise point in time when a pollutant becomes subject to regulation for purposes of the PSD program. As a result, while the Memo is otherwise unchanged by the reconsideration proceeding, this final notice will adjust the first paragraph of section II.F of the Memo (bottom of page 14) to reflect EPA's conclusion that it is more appropriate and consistent with the reasoning of the Memo to construe EPA regulations and the CAA to make a pollutant subject to PSD program requirements when the first controls on a pollutant take effect. This refines the approach proposed in the October 7, 2009 notice.

Like the PSD Interpretive Memorandum itself, the refinement to EPA's interpretation described in this final notice is an interpretation of the regulation at 40 CFR 52.21 and the CAA provisions that provide the statutory foundation for EPA's regulations. The refinement reflected in this notice explains, clarifies, and is consistent with existing statutes and the text of regulatory provisions at 40 CFR 52.21(b)(50)(ii) through (iv). Some commenters argued that courts have limited an Agency's ability to fundamentally change a long-standing, definitive, and authoritative interpretation of a regulation[13] without *17016 engaging in a notice and comment rulemaking. *See, e.g., Alaska Professional Hunters Association* v. *FAA*, 177 F.3d 1030, 1033-34 (D.C. Cir. 1999); *Paralyzed Veterans of America* v. *D.C. Arena L.P.*, 117 F.3d 579, 586 (D.C. Cir. 1997). Since EPA's interpretation of the PSD program regulations is unchanged in most respects by this action, it is not clear that the particular refinement to that interpretation that EPA is making in this action would invoke the doctrine described in these cases. Even if this refinement is viewed as a fundamental change, EPA has completed the revision reflected in this action after a notice and comment process. Furthermore, since EPA initiated a process of reconsidering and soliciting comment on the PSD Interpretive Memo within three months of its issuance, the memorandum had not yet become particularly well-established or long-standing. *See MetWest Inc.* v. *Secretary of Labor*, 560 F.3d 506, 511 n.4 (D.C. Cir. 2009). Thus, the doctrines reflected in these cases do not preclude the action EPA has taken here to refine its interpretation of the regulations.

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[13] To EPA's knowledge, no court has required a rulemaking procedure when the Agency seeks to issue or change its interpretation of a statute. Nevertheless, EPA has completed this notice and comment proceeding before deciding to adopt the revised interpretation of the CAA described in this notice.

The regulatory language of 40 CFR 52.21(b)(50)(iv) does not specify the exact time at which the PSD requirements should apply to pollutants in the fourth category of the definition of "regulated NSR pollutant." In the PSD Interpretive Memo, EPA states that EPA interprets the language in this definition to mean that the fourth part of the definition should "apply to a pollutant upon promulgation of a regulation that requires actual control of emissions." *See* Memo at 14. However, after continuing to consider the underlying statutory requirement in the CAA and the language in all parts of the regulatory definition more closely, EPA proposed in the October 7, 2009 notice to modify its interpretation of the fourth part of the definition with respect to the timing of PSD applicability. In the proposed notice of reconsideration, EPA observed that the term "subject to regulation" in the statute and regulation is most naturally interpreted to mean that PSD requirements apply when the regulations addressing a particular pollutant become final and effective. In addition, EPA expressed a desire to harmonize the application of the PSD requirements with the limitation in the Congressional Review Act (CRA) that a major rule cannot take effect until 60 days after it is published in the **Federal Register**.

In this final notice on reconsideration, based on information provided in public comments, EPA is refining its interpretation of the time the PSD requirements will apply to a newly-regulated pollutant. Under the PSD program, EPA will henceforth interpret the date that a pollutant becomes subject to regulation under the Act to be the point in time when a control or restriction that functions to limit pollutant emissions takes effect or becomes operative to control or restrict the regulated activity. As discussed further below, this date may vary depending on the nature of the first regulatory requirement that applies to control or restrict emissions of a pollutant.

Several public comments observed that a date a control requirement becomes "final and effective" and the date it actually "takes effect" may differ. Some commenters supported these points with reference to Federal court decisions that suggest the date that the terms of a regulation become effective can take more than one form. In one case involving the Congressional Review Act, the United States Court of Appeals for the Federal Circuit observed that the date a regulation may "take effect" in accordance with the CRA is distinct from the "effective date" of the regulation. *See Liesegang* v. *Sec'y of Veterans Affairs*, 312 F.3d 1368, 1374-75 (Fed. Cir. 2002), *amended on reh'g in part on other grounds*, 65 Fed. Appx. 717 (Fed. Cir. 2003). In this opinion, the court observed that "[t]he ordinary meaning of 'take effect' is '[t]o be in force; go into operation' "*Id.* at 1375 (quoting Black's Law Dictionary at 1466 (7th ed. 1999). Based on this, the court reasoned that the CRA does not "change the date on which the regulation becomes effective" but rather "only affects the date when the rule becomes operative." *Id.* In another case, the Second Circuit Court of Appeals described a distinction between the date a rule may "take effect" under the CRA, the "effective date" for application of the rule to regulated manufacturers, and the "effective date" for purposes of modifying the Code of Federal Regulations. *See Natural Resources Defense Council* v. *Abraham*, 355 F.3d 179, 202 (2d Cir. 2004).

The Office of the Federal Register (OFR) uses the term "effective date" to describe the date that amendments in a rulemaking document affect the current Code of Federal Regulations. *See* **Federal Register** Document Drafting Handbook, at p. 2-10 (Oct. 10, 1998). However, OFR draws a contrast between such a date and the compliance or applicability date of a rule, which is described as "the date that the affected person must start following the rule." *Id.* at 2-11. Thus, the "effective date" of a regulation is commonly used to describe the date by which a provision in the Code of Federal Regulations is enacted as law, but it is not necessarily the same as the time when provision enacted in the Code of Federal Regulations is operative on the regulated activity or entity. The latter may be described as the "compliance," "applicability," or "takes effect" date.

The terms of the CAA also recognize a similar distinction in some instances. CAA section 112(i)(3)(A) provides that "after the effective date of any emissions standard, limitation or regulation promulgated under this section and applicable to a source, no person may operate such source in violation of such standard, limitation, or regulation except, in the case of an existing source, the

Administrator shall establish a compliance date or dates for each category or subcategory of existing sources, which shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the effective date of such standard." Another example in section 202 of the Act is discussed in more detail below.

Another formulation may be found in Section 553(c) of the APA (5 U.S.C. 553(c)), which provides, with some exceptions, that "[t]he required publication or service of a substantive rule shall be made not less than 30 days before its effective date." The APA does not define the term "effective date" or make precisely clear whether it is referring to the date a regulation has the force of law or the date by which a regulatory requirement applies to a regulated entity or activity. The APA also separately recognizes the concept of finality of Agency action for purposes of judicial review. *See* 5 U.S.C. 704.

In the October 7, 2009 notice, EPA did not clearly distinguish between the various forms of the date when a regulatory requirement may become effective. One commenter observed that the EPA analysis in the proposed reconsideration notice appeared to blur the distinction between the "effective date" set by EPA and the date that Congress allows a regulation to become effective under the CRA. EPA in fact discussed all of these concepts in its notice, with part of the discussion focused on the date a regulation becomes "final" and "effective" and a part on when a regulation may "take effect" under the CRA. EPA viewed these forms of the date when a regulation becomes "effective" to be essentially the same, but the case law ***17017** suggests that administrative agencies do not necessarily need to harmonize the date that regulatory requirements take effect with the "effective date" of a regulation, meaning the date a regulation has the force of law and amends the Code of Federal Regulations. Since these are distinct concepts, the effective date of a regulation for purposes of amending the CFR may precede the date when a regulatory requirement "takes effect" or when a regulated entity must comply with a regulatory requirement. A regulation may "take effect" subsequent to its stated "effective date" where it has been published in final form but does not require immediate implementation by the agency or compliance by regulated entities.

The key issue raised by EPA in the October 7, 2009 notice was determining which date should be determined by EPA to be the date when a pollutant becomes "subject to regulation" and, thus, the date when the requirements of the PSD permitting program apply to that pollutant. In recognition of the distinction between the "effective date" of the regulation for purposes of amending the CFR and the point at which a regulatory restriction may "take effect," EPA has considered whether it is permissible to construe sections 165(a)(4) and 169(3) of the CAA to mean that a pollutant becomes "subject to regulation" at the point that a regulatory restriction or control "takes effect." In the October notice, EPA observed that the use of "subject to" in the Act suggests that PSD requirements are intended to be triggered when those standards become effective for the pollutant. EPA also said that no party is required to comply with a regulation until it has become final and effective. Prior to that date, an activity covered by a rule is not in the ordinary sense "subject to" any regulation. Regardless of whether one interprets regulation to mean monitoring or actual control of emissions, prior to the effective date of a rule there is no regulatory requirement to monitor or control emissions.

The same reasoning applies to the date that a regulation "takes effect," as that term is used in the judicial decisions described above. Regulated entities are not required to comply with a regulatory requirement until it takes effect. Prior to the date a regulatory requirement takes effect, the activity covered by a rule is not in the ordinary sense subject to any regulation.

As discussed in the PSD Interpretive Memo, as used in the context of the PSD provisions in EPA regulations and the CAA, EPA interprets the term "regulation" in the context of sections 165(a)(4) and 169 of the CAA to mean the act or process of controlling or restricting an activity. This interpretation applies a common meaning of the term regulation reflected in dictionaries.

Thus, EPA agrees with commenters that the term "subject to regulation" used in both the CAA and EPA's regulations may be construed to mean the point at which a requirement to control a pollutant takes effect. The CAA does not necessarily preclude construing a pollutant to become subject to regulation upon the promulgation date or the date that a regulation becomes final and effective for purposes of amending the CFR or judicial review. However, EPA has been persuaded by public comments that the phrase "subject to regulation" may also be interpreted to mean the date by which a control requirement takes effect.

Indeed, EPA has concluded that the latter interpretation is more consistent with the actual control interpretation reflected in the PSD Interpretive Memo. As one commenter observed, a regulation would have to have become actually effective, in the sense that actual legal obligations created by the regulation have become currently applicable for regulated entities and are no longer merely prospective obligations, before that regulation could make a pollutant subject to actual control. Another commenter noted that a regulated entity has no immediate compliance obligations and cannot be held in violation of the regulation until a legal obligation becomes applicable to them on the "takes effect" date. Thus, based on this reasoning, EPA has decided that it will construe the point at which a pollutant becomes "subject to regulation" within the meaning of section 52.21(b)(50)(iv) of EPA's regulations to be when a control or restriction is operative on the activity regulated. EPA agrees with commenters that there is generally no legally enforceable obligation to control a pollutant when a regulation is promulgated or, in some instances, even when a regulation becomes effective for some purposes.

Thus, EPA currently interprets the time that a pollutant becomes a "regulated NSR pollutant" under section 52.21(b)(50)(iv) to be the time when a control or restriction on emissions of the pollutant takes effect or becomes operative on the regulated activity. Given EPA's conclusion that this is a permissible interpretation of the "subject to regulation" language in sections 165(a)(4) and 169(3) of the CAA, EPA will also interpret other parts of section 52.21(b)(50) to make a pollutant a regulated NSR pollutant on the date that a control requirement takes effect, provided such an interpretation is not inconsistent with the existing language of the regulations.

EPA does not agree with several commenters who suggested that EPA determine that a pollutant does not become subject to regulation until the time that an individual source engages in the regulated activity. EPA does not believe such a reading is consistent with the "subject to regulation" language in the CAA. Even if no source is actually engaged in the activity, once a standard or control requirement has taken effect, no source may engage in the regulated activity without complying with the standard. At this point, the regulated activity and the emissions from that activity are controlled or restricted, thus being subject to regulation within the common meaning of the term regulation used in EPA's regulations and section 165(a)(4) and 169(3) of the CAA.

Likewise, EPA does not agree with commenters who argued that a pollutant does not become subject to regulation until the date when a source must certify compliance with regulatory requirements or submit a compliance report. In some instances, a compliance report or certification of compliance may not be required until well after the point that a regulation operates to control or restrict the regulated activity. Thus, EPA does not feel that it would be appropriate as a general rule to establish the date when a source certifies compliance or submits its compliance report as the date that a pollutant becomes subject to regulation.

Since the fourth part of the definition of "regulated NSR pollutant" functions as a catch-all provision, it may cover a variety of different types of control requirements established by EPA under the CAA. These different types of regulations may contain a variety of different mechanisms for controlling emissions and have varying amounts of lead time before controls take effect under the particular regulatory framework. Thus, whenever the Agency adopts controls on a new pollutant under a portion of the CAA covered by the fourth part of the definition, EPA anticipates that it will be helpful to States and regulated sources for EPA to identify the date when a new pollutant becomes subject to regulation. In section IV.A of this notice, EPA provides such an analysis for the forthcoming LDV Rule that is anticipated to establish the first controls on GHGs.

EPA has also concluded that it is appropriate to extend the reasoning of this interpretation across all parts of the definition of the term "regulated NSR ***17018** pollutant." The reasoning described above is equally applicable to the regulation of additional pollutants under the specific sections of the Act delineated in the first three parts of the definition of "regulated NSR pollutant." While the date a control requirement may take effect could vary across sections 109, section 111, and Title VI, EPA does not *see* any distinction in the applicability of the legal reasoning above to these provisions of the CAA. There should be less variability among rules promulgated under the same statutory section, so EPA does not expect that it will be necessary for EPA to identify the date that a new pollutant becomes subject to regulation each time EPA regulates a new pollutant in a NAAQS or NSPS. EPA can more readily identify the specific dates when controls under such rules take effect.

By way of example, the NSPS under section 111 of the Act preclude operation of a new source in violation of such a standard after the effective date of the standard. *See* 42 U.S.C. 7411(e). Thus, the control requirements in an NSPS take effect on the effective date of the rule. Once such a standard takes effect and operates to preclude operations in violation of the standards, then EPA interprets the statute and EPA's PSD regulations to also require that the BACT requirement apply to a pollutant that is subject to NSPS. Consistent with the October 7, 2009 proposal, EPA has determined that the existing language in section 52.21(b)(50)(ii) of its regulations may be construed to apply to a new pollutant upon the effective date of an NSPS. This part of the definition covers "[a]ny pollutant that is subject to any standard promulgated under section 111 of the Act." *See* 40 CFR 52.21(b)(50)(ii). While the word "promulgated" appears in this part of the definition, this term modifies the term "standard" and does not directly address the timing of PSD requirements. Under the language in this part of the definition, the PSD requirements apply when a pollutant becomes "subject to" the underlying standard, which is "promulgated under" section 111 of the Act. Thus, this language can be interpreted to make an NSPS pollutant a regulated NSR pollutant upon the effective date of an NSPS. EPA did not receive any public comments that opposed reading this portion of the definition to invoke PSD requirements upon the effective date of an NSPS. This can logically be extended to be consistent with the general view described above that the time a pollutant becomes subject to regulation is the time when a control requirement "takes effect." As discussed above, the effective date of an NSPS is also that date when the controls in an NSPS "take effect."

Likewise, under section 169(a)(3) of the Act, a source applying for a PSD permit must demonstrate that it will not cause or contribute to a violation of the NAAQS in order to obtain the permit. Once a NAAQS is effective with respect to a pollutant, the standard operates through section 169(a)(3) of the Act and section 52.21(k) of EPA's regulations to preclude construction of a new source that would cause or contribute to a violation of such standard.

Using the effective date of a NAAQS to determine when a pollutant covered by a NAAQS becomes a regulated NSR pollutant is more consistent with EPA's general approach for determining when a new NAAQS applies to pending permit applications. EPA generally interprets a revised NAAQS that establishes either a lower level for the standard or a new averaging time for a pollutant already regulated to apply upon the effective date of the revised NAAQS. Thus, unless EPA promulgates a grandfathering provision that allows pending applications to apply standards in effect when the application is complete, a final permit decision issued after the effective date of a NAAQS must consider such a NAAQS. As described above, the effective date of the NAAQS is also the date a NAAQS takes effect through the PSD permitting program to regulate construction of a new or modified source.

Since a NAAQS covering a new pollutant would operate through the PSD permitting program to control emissions of that pollutant from the construction or modification of a major source upon the effective date of the NAAQS, a NAAQS covering a new pollutant takes effect on the effective date of the regulation promulgating the NAAQS. EPA does not agree with one commenter's suggestion that such a NAAQS would not take effect until the time a State first promulgates limitations for the pollutant in a SIP. Under section 165(a)(3) of the Act and the Federal PSD permitting regulations at 52.21(k), to obtain a PSD permit, a major source must demonstrate that the proposed construction will not cause or contribute to a violation of a NAAQS. Due to these requirements, the PSD program operates to incorporate the NAAQS as a governing standard for permitting construction of large sources. Thus, under the Federal PSD program regulations at least, a new pollutant covered by a NAAQS becomes subject to regulation at a much earlier date. These PSD provisions require emissions limitations for the NAAQS pollutant before construction at a major source may commence and thereby function to protect the NAAQS from new source construction and modifications of existing major sources in the SIP development period before a completion of the planning process necessary to determine whether additional standards for a new NAAQS pollutant need to be developed. The timing when the NAAQS operates in this manner under SIP-approved programs is potentially more nuanced and depends on whether State laws are sufficiently open-ended to call for application of a new NAAQS as a governing standard for PSD permits upon the effective date. EPA believes that State laws that use the same language as in EPA's PSD program regulations at 52.21(k) and 51.166(k) are sufficiently open-ended and allow such a NAAQS to "take effect" through the PSD program upon the effective date of the NAAQS. Notwithstanding this complexity in SIP-approved programs, the applicability of the Federal PSD program regulations to a new NAAQS pollutant upon the effective date of the NAAQS is sufficient to determine that a new pollutant is subject to regulation on this date.

In the October 7, 2009 notice, EPA observed that one portion of its existing regulations was not necessarily consistent with this reading of the CAA. For the first class of pollutants described in the definition of "regulated NSR pollutant," the PSD requirements apply once a "standard has been promulgated" for a pollutant or its precursors. *See* 40 CFR 52.21(b)(50)(i). The use of "has been" in the regulation indicates that a pollutant becomes a "regulated NSR pollutant," and hence PSD requirements for the pollutant are triggered, on the date a NAAQS is promulgated. Thus, EPA observed in the October 7, 2009 notice that it may not be possible for EPA to read the regulatory language in this provision to make PSD applicable to a NAAQS pollutant upon the effective date of the NAAQS. EPA did not propose to modify the language in 40 CFR 52.21(b)(50)(i) in the October 2009 notice because EPA had not yet reached a final decision to interpret the CAA to mean that a pollutant is subject to regulation on the date a regulatory requirement becomes effective. Since EPA was not proposing to establish a NAAQS for any additional pollutants, the timing of PSD applicability for a newly identified NAAQS pollutant did not appear to be of concern at the time. No public comments on the October 2009 notice addressed this issue. Since EPA is now ***17019** adopting a variation of the proposed interpretation with respect to the timing of PSD applicability, EPA believes it will be appropriate to propose a revision of the regulatory language in section 52.21(b)(50)(i) at such time as EPA may consider promulgation of a NAAQS for an additional pollutant. Until that time, EPA will continue to apply the terms of section 52.21(b)(50)(i) of the regulation. This is permissible because, even though EPA believes the better reading of the Act is to apply PSD upon the date that a control requirement "takes effect," the Agency has not determined in this action that the CAA precludes ap-plying PSD requirements upon the promulgation of a regulation that establishes a control requirement (as a NAAQS does through the PSD provisions).

IV.Application of PSD Interpretive Memo to PSD Permitting for GHGs

A. Date by Which GHGs Will Be "Subject to Regulation"

Although the PSD Interpretive Memo and this reconsideration reflect a broad consideration of the most appropriate legal interpretation and policy for all pollutants regulated under the CAA, the need to clarify this issue as a general matter has been driven by concerns over the effects of GHG emissions on global climate and the contention made by some parties in permit proceedings that EPA began regulating CO_2 as early as the promulgation of monitoring and reporting requirements in EPA's Part 75 rules to implement section 821 of the CAA

Amendments of 1990. The vast majority of public comments on the October 7, 2009 notice focused on the regulation of GHGs under the PSD program. As a result, EPA recognizes that it is critically important at this time for the Agency to make clear when the requirements of the PSD permitting program for stationary sources will apply to GHGs. For the reasons discussed below, GHGs will initially become "subject to regulation" under the CAA on January 2, 2011, assuming that EPA issues final GHG emissions standards under section 202(a) applicable to model year 2012 new motor vehicles as proposed. As a result, with that assumption, the PSD permitting program would apply to GHGs on that date. However, the Tailoring Rule, noted above, proposed various options for phasing in PSD requirements for sources emitting GHGs in various amounts above 100 or 250 tons per year. Since EPA has not yet completed that rulemaking, today's action concludes only that, under the approach envisioned for the vehicle standards, GHGs would not be considered "subject to regulation" (and no source would be subject to PSD permitting requirements for GHGs) earlier than January 2, 2011. The final Tailoring Rule will address the applicability of PSD requirements for GHG-emitting sources that are not presently subject to PSD permitting.

EPA's determination that PSD will begin to apply to GHGs on January 2, 2011 is based on the following considerations: (1) The overall interpretation reflected in the PSD Interpretive Memo; (2) EPA's conclusion in this notice that a pollutant becomes subject to regulation when controls "take effect," and (3) the assumption that the agency will establish emissions standards for model year 2012 vehicles when it completes the proposed LDV Rule.

As proposed, the LDV Rule consists of two kinds of standards-fleet average standards determined by the emissions performance of a manufacturer's fleet of various models, and separate vehicle standards that apply for the useful life of a vehicle to the various models that make up the manufacturer's fleet. CAA section 203(a)(1) prohibits manufacturers from introducing a new motor vehicle into commerce unless the vehicle is covered by an EPA-issued certificate of conformity for the appropriate model year. Section 206(a)(1) of the CAA describes the requirements for EPA issuance of a certificate of conformity, based on a demonstration of compliance with the emission standards established by EPA under section 202 of the Act. A certification demonstration requires emission testing, and must be done for each model year.

The certificate covers both fleet average and vehicle standards, and the manufacturer has to demonstrate compliance with both of these standards for purposes of receiving a certificate of conformity. The demonstration for the fleet average is based on a projection of sales for the model year, and the demonstration for the vehicle standard is based on emissions testing and other information.

Both the fleet average and vehicle standards in the LDV Rule will require that automakers control or limit GHG emissions from the tailpipes of these vehicles. As such, they clearly constitute "regulation" of GHGs under the interpretation in the PSD Interpretive Memo. This view is consistent with the position originally expressed by EPA in 1978 that a pollutant regulated in a Title II regulation is a pollutant subject to regulation. *See* 42 FR at 57481. However, the regulation of GHGs will not actually take effect upon promulgation of the LDV Rule or on the effective date of the LDV Rule when the provisions of the rule are incorporated into the Code of Federal Regulations.

Under the LDV Rule, the standards for GHG emissions are not operative until the 2012 model year, which may begin as early as January 2, 2011. In accordance with the requirements of Title II of the CAA and associated regulations, vehicle manufacturers may not introduce a model year 2012 vehicle into commerce without a model year 2012 certificate of conformity. *See* CAA section 203(a)(1). A model year 2012 certificate only applies to vehicles produced during that model year, and the model year production period may begin no earlier than January 2, 2011. *See* CAA section 202(b)(3)(A) and implementing regulations at 40 CFR 85.2302 through 85.2305. Thus, a vehicle manufacturer may not introduce a model year 2012 vehicle into commerce prior to January 2, 2011.

There will be no controls or limitations on GHG emissions from model year 2011 vehicles. The obligation on an automaker for a model year 2012 vehicle would be to have a certificate of conformity showing compliance with the emissions standards for GHGs when the vehicle is introduced into commerce, which can occur on or after January 2, 2011. Therefore, the controls on GHG emissions in the Light Duty Rule will not take effect until the first date when a 2012 model year vehicle may be introduced into commerce. In other words, the compliance obligation under the LDV Rule does not occur until a manufacturer may introduce into commerce vehicles that are required to comply with GHG standards, which will begin with MY 2012 and will not occur before January 2, 2011. Since CAA section 203(a)(1) prohibits manufacturers from introducing a new motor vehicle into commerce unless the vehicle is covered by an EPA-issued certificate of conformity for the appropriate model year, as of January 2, 2011, manufacturers will be precluded from introducing into commerce any model year 2012 vehicle that has not been certified to meet the applicable standards for GHGs.

This interpretation of when the GHG controls in the LDV Rule take effect, and therefore, make GHGs subject to regulation under the Act for PSD purposes, is consistent with the statutory language in section 202(a)(2) of the CAA. This section provides that "any regulation prescribed under paragraph (1) of this subsection (and ***17020** any revision thereof) shall *take effect* after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." *See* 42 U.S.C. 7521(a)(2) (emphasis added). The final LDV Rule will apply to model years 2012 through 2016. The time leading up to the introduction of model year 2012 is the time that EPA "finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." Model year 2012 is therefore when the GHG standards in the rule "take effect."

EPA does not agree with several commenters who have suggested that the GHG standards in the proposed LDV Rule would not take effect until October 1, 2011. The latter date appears to be based on how the National Highway Traffic Safety Administration (NHTSA) determines the beginning of the 2012 model year under the Energy Policy and Conservation Act (EPCA). Under EPCA, a more stringent CAFE standard must be prescribed by NHTSA at least 18 months before the beginning of the model year. For purposes of this EPCA provision, NHTSA has historically construed the beginning of the model year to be October 1 of the preceding calendar year. *See* 49 U.S.C. 32902(g)(2); 74 FR 49454, 49644 n.447 (Sep. 28, 2009). Although EPA has endeavored to harmonize its section 202(a) standards with the NHTSA CAFE standards, EPA's standards are promulgated under distinct legal authority in the CAA. Thus, the section 202(a) standards promulgated in the LDV Rule are not subject to EPCA or NHTSA's interpretation of when a model year begins for purposes of EPCA. Under EPA's planned LDV Rule, model year 2012 vehicles may be introduced into commerce as early as January 2, 2011. Although as a practical matter, some U.S. automakers may not begin introducing model year 2012 vehicles into commerce until later in 2011, they may nevertheless do so as early as January 2, 2011 under EPA's regulations. Consistent with the discussion above, EPA construes the phrase "subject to regulation" in section 165(a)(4) and 169(3) of the Act to mean that the BACT requirement applies when controls on a pollutant first apply to a regulated activity, and not the point at which an entity first engages in the regulated activity. In this instance, the regulated activity is the introduction of model year 2012 vehicles into commerce. As of January 2, 2011, a manufacturer may not engage in this activity without complying with the applicable GHG standards.

Likewise, EPA does not agree with commenters who argued that EPA should not consider the GHG controls in the LDV Rule to take effect until automakers have to demonstrate compliance with the fleet average standards at the end of the model year, based on actual vehicle model production. As discussed above, the LDV Rule includes both fleet average standards and vehicle standards that apply to individual vehicles throughout their useful lives. As discussed above, both of these standards for GHG emissions are operative on model year 2012 vehicles introduced into commerce on or after January 2, 2011. Thus, controls on GHG emissions from automobiles will take effect prior to the date that a manufacturer must demonstrate compliance with the fleet average standards. The fact that the manufacturer demonstrates final compliance with the fleet average at a later date, based on production for the entire year, does not change the fact that their conduct was controlled by both the fleet average and the vehicle standards, and subject to regulation, prior to that date.

B. Implementation Concerns

A substantial number of commenters requested that EPA defer application of the PSD program requirements to GHGs based on various practical implementation considerations, and several of these comments argued that the CAA affords EPA the discretion to set an implementation date based on such concerns. EPA agrees that application of PSD program requirements to GHGs presents several significant implementation challenges for EPA, States and other entities that issue permits, and the sources that must obtain permits. Indeed, many of the public comments have illustrated the magnitude of the challenge beyond what is described in the proposed notice on reconsideration of the PSD Interpretive Memo and the proposed Tailoring Rule.

In recognition of the substantial challenges associated with incorporating GHGs into the PSD program, EPA's preference would be to establish a specific date when the PSD permitting requirements initially apply to GHGs based solely on these practical implementation considerations. However, EPA has not been persuaded that it has the authority to proceed in this manner. While EPA may have discretion as to the manner and time for regulating GHG emissions under the CAA, once EPA has determined to regulate a pollutant in some form under the Act and such regulation is operative on the regulated activity, the terms of the Act make clear that the PSD program is automatically applicable.

Nonetheless, given the substantial magnitude of the PSD implementation challenges presented by the regulation of GHGs, EPA proposed in the Tailoring Rule to at least temporarily limit the scope of GHG sources covered by the PSD program to ensure that permitting authorities can effectively implement it. EPA based the proposal primarily on two legal doctrines: The "absurd results" doctrine, which EPA proposed to apply on the basis that Congress did not envision that the PSD program would apply to the many small sources that emit GHGs; and the "administrative necessity" doctrine, which EPA proposed to apply because of the extremely large administrative burdens that permitting authorities would confront in permitting the GHG sources. In comment on that action, as well as in comments on the PSD Interpretive Memo reconsideration proposal, EPA received numerous suggestions that it is necessary to limit the scope of sources covered at the time GHGs become subject to regulation. Commenters further stated that it is necessary to select a "trigger date" for GHG permitting that takes into account the time needed for permitting authorities to adopt any scope-limiting measures (including the need to amend State law), to secure the necessary additional financial and other resources, and to hire and train the staff needed to respond to the increase in permitting workload. These comments make clear that more time will be needed beyond January 2, 2011 before permitting of many GHG stationary sources can begin. Thus, EPA will be taking additional action in the near future in the context of the Tailoring Rule to address GHG-specific circumstances that will exist beyond January 2, 2011.

C. Interim EPA Policy To Mitigate Concerns Regarding GHG Emissions From Construction or Modification of Large Stationary Sources

While EPA has concluded that GHGs will not become subject to regulation (and hence the PSD BACT requirement will not apply to them) earlier than January 2, 2011, permitting authorities that issue permits before January 2, 2011 are already in a position to, and should, use the discretion currently available under the BACT provisions of the PSD program to promote technology choices for control of criteria pollutants that will also facilitate the reduction of GHG emissions. More specifically, the CAA *17021 BACT definition requires permitting authorities selecting BACT to consider the reductions available through application of not only control methods, systems, and techniques, but also through production processes, and requires them to take into account energy, environmental, and economic impacts. Thus, the statute expresses the need for a comprehensive review of available pollution control methods when evaluating BACT that clearly requires consideration of energy efficiency. The consideration of energy efficiency is important because it contributes to reduction of pollutants to which the PSD requirements currently apply and have historically been applied. Further, although BACT does not now apply to GHG, BACT for other pollutants can, through application of more efficient production processes, indirectly result in lower GHG emissions.

Neither the statute nor EPA regulations specify precisely how to address energy efficiency in BACT determinations, nor has EPA fully articulated how to take climate considerations into account under the "energy, environmental, and economic impacts" considerations of BACT. Further, while EPA's BACT guidance for currently regulated pollutants has addressed some facets of these issues, EPA believes that, given the potential importance of the indirect GHG benefits, it will be useful for EPA to summarize this guidance and further clarify it as necessary in order to further illustrate where PSD permitting authorities should be using existing BACT authority for pollutants that are presently regulated in ways that can indirectly address concerns about GHG emissions from large stationary sources. EPA is developing such guidance and plans to issue it in the near future.

D. Transition for Pending Permit Applications

Some commenters requested that EPA address the question of how the application of PSD requirements to GHGs will affect applications for PSD permits that are pending on the date GHGs initially become "subject to regulation." These commenters generally asked that EPA establish an exclusion for any PSD permit application that was submitted in complete form before the date on which PSD begins to apply to GHGs.

In light of EPA's conclusion that pollutants become subject to regulation for PSD purposes when control requirements on that pollutant take effect and that such requirements will not take effect for GHGs until January 2, 2011 if EPA finalizes the proposed LDV Rule as anticipated, EPA does not *see* any grounds to establish a transition period for permit applications that are pending before GHGs become subject to regulation. As a general matter, permitting and licensing decisions of regulatory agencies must reflect the law in effect at the time the agency makes a final determination on a pending application. *See Ziffrin* v. *United States*, 318 U.S. 73, 78 (1943); *State of Alabama* v. *EPA*, 557 F.2d 1101, 1110 (5th Cir. 1977); I*n re: Dominion Energy Brayton Point, LLC*, 12 E.A.D. 490, 614-616 (EAB 2006); *In re Phelps Dodge Corp.*, 10 E.A.D. 460, 478 n.10 (EAB 2002). Thus, in the absence of an explicit transition or grandfathering provision in the applicable regulations (and assuming EPA finalizes the LDV

Rule as planned), each PSD permit issued on or after January 2, 2011 would need to contain provisions that satisfy the PSD requirements that will apply to GHGs as of that date.

Under certain circumstances, EPA has previously allowed proposed new major sources and major modifications that have submitted a complete PSD permit application before a new requirement becomes applicable under PSD regulations, but have not yet received a final and effective PSD permit, to continue relying on information already in the application rather than immediately having to amend applications to demonstrate compliance with the new PSD requirements. In such a way, these proposed sources and modifications were "grandfathered" or exempted from the new PSD requirements that would otherwise have applied to them.

For example, EPA adopted a grandfathering provision when it changed the indicator for the particulate matter NAAQS from total suspended particulate matter (TSP) to particulate matter less than 10 microns (PM10). The Federal PSD regulations at 40 CFR 52.21(i)(1)(x) provide that the owners or operators of proposed sources or modifications that submitted a complete permit application before July 31, 1987, but did not yet receive the PSD permit, are not required to meet the requirements for PM10, but could instead satisfy the requirements for TSP that were previously in effect.

In addition, EPA has allowed some grandfathering for permit applications submitted before the effective date of an amendment to the PSD regulations establishing new maximum allowable increases in pollutant concentrations (also known as PSD "increments"). The Federal PSD regulations at 40 CFR 52.21(i)(10) provide that proposed sources or modifications that submitted a complete permit application before the effective date of the increment in the applicable implementation plan are not required to meet the increment requirements for PM10, but could instead satisfy the increment requirements for TSP that were previously in effect. Also, 40 CFR 52.21(i)(9) provides that sources or modifications that submitted a complete permit application before the provisions embodying the maximum allowable increase for nitrogen oxides (NO_X)[14] took effect, but did not yet receive a final and effective PSD permit, are not required to demonstrate compliance with the new increment requirements to be eligible to receive the permit.

Under the particular circumstances presented by the forthcoming application of PSD requirements to GHGs, EPA does not *see* a justification for adopting an explicit grandfathering provision of the nature described above. Permit applications submitted prior to the publication of this notice should in most cases be issued prior to January 2, 2011 and, thus, effectively have a transition period of nine months to complete processing before PSD requirements become applicable. Additional time for completion of action on applications submitted prior to the onset of PSD requirements for GHGs therefore does not appear warranted to ensure a smooth transition and avoid delays for pending applications. To the extent any pending permit review cannot otherwise be completed within the next nine months based on the requirements for pollutants other than GHGs, it should be feasible for permitting authorities to begin incorporating GHG considerations into permit reviews in parallel with the completion of work on other pollutants without adding any additional delay to permit processing.

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[14] The increments for emissions of the various oxides of nitrogen are expressed as concentrations of nitrogen dioxide (NO_2).

Furthermore, the circumstances surrounding the onset of requirements for GHGs are distinguishable from prior situations where EPA has allowed grandfathering of applications that were deemed complete prior to the applicability new PSD permitting requirements. First, this action and the PSD Interpretive Memo do not involve a revision of the PSD permitting regulations but rather involves clarifications of how EPA interprets the existing regulatory text. This action articulates what has, in most respects, been EPA's longstanding practice. It has been EPA's consistent position since ***17022** 1978 that regulation of a pollutant under Title II triggers PSD requirements for such a pollutant. *See* 42 FR 57481. Thus, permitting authorities and permit applicants could reasonably anticipate that completion of the LDV Rule would trigger PSD and prepare for this action. Many commenters interpreted EPA's October 7, 2009 notice as proposing to trigger PSD requirements within 60 days of the promulgation of the LDV Rule rather than the January 2, 2011 date that EPA has determined to be the date the controls in that rule take effect. Second, there are presently no regulatory requirements in effect for GHGs. On the other hand, at the time EPA moved from using TSP to using PM10 as the indicator for the particulate matter NAAQS, grandfathered sources were still required to satisfy PSD requirements for particulate matter based on the TSP indicator. Likewise, when EPA later updated the PSD increment for particulate matter to use the PM10 indicator, the grandfathered sources were still required to demonstrate that they would not cause or contribute to a violation of the particulate matter increment based on TSP. In the case of the adoption of the NO_2 increment, grandfathered sources were still required to demonstrate that they would not cause or contribute to a violation of the NO_2 NAAQS. In contrast, for GHGs, there are no measures currently in effect that serve to limit emission of GHGs from stationary sources.

For these reasons, EPA does not intend to promulgate a transition or grandfathering provision that exempts pending permit applications from the onset of GHG requirements in the PSD program. As discussed above, in the absence of such a provision, PSD permits that are issued on or after January 2, 2011 (in accordance with limitations promulgated in the upcoming Tailoring Rule) will be required to contain provisions that fulfill the applicable program requirements for GHGs.

V. PSD Program Implementation by EPA and States

Consistent with the PSD Interpretive Memo, the refined interpretation reflected in this notice (that a pollutant subject to actual control becomes subject to regulation at the time such controls take effect) is an interpretation of the language in 40 CFR 52.21(b)(50) of EPA's regulations. EPA will apply the PSD

Interpretive Memo, with the refinement described above, when implementing the Federal permitting program under 40 CFR 52.21. Furthermore, EPA will expect that States that implement the Federal PSD permit program under delegation from an EPA Regional Office will do the same.

In addition, EPA will apply the interpretation reflected in this notice and the PSD Interpretive Memo in its oversight of existing State programs and review and approval of new program submissions. Many States implement the PSD program pursuant to State laws that have been approved by EPA as part of the SIP, pursuant to a determination by EPA that such laws meet the PSD program criteria set forth in 40 CFR 51.166. The EPA regulation setting forth PSD program requirements for SIPs also includes the same definition of the term "regulated NSR pollutant" as the Federal program regulation. *See* 40 CFR 51.166(b)(49). Because this regulation uses the same language as contained in 40 CFR 52.21 and the same considerations apply to implementation of the PSD program under State laws, EPA will interpret section 51.166(b)(49) in the same manner as section 52.21(b)(50). However, in doing so, EPA will be mindful that permitting authorities in SIP-approved States have some independent discretion to interpret State laws, provided those interpretations are consistent with minimum requirements under the Federal law.

To the extent approved SIPs contain the same language as used in 40 CFR 52.21(b)(50) or 40 CFR 51.166(b)(49), SIP-approved State permitting authorities may interpret that language in State regulations in the same manner reflected in the PSD

Interpretive Memo and this notice. However, EPA will not seek to preclude actions to address GHGs in PSD permitting actions prior to January 2, 2011 where a State permitting authority feels it has the necessary legal foundation and resources to do so.

EPA has not called on any States to make a SIP submission that addresses the interpretive issues addressed in this notice and the PSD Interpretive Memo. As long as States are applying their approved program regulations consistent with the minimum program elements established in 40 CFR 51.166, EPA does not believe it will be necessary to issue a SIP call for all States to address this issue. However, permitting authorities in SIP-approved States do not have the discretion to apply State laws in a manner that does not meet the minimum Federal standards in 40 CFR 51.166, as interpreted and applied by EPA. Thus, if a State is not applying the PSD requirements to GHGs for the required sources after January 2, 2011, or lacks the legal authority to do so, EPA will exercise its oversight authority as appropriate to call for revisions to SIPs and to otherwise ensure sources do not commence construction without permits that satisfy the minimum requirements of the Federal PSD program.

To enable EPA to assess the consistency of a State's action with any PSD program requirements for GHGs, States should ensure that the record for each PSD-permitting decision addresses whether the State has elected to follow EPA's interpretation or believes it is appropriate to apply a different interpretation of State laws that is nonetheless consistent with the requirements of EPA's PSD program regulations. In light of additional actions to be taken by EPA in the

Tailoring Rule, States that issue permits in the near term may want to preserve the discretion to modify their approach after other EPA actions are finalized. In light of this contingency, one option States may consider is to establish that the State will not interpret its laws to require PSD permits for sources that are not required to obtain PSD permits under EPA regulations.

VI. Application of the Title V Program to Sources of GHGs

Although the PSD Interpretive Memorandum and the October 7, 2009 proposed reconsideration notice addressed only PSD permitting issues, EPA received several comments on the proposed reconsideration that also addressed the application of Title V permitting requirements to GHGs. Most of these comments urged EPA to apply the same approach for determining major source applicability for Title V permitting that EPA applies to PSD. EPA has in fact been following the PSD approach in many respects. As with the PSD program, currently GHGs are not considered to be subject to regulation and have not been considered to trigger applicability under Title V. EPA discussed this in the preamble to the proposed Tailoring Rule as described below. *See* 74 FR at 55300 n.8.

Title V requires, among other things, that any "major source"—defined, as relevant here, under CAA sections 302(j) and 501(2)(b), as "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant * * *"—apply for a Title V permit. EPA interprets this requirement to apply to sources of pollutants "subject to regulation" under the Act. EPA previously articulated its interpretation that this Title V permitting requirement applies to "pollutants subject to regulation" in a 1993 memorandum from EPA's air ***17023** program. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993) ("Wegman Memo"). EPA continues to maintain this interpretation. The interpretation in this memorandum was based on: (1) EPA's reading of the definitional chain for "major source" under Title V, including the definition of "air pollutant" under section 302(g) and the definition of "major source" under 302(j); (2) the view that Congress did not intend to require a variety of sources to obtain Title V permits if they are not otherwise regulated under the Act (*see also* CAA section 504(a), providing that Title V permits are to include and assure compliance with applicable requirements under the Act); and (3) consistency with the approach under the PSD program. While the specific narrow interpretation in the Wegman Memo of the definition of "air pollutant" in CAA section 302(g) is in question in light of *Massachusetts* (finding this definition to be "sweeping"), EPA believes the core rationale for its interpretation of the applicability of Title V remains sound. EPA continues to maintain its interpretation, consistent with CAA sections 302(j), 501, 502 and 504(a), that the provisions governing Title V applicability for "a major stationary source" can only be triggered by emissions of pollutants subject to regulation. This interpretation is based primarily on the purpose of Title V to collect all regulatory requirements applicable to a source and to assure compliance with such requirements—*see*, *e.g.*, CAA section 504(a)—and on the desire to promote consistency with the approach under the PSD program.

In applying this interpretation under Title V, the Wegman Memo also explains that EPA does not consider CO_2 to be a pollutant subject to regulation based on the monitoring and reporting requirements of section 821 of the Clean Air Act Amendments of 1990. As articulated in numerous orders issued by EPA in response to petitions to object to Title V permits, EPA views the Title V operating permits program as a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and that compliance with these requirements is assured. *See*, *e.g.*, *In the Matter of Fort James Camas Mill*, Petition No. X-1999-1 at 3-4 (Dec. 22, 2000); *In the Matter of Cash Creek Generation, LLC*, Petition Nos. IV-2008-1 & IV-2008-2 at 2 (Dec. 15, 2009). The Wegman Memo points out that section 821 involves reporting and study of emissions, but is not related to actual control of emissions. Since the reporting requirements of section 821 have no connection to existing air quality control requirements, it is appropriate not to treat them as making CO_2 "subject to regulation" for purposes of Title V. *Cf.* Section 504(b) (providing EPA authority to specify requirements for "monitoring and analysis of pollutants regulated under this Act.").

EPA has not previously explicitly considered the question of when a pollutant becomes "subject to regulation" under this established interpretation of the Title V requirements.[15] EPA received comments in this reconsideration proceeding specifically on the question of when a pollutant becomes subject to regulation for purposes of Title V. In light of these comments, and the decision to adopt a "takes effect" approach for PSD, EPA believes it is appropriate to address this issue for Title V with respect to GHG.

EPA is mindful of the different purposes for the PSD and Title V programs under the statute. While PSD results in substantive control requirements as necessary to meet air quality goals, Title V is focused on identifying, collecting, and assuring compliance with other Act requirements (including PSD), and general-ly does not itself result in new control requirements. Nevertheless, as reflected in the Wegman Memo, the two programs have historically followed the same approach for determining when a pollutant is "subject to regulation."[16] EPA believes that a "takes effect" approach to the triggering of new pollutants is desirable and appropriate for Title V, for many of the reasons described above for PSD. EPA is therefore generally inclined to follow the approach adopted today for PSD, and concludes that GHGs are "subject to regulation," for purposes of determining whether a source of GHGs is a "major source" for

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[15] The preamble to the proposed Tailoring Rule implicitly assumed that a pollutant will become "subject to regulation" for PSD and Title V at the same time (and, in one case, suggests that time will be on promulgation of the LDV Rule). The latter statement was based on the interpretation in the current PSD Interpretive Memorandum, but failed to note that EPA had proposed to change that interpretation in the October 7, 2009 notice (signed the same day as the proposed Tailoring Rule). *See* 74 FR at 55300 and 55340-41.

[16] Wegman Memo at 5.

Title V, no earlier than the date on which a control requirement for GHGs "takes effect." EPA currently anticipates that the LDV Rule will be the first control requirement for GHGs to take effect. Under this approach, as with PSD, if the LDV Rule takes effect as of January 2, 2011, a source that is not currently subject to Title V for its GHG emissions could become so no earlier than January 2, 2011.[17]

Finally, as with PSD, EPA expects that, beyond January 2, 2011, there will remain significant administrative and programmatic considerations associated with permitting of GHGs under Title V. In light of this, as discussed above with regard to PSD permitting, EPA will be further addressing in the final Tailoring Rule (to be promulgated in the near future) the manner in which sources can become subject to Title V as a result of their GHG emissions.

VII. Statutory Authority

The statutory authority for this action is provided by section 553 of the Administrative Procedure Act (5 U.S.C. 553) and the Clean Air Act (CAA), as amended (42 U.S.C. 7401 *et seq.*). Relevant portions of the CAA include, but are not necessarily limited to, sections 101, 165, 169, 301, 302, 307, 501, 502, and 504 (42 U.S.C. 7401, 7475, 7479, 7601, 7602, 7607, 7661, 7661a, and 7661d).

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[17] This date is also when EPA expects the first CAA control program addressing GHGs at stationary sources (*i.e.*, the PSD program) to be in place.

A. Judicial Review

This action is a nationally applicable final action under section 307(b) of the Act. As a result, any legal challenges to this action must be brought to the United States Court of Appeals for the District of Columbia Circuit by June 1, 2010.

Dated: March 29, 2010.

Lisa P. Jackson,

Administrator.

[FR Doc. 2010-7536 Filed 4-1-10; 8:45 a.m.]

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RECORD
AND
BRIEFS

No. 12-1272

Supreme Court, U.S.
FILED
APR 19 2013
OFFICE OF THE CLERK

In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

*ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT*

PETITIONERS' APPENDIX
VOLUME III OF V (690a-1125a)

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RULES and REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 52, 70, and 71

[EPA-HQ-OAR-2009-0517; FRL-9152-8]

RIN 2060-AP86

Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

Thursday, June 3, 2010

AGENCY: Environmental Protection Agency (EPA).

***31514 ACTION:** Final rule.

SUMMARY: EPA is tailoring the applicability criteria that determine which stationary sources and modification projects become subject to permitting requirements for greenhouse gas (GHG) emissions under the Prevention of Significant Deterioration (PSD) and title V programs of the Clean Air Act (CAA or Act). This rulemaking is necessary because without it PSD and title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year (tpy) levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on

future steps addressing smaller sources, but excludes certain smaller sources from PSD and title V permitting for GHG emissions until at least April 30, 2016.

DATES: This action is effective on August 2, 2010.

ADDRESSES: EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2009-0517. All documents in the docket are listed in the ***http://www.regulations.gov*** index. Although listed in the index, some information is not publicly available, ***e.g.***, Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in ***http://www.regulations.gov*** or in hard copy at the EPA Docket Center EPA/DC, EPA West, Room 3334, 1301 Constitution Avenue, Northwest, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Mr. Joseph Mangino, Air Quality Policy Division, Office of Air Quality Planning and Standards (C504-03), Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541-9778; fax number: (919) 541-5509; e-mail address: *mangino.joseph@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

Entities affected by this action include sources in all sectors of the economy, including commercial and residential sources. Entities potentially affected by this action also include States, local permitting authorities, and tribal authorities. The majority of categories and entities potentially affected by this action are expected to be in the following groups:

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[illegible]

B. How is this preamble organized?

The information presented in this preamble is organized as follows:

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***31515**
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- G. Comments on Executive Order 13211—Actions That Significantly Affect Energy Supply, Distribution, or Use

VIII. Statutory and Executive Order Reviews

- A. Executive Order 12866—Regulatory Planning and Review
- B. Paperwork Reduction Act
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IX. Statutory Authority

C. Preamble Acronyms and Abbreviations

The following are abbreviations of terms used in this preamble.

ANPR Advance Notice of Proposed Rulemaking
APA Administrative Procedure Act
AQRVs Air Quality Related Values
BACT Best Available Control Technology
Btu British thermal units
Btu/hr British thermal units per hour
CAA or Act Clean Air Act
CAAAC Clean Air Act Advisory Committee
CAFE Corporate Average Fuel Economy
CH_4 Methane
CO Carbon Monoxide
CO_2 Carbon Dioxide
CO_2e Carbon Dioxide Equivalent
EPA U.S. Environmental Protection Agency
FDA Food and Drug Administration
FIP Federal Implementation Plan
FTEs Full-Time Equivalents
GHG Greenhouse Gas
GHz Gigahertz
GWP Global Warming Potential
HAP Hazardous Air Pollutant
HFCs Hydrofluorocarbons
ICR Information Collection Request
IPCC Intergovernmental Panel on Climate Change
LDVR Light-Duty Vehicle Rule
MACT Maximum Achievable Control Technology
MCL Maximum Contaminant Level
N_2O Nitrous Oxide
NAAQS National Ambient Air Quality Standard
NHTSA National Highway Traffic Safety Administration

NMOC Nonmethane Organic Compounds
NO_x Nitrogen Oxides
NPDES National Pollutant Discharge Elimination System
NSPS New Source Performance Standard
NSR New Source Review
NTAA National Tribal Air Association
NTTAA National Technology Transfer and Advancement Act
OMB Office of Management and Budget
PFCs Perfluorocarbons
PM Particulate Matter
PSD Prevention of Significant Deterioration
PTE Potential to Emit
RFA Regulatory Flexibility Act
RIA Regulatory Impact Analysis
RTC Response to Comment
SBA Small Business Administration
SBAR Small Business Advocacy Review
SBREFA Small Business Regulatory Enforcement Fairness Act
SF_6 Sulfur Hexafluoride
SIP State Implementation Plan
SNPR Supplemental Notice of Proposed Rulemaking
TIP Tribal Implementation Plan
TRS Total Reduced Sulfur
TSD Technical Support Document
tpy Tons Per Year
UMRA Unfunded Mandates Reform Act
UNFCCC United Nations Framework Convention on Climate Change
VOC Volatile Organic Compound

***31516**

II. Overview of the Final Rule

EPA is relieving overwhelming permitting burdens that would, in the absence of this rule, fall on permitting authorities and sources. We accomplish this by tailoring the applicability criteria that determine which GHG emission sources become subject to the PSD and title V programs[1] of the CAA. In particular, EPA is establishing with this rulemaking a phase-in approach for PSD and title V applicability, and is establishing the first two steps of the phase-in for the largest emitters of GHGs. We also commit to certain follow-up actions regarding future steps beyond the first two, discussed in more detail later. Our legal basis for this rule is our interpretation of the PSD and title V applicability provisions under the familiar *Chevron*[2] two-step framework for interpreting administrative statutes, taking account of three legal doctrines, both separately and interde-pendently: They are what we will call (1) The "absurd results" doctrine, which authorizes agencies to apply statutory re-quirements differently than a literal reading would indicate, as necessary to effectuate congressional intent and avoid absurd results, (2) the "administrative necessity" doctrine, which authorizes agencies to apply statutory requirements in a way that avoids impossible administrative burdens; and (3) the "one-step-at-a-time" doctrine, which authorizes agencies to implement statutory requirements a step at a time. This legal basis justifies each of the actions we take with this rule—*e.g.*, each of the first two steps of the phase-in approach—both (1) as part of the overall tailoring approach, and (2) independently of each other action we take with this rule. EPA also has authority for this Tailoring Rule under CAA section 301(a)(1), which authorizes the Administrator "to prescribe such regulations as are necessary to carry out his functions under [the CAA]."

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[1] Unless otherwise indicated, references in this preamble to "title V," "title V requirements," the "title V program," and similar references are to the operating permit provisions in CAA sections 501-506, and not the "small business stationary source technical and environmental compliance assistance program" under CAA section 507.

[2] *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837 (1984).

For the first step of this Tailoring Rule, which will begin on January 2, 2011, PSD or title V requirements will apply to sources' GHG emissions only if the sources are subject to PSD or title V anyway due to their non-GHG pollutants. Therefore, EPA will not require sources or modifications to evaluate whether they are subject to PSD or title V requirements solely on account of their GHG emissions. Specifically, for PSD, Step 1 requires that as of January 2, 2011, the applicable requirements of PSD, most notably, the best available control technology (BACT) requirement, will apply to projects that increase net GHG emissions by at least 75,000 tpy carbon dioxide equivalent (CO_2e), but only if the project also significantly increases emissions of at least one non-GHG pollutant. For the title V program, only existing sources with, or new sources obtaining, title V permits for non-GHG pollutants will be required to address GHGs during this first step.

The second step of the Tailoring Rule, beginning on July 1, 2011, will phase in additional large sources of GHG emissions. New sources as well as existing sources not already subject to title V that emit, or have the potential to emit, at least 100,000 tpy CO_2e will become subject to the PSD and title V requirements. In addition, sources that emit or have the potential to emit at least 100,000 tpy CO_2e and that undertake a modification that increases net emissions of GHGs by at least 75,000 tpy CO_2e will also be subject to PSD requirements. For both steps, we also note that if sources or modifications exceed these CO_2e-adjusted GHG triggers, they are not covered by permitting requirements unless their GHG emissions also exceed the corresponding mass-based triggers (*i.e.*, unadjusted for CO_2e.)

EPA believes that the costs to the sources and the administrative burdens to the permitting authorities of PSD and title V permitting will be manageable at the levels in these initial two steps, and that it would be administratively infeasible to subject additional sources to PSD and title V requirements at those times. However, we also intend to issue a supplemental notice of proposed rulemaking (SNPR) in 2011, in which we will propose or solicit comment on a third step of the phase-in that would include more sources, beginning by July 1, 2013. In the same rulemaking, we may propose or solicit comment on a permanent exclusion from permitting for some category of sources, based on the doctrine of "absurd results," within the *Chevron* framework. We are establishing an enforceable commitment that we will complete this rulemaking by July 1, 2012, which will allow for 1 year's notice before Step 3 would take effect.

In addition, we commit to explore streamlining techniques that may well make the permitting programs much more efficient to administer for GHGs, and that therefore may allow their expansion to smaller sources. We expect that the initial streamlining techniques will take several years to develop and implement.

We are also including in this action a rule that no source with emissions below 50,000 tpy CO_2e, and no modification resulting in net GHG increases of less than 50,000 tpy CO_2e, will be subject to PSD or title V permitting before at least 6 years from now, April 30, 2016. This is because we are able to conclude at the present time that the administrative burdens that would accompany permitting sources below this level will be so great that even the streamlining actions that EPA may be able to develop and implement in the next several years, and even with the increases in permitting resources that we can reasonably expect the permitting authorities to acquire, it will be impossible to administer the permit programs for these sources until at least 2016.

Further, we are establishing an enforceable commitment that we will (1) Complete a study by April 30, 2015, to evaluate the status of PSD and title V permitting for GHG-emitting sources, including progress in developing streamlining techniques; and (2) complete further rulemaking based on that study by April 30, 2016, to address the permitting of smaller sources. That rulemaking may also consider additional permanent exclusions based on the "absurd results" doctrine, where applicable.

This Tailoring Rulemaking is necessary because without it, PSD and title V would apply to all stationary sources that emit or have the potential to emit more than 100 or 250 tons of GHGs per year beginning on January 2, 2011. This is the date when EPA's recently promulgated Light-Duty Vehicle Rule (LDVR) takes effect, imposing control requirements for the first time on carbon dioxide (CO_2) and other GHGs. If this January 2, 2011 date were to pass without this Tailoring Rule being in effect, PSD and title V requirements would apply at the 100/250 tpy applicability levels provided under a literal reading of the CAA as of that date. From that point forward, a source owner proposing to construct any new major source that emits at or higher than the applicability levels (and which therefore may be referred to as a "major" source) or modify any existing major source in a way that would increase GHG emissions would need to obtain a permit under the PSD program that addresses these emissions before construction or modification could begin. Similarly, title V would apply to a new or existing source exceeding the 100 tpy ***31517** applicability level in the Act, if the source did not already have a title V permit.

Under these circumstances, many small sources would be burdened by the costs of the individualized PSD control technology requirements and permit applications that the PSD provisions, absent streamlining, require. Additionally, state and local permitting authorities would be burdened by the extraordinary number of these permit applications, which are orders of magnitude greater than the current inventory of permits and would vastly exceed the current administrative resources of the permitting authorities. Permit gridlock would result with the permitting authorities able to issue only a tiny fraction of the permits requested.

These impacts—the costs to sources and administrative burdens to permitting authorities—that would result from application of the PSD and title V programs for GHG emissions at the statutory levels as of January 2, 2011, are so severe that they bring the judicial doctrines of "absurd results," "administrative necessity," and "one-step-at-a-time" into the *Chevron* two-step analytical framework for statutes administered by agencies. Under the U.S. Supreme Court's decision in *Chevron*, the agency must, at Step 1, determine whether Congress's intent as to the specific matter at issue is clear, and, if so, the agency must give effect to that intent.[3] If congressional intent is not clear, then, at Step 2, the agency has discretion to fashion an interpretation that is a reasonable construction of the statute.

To determine congressional intent, the agency must first consider the words of the statutory requirements, and if their literal meaning answers the question at hand, then, in most cases, the agency must implement those requirements by their terms. However, under the "absurd results" doctrine, the literal meaning of statutory requirements should not be considered to indicate congressional intent if that literal meaning would produce a result that is senseless or that is otherwise inconsistent with—and especially one that undermines—underlying congressional purpose. In these cases, if congressional intent for how the requirements apply to the question at hand is clear, the agency should implement the statutory requirements not in accordance with their literal meaning, but rather in a manner that most closely effectuates congressional intent. If congressional intent is not clear, then an agency may select an interpretation that is reasonable under the statute.

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[3] *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837, 842-43 (1984).

Under the "administrative necessity" doctrine, Congress is presumed, at *Chevron* Step 1, to intend that its statutory directives to agencies be administrable, and not to have intended to have written statutory requirements that are impossible to administer. Therefore, under this doctrine, an agency may depart from statutory requirements that, by their terms, are impossible to administer, but the agency may depart no more than necessary to render the requirements administrable. Under the "one-step-at-a-time" doctrine, Congress is presumed at *Chevron* Step 1 to have intended to allow the agency to administer the statutory requirements on a step-by-step basis, as appropriate, when the agency remains on track to implement the requirements as a whole. Each of these doctrines supports our action separately, but the three also are intertwined and support our action in a comprehensive manner.

Here, we have determined, through analysis of burden and emissions data as well as consideration of extensive public comment, that the costs to sources and administrative burdens to permitting authorities that would result from application of the PSD and title V programs for GHG emissions at the statutory levels as of January 2, 2011 should be considered "absurd results." Therefore, we conclude that under the "absurd results" doctrine, Congress could not have intended that the PSD or title V applicability provisions—in particular, the threshold levels and timing requirements—apply literally to GHG sources as of that date.

Even so, the PSD and title V provisions and their legislative history do indicate a clear congressional intent, under *Chevron* Step 1, as to whether the two permitting programs applied to GHG sources, and that the intent was in the affirmative, that the permitting programs do apply to GHG sources. Our previous regulatory action defining the applicability provisions made this clear, and we do not reopen this issue in this rulemaking. Moreover, even if this long-established regulatory position were not justifiable based on *Chevron* Step 1—on the grounds that in fact, congressional intent on this point is not clear—then we believe that this position, that the statutory provisions to apply PSD and title V generally to GHG sources, was justified under *Chevron* step 2.[4]

As to how to apply the PSD program to GHG sources, congressional intent, as expressed in the various statutory provisions and statements in the legislative history, is clear that PSD should apply at least to the largest sources initially, at least to as many more sources as possible and as promptly as possible over time—consistent with streamlining actions that we intend to consider coupled with increases in permitting authority resources—and at least to a certain point. This is the approach we take in this Tailoring Rule, and because it is consistent with congressional intent, we believe it is required under *Chevron* Step 1. Even if congressional intent were not clear as to how to apply the PSD requirements to GHG sources, we would have authority under *Chevron* Step 2 to establish a reasonable interpretation that is consistent with the PSD provisions, and we believe that the tailoring approach so qualifies.

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[4] In this preamble and the response to comments document we fully address arguments that commenters and others have presented about congressional intent and coverage of GHGs. We do so to be fully responsive, even though we believe that this is a settled matter for which the time for judicial review has passed.

As for title V, the statutory provisions and legislative history, which of course are different than those concerning the PSD program, do not express a clear intent as to how title V applies to GHG sources, which leads our analysis to *Chevron* Step 2, and here, again, we believe that the tailoring approach is a reasonable interpretation that is consistent with the title V provisions.

For both PSD and title V, we intend to use the tailoring approach to address smaller GHG sources over time, consistent with Congress's expectations that the programs would not impose undue costs to sources or undue administrative burdens to permitting authorities. However, we cannot say at this point how close to the statutory thresholds we will eventually reach. Because this rule establishes only the first two phases of the tailoring approach, we do not find it necessary to answer these questions in this rule, and instead we expect to resolve them through future rulemaking. We will remain mindful of the concerns that Congress expressed about including small sources in either program. We intend to consider the issue of the applicability of title V to GHG sources without applicable requirements (*i.e.*, "empty permits") in future steps of our tailoring approach. When we do so, we will further assess the potential for the approach of excluding empty permits from title V to relieve burden consistent with statutory requirements.

In addition, because Congress can be said to have intended the PSD and title ***31518** V programs to apply to GHG sources, the Tailoring Rule is also justifiable under the "administrative necessity" and "one-step-at-a-time" doctrines.

The legal analysis just described justifies each of the actions in this rule. The first two steps that we promulgate in this rule, which take effect on January 2, 2011 and July 1, 2011, constitute the most that permitting authorities can reasonably be expected to do by those times. Similarly, the 50,000 tpy floor that we promulgate through at least April 30, 2016 is reasonable because the information we have available now shows that it constitutes the most that permitting authorities can reasonably be expected to do by that date. Finally, the study and two additional rulemakings—to take effect by July 1, 2013 and April 30, 2016—to which we commit in this rule establish a track for acquiring additional information and for taking further steps to address the application of PSD and title V more closely to the literal statutory levels. We intend to apply them as closely to those levels as is consistent with congressional intent and administrative imperatives, in light of the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines, although, as noted previously, we will consider in future rulemaking how closely to the statutory thresholds we will be able to implement the PSD and title V programs as well as what to require with respect to a potentially large number of sources with empty title V permits.

In this rule, we are adopting regulatory language codifying our phase-in approach. As we will explain, many state, local and tribal area programs will likely be able to immediately implement our approach without rule or statutory changes by, for example, interpreting the term "subject to regulation" that is part of the applicability provisions for PSD and title V. We ask permitting authorities to confirm that they will follow this implementation approach for their programs, and if they cannot, then we ask them to notify us so that we can take appropriate follow-up action to narrow our federal approval of their programs before GHGs become subject to regulation for PSD and title V programs on January 2, 2011. Narrowing our approval will ensure that for federal purposes, GHG sources below the size thresholds we establish in this Tailoring Rule are not obligated to hold PSD or title V permits until the states develop and submit revised PSD and title V programs that EPA approves, either because they adopt our tailoring approach or because, if they continue to cover smaller GHG sources, the states have demonstrated that they have adequate resources to administer those programs.

The thresholds we are establishing are based on CO_2e for the aggregate sum of six greenhouse gases that constitute the pollutant that will be subject to regulation, which we refer to as GHGs.[5] These gases are: CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Thus, in this rule, we provide that PSD and title V applicability is based on the quantity that results when the mass emissions of each of these gases is multiplied by the Global Warming Potential (GWP) of that gas, and then summed for all six gases. However, we further provide that in order for a source's GHG emissions to trigger PSD or title V requirements, the quantity of the GHGs must equal or exceed both the applicability thresholds established in this rulemaking on a CO_2e basis and the statutory thresholds of 100 or 250 tpy on a mass basis.[6] Similarly, in order for a source to be subject to the PSD modification requirements, the source's net GHG emissions increase must exceed the applicable significance level on a CO_2e basis and must also result in a net mass increase of the constituent gases combined.

We are adopting this rule after careful consideration of numerous public comments. On October 27, 2009 (74 FR 55292), EPA proposed the GHG Tailoring Rule. EPA held two public hearings on the proposed rule, and received over 400,000 written public comments. The public comment period ended on December 28, 2009. The comments have provided detailed information that has helped EPA understand better the issues and potential impacts of this rule, and the final rule described in this preamble incorporates many of the suggestions we received. We respond to many of these comments in explaining our rationale for the final rule, which is described in section V. The final rule adopts many elements of the proposal but differs from the proposal in several important respects. We proposed to apply PSD and title V to GHG sources that emit or have the potential to emit at least 25,000 tpy CO_2e, and we proposed a PSD significance level in a range between 10,000 and 25,000 tpy CO_2e, but based on consideration of the additional information we received and our further analysis, we are finalizing the threshold levels in the amounts and on the schedule described previously. In addition, the mechanism for state, local, and tribal program implementation has been significantly changed to reflect the comments received that we needed to develop an implementation approach that states could adopt under state law more expeditiously.

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[5] The term "greenhouse gases" is commonly used to refer generally to gases that have heat-trapping properties. However, in this notice, unless noted otherwise, we use it to refer to specifically to the pollutant regulated in the LDVR.

[6] The relevant thresholds are 100 tpy for title V, and 250 tpy for PSD, except for 28 categories listed in EPA regulations for which the PSD threshold is 100 tpy.

The remainder of this notice describes our approach and rationale in more detail. Following this overview, section III of this preamble provides background information on the nature of GHG emissions, recent regulatory developments that affect when and how GHG emissions are subject to stationary source permitting, and the general requirements of the PSD and title V programs. Section IV describes in detail the summary of the key actions being taken in this rule, including the determination of emissions, the thresholds and timing for the phase-in, our approach to implementing the phase-in, and the additional future actions we will take. Section V provides a more detailed description of each action, explaining the policy and legal rationale and responding to comments received. Section V begins with our decisions on how to calculate the mass-based and CO_2e-based emissions used in the phase-in. Section V then turns to our legal and policy rationale for the first two steps of the phase-in, the 50,000 tpy floor, and the subsequent study and rulemakings to determine whether and how smaller sources should be subject to permitting. This section then describes key implementation issues including the approach to state adoption. After describing our plans for follow-up on title V fee programs, the section concludes by describing permit streamlining techniques; guidance on BACT for the GHG sources that are affected under the first two steps of the Tailoring Rule phase-in; requests for exemptions; and transitional issues, including grandfathering. Finally, section VI describes the expected impacts that will result from the phase-in approach (*i.e.*, the narrower application of PSD and title V requirements during the phase-in period) and sections VII and VIII address administrative requirements.

III. Background

A. What are GHGs and their sources?

Greenhouse gases trap the Earth's heat that would otherwise escape from the atmosphere into space, and form the ***31519** greenhouse effect that helps keep the Earth warm enough for life. Greenhouse gases are naturally present in the atmosphere and are also emitted by human activities. Human activities are intensifying the naturally occurring greenhouse effect by increasing the amount of GHGs in the atmosphere, which is changing the climate in a way that endangers human health, society, and the natural environment.

Some GHGs, such as CO_2, are emitted to the atmosphere through natural processes as well as human activities. Other gases, such as fluorinated gases, are created and emitted solely through human activities. As previously noted, the well-mixed GHGs of concern directly emitted by human activities include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. These six GHGs will, for the purposes of this final rule, be referred to collectively as "the six well-mixed GHGs," or, simply, GHGs, and together constitute the "air pollutant" upon which the GHG thresholds in this action are based. These six gases remain in the atmosphere for decades to centuries where they become well-mixed globally in the atmosphere. When they are emitted more quickly than natural processes can remove them from the atmosphere, their concentrations increase, thus increasing the greenhouse effect. The heating effect caused by the human-induced buildup of GHGs in the atmosphere is very likely the cause of most of the observed global warming over the last 50 years. A detailed explanation of greenhouse gases, climate change and its impact on health, society, and the environment is included in EPA's technical support document (TSD) for the endangerment finding final rule (Docket ID No. EPA-HQ-OAR-2009-0472-11292).

In the United States, the combustion of fossil fuels (*e.g.*, coal, oil, gas) is the largest source of CO_2 emissions and accounts for 80 percent of the total

GHG emissions. Anthropogenic CO_2 emissions released from a variety of sources, including through the use of fossil fuel combustion and cement production from geologically stored carbon (*e.g.*, coal, oil, and natural gas) that is hundreds of millions of years old, as well as anthropogenic CO_2 emissions from land-use changes such as deforestation, perturb the atmospheric concentration of CO_2 and the distribution of carbon within different reservoirs readjusts. More than half of the energy related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Of the six well-mixed GHGs, four (CO_2, CH_4, N_2O, and HFCs) are emitted by motor vehicles. In the United States industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important sources of GHGs.

Different GHGs have different heat-trapping capacities. The concept of GWP was developed to compare the heat-trapping capacity and atmospheric lifetime of one GHG to another. The definition of a GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period. When quantities of the different GHGs are multiplied by their GWPs, the different GHGs can be summed and compared on a CO_2e basis. For example, CH_4 has a GWP of 21, meaning each ton of CH_4 emissions would have 21 times as much impact on global warming over a 100-year time horizon as 1 ton of CO_2 emissions. Thus, on the basis of heat-trapping capability, 1 ton of CH_4 would equal 21 tons of CO_2e. The GWPs of the non-CO_2 GHGs range from 21 (for

CH_4) up to 23,900 (for SF_6). Aggregating all GHGs on a CO_2e basis at the source level allows a facility to evaluate its total GHG emissions contribution based on a single metric.

B. Endangerment Finding and the LDVR

1. Endangerment Finding

On April 2, 2007, the U.S. Supreme Court found that GHGs are air pollutants under CAA section 302(g). *Massachusetts* v. *EPA*, 549 U.S. 497 (2007). As a result, the Supreme Court found that EPA was required to determine, under CAA section 202(a), whether (1) GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or (2) the science is too uncertain to make a reasoned decision. After issuing a proposal and receiving comment, on December 7, 2009, the Administrator signed two distinct findings regarding GHGs under CAA section 202(a):

- *Endangerment Finding:* The Administrator found that the current and projected atmospheric concentrations of the mix of six long-lived and directly emitted GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 (referred to as "well-mixed greenhouse gases" in the endangerment finding)—are reasonably anticipated to endanger the public health and welfare of current and future generations.
- *Cause or Contribute Finding:* The Administrator found that the emissions of the single air pollutant defined as the

> aggregate group of six well-mixed greenhouses gases from new motor vehicles and new motor vehicle engines contributes to the GHG air pollution that threatens public health and welfare.

These findings, which were published December 15, 2009 (74 FR 66496), do not themselves impose any requirements on industry or other entities. However, they were a prerequisite to finalizing the GHG standards for light-duty vehicles, described next.

2. Light-Duty Vehicle Rule

The LDVR, 75 FR 25324 (May 7, 2010), is a joint rule between EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) that establishes a national program consisting of new standards for light-duty vehicles that will reduce GHG emissions and improve fuel economy. EPA finalized the national GHG emissions standards under the Act, and NHTSA finalized Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act, as amended. The new standards apply to new passenger cars, light-duty trucks, and medium-duty passenger vehicles, starting with model year 2012. The EPA GHG standards are projected to result in an estimated combined average emissions level of 250 grams of CO_2 per mile for model year 2016 vehicles. The standards begin with the 2012 model year, with standards increasing in stringency through model year 2016. The standards are a fleet average for each manufacturer, based on a footprint attribute curve, meaning that the actual target for a vehicle will vary depending on the size of the vehicle. Under the footprint-based standards, each manufacturer will have a GHG standard unique to its fleet, depending on the footprints of the vehicle models produced by that manufacturer. A manufacturer will have separate footprint-based standards for cars and for trucks.

The endangerment and contribution findings described previously require EPA to issue standards under section 202(a) "applicable to emission" of the air pollutant that EPA found causes or contributes to the air pollution that endangers public health and welfare. The final emissions standards satisfy this requirement for GHGs from light-duty vehicles. Under section 202(a), the Administrator has significant discretion in how to structure the standards that apply to the emission of the air pollutant at issue here, the aggregate group of six GHGs. EPA has the discretion under section 202(a) to adopt separate standards for each gas, a single ***31520** composite standard covering various gases, or any combination of these. In the LDVR, EPA finalized separate standards for N_2O and CH_4, and a CO_2 standard that provides for credits based on reductions of HFCs, as the appropriate way to issue standards applicable to emission of the single air pollutant, the aggregate group of six GHGs. EPA did not set any standards for PFCs or SF_6, as they are not emitted by motor vehicles.

C. *What are the general requirements of the PSD program?*

1. Overview of the PSD Program

The PSD program is a preconstruction review and permitting program applicable to new major stationary sources and major modifications at existing major stationary sources. The PSD program applies in areas that are designated "attainment" or "unclassifiable" for a National Ambient Air Quality Standard (NAAQS). The PSD program is contained in part C of title I of the CAA. The "nonattainment new source review (NSR)" program applies in areas not in attainment of a NAAQS or in the Ozone Transport Region and is implemented under the requirements of part D of title I of the CAA. Collectively, we commonly refer to these two programs as the major NSR program. The governing EPA rules are contained in 40 CFR 51.165, 51.166, 52.21, 52.24, and part 51, Appendices S and W. There is no NAAQS for CO_2 or any of the other well-mixed GHGs, nor has EPA proposed any such NAAQS; therefore, unless and until we take further such action, we do not anticipate that the nonattainment NSR program will apply to GHGs.

The applicability of PSD to a particular source must be determined in advance of construction or modification and is pollutant-specific. The primary criterion in determining PSD applicability for a proposed source is whether the source is a "major emitting facility," based on its predicted potential emissions of regulated pollutants, within the meaning of CAA section 169(1) and either constructs or undertakes a modification. EPA has implemented these requirements in its regulations, which use somewhat different terminology for determining PSD applicability, which is whether the source is a "major stationary source" or whether the proposed project is a "major modification."

a. Major Stationary Source

Under PSD, a "major stationary source" is any source belonging to a specified list of 28 source categories which emits or has the potential to emit 100 tpy or more of any pollutant subject to regulation under the CAA, or any other source type which emits or has the potential to emit such pollutants in amounts equal to or greater than 250 tpy. We refer to these levels as the 100/250-tpy thresholds. A new source with a potential to emit (PTE) at or above the applicable "major stationary source threshold" is subject to major source NSR. These limits originate from section 169 of the CAA, which applies PSD to any "major emitting facility" and defines the term to include any source that emits or has a PTE of 100 or 250 tpy, depending on the source category. Note that the major source definition incorporates the phrase "subject to regulation," which, as described later, will begin to include GHGs on January 2, 2011, under our interpretation of that phrase discussed in the recent Interpretive Memo notice. 75 FR 17004, April 2, 2010.

b. Major Modifications

PSD also applies to existing sources that undertake a "major modification," which occurs: (1) When there is a physical change in, or change in the method of operation of, a "major stationary source;" (2) the change results in a "significant" emission increase of a pollutant subject to regulation (equal to or above the significance level that EPA has set for the pollutant in 40 CFR 52.21(b)(23)); and (3) there is a "significant net emissions increase" of a pollutant subject to regulation that is equal to or above the significance level (defined in 40 CFR 52.21(b)(23)). Significance levels, which EPA has promulgated for criteria pollutants and certain other pollutants, represent a *de minimis* contribution to air quality problems. When EPA has not set a significance level for a regulated NSR pollutant, PSD applies to an increase of the pollutant in any amount (that is, in effect, the significance level is treated as zero).

2. General Requirements for PSD

This section provides a very brief summary of the main requirements of the PSD program. One principal requirement is that a new major source or major modification must apply BACT, which is determined on a case-by-case basis taking into account, among other factors, the cost effectiveness of the control and energy and environmental impacts. EPA has developed a "top-down" approach for BACT review, which involves a decision process that includes identification of all available control technologies, elimination of technically infeasible options, ranking of remaining options by control and cost effectiveness, and then selection of BACT. Under PSD, once a source is determined to be major for any regulated NSR pollutant, a BACT review is performed for each attainment pollutant that exceeds its PSD significance level as part of new construction or for modification projects at the source, where there is a significant increase and a significant net emissions increase of such pollutant.[7]

In addition to performing BACT, the source must analyze impacts on ambient air quality to assure that no violation of any NAAQS or PSD increments will result, and must analyze impacts on soil, vegetation, and visibility. In addition, sources or modifications that would impact Class I areas (*e.g.*, national parks) may be subject to additional requirements to protect air quality related values (AQRVs) that have been identified for such areas. Under PSD, if a source's proposed project may impact a Class I area, the Federal Land Manager is notified and is responsible for evaluating a source's projected impact on the AQRVs and recommending either approval or disapproval of the source's permit application based on anticipated impacts. There are currently no NAAQS or PSD increments established for GHGs, and therefore these PSD requirements would not apply for GHGs, even when PSD is triggered for GHGs. However, if PSD is triggered for a GHG emissions source, all regulated NSR pollutants which the new source emits in significant amounts would be subject to PSD requirements. Therefore, if a facility triggers review for regulated NSR pollutants that are non-GHG pollutants for which there are established NAAQS or increments, the air quality, additional impacts, and Class I requirements would apply to those pollutants.

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[7] We note that the PSD program has historically operated in this fashion for all pollutants—when new sources or modifications are "major," PSD applies to all pollutants that are emitted in significant quantities from the source or project. This rule does not alter that for sources or modifications that are major due to their GHG emissions.

The permitting authority must provide notice of its preliminary decision on a source's application for a PSD permit, and must provide an opportunity for comment by the public, industry, and other interested persons. After considering and responding to comments, the permitting authority must issue a final determination on the construction permit. Usually NSR permits are issued by state or local air ***31521** pollution control agencies, which have their own permit programs approved by EPA in their State Implementation Plans (SIPs). In some cases, EPA has delegated its authority to issue PSD permits to the state or local agency. In other areas, EPA issues the permits under its own authority.

D. What are the general requirements of the title V operating permits program?

1. Overview of Title V

The operating permit requirements under title V are intended to improve sources' compliance with other CAA requirements. The title V program is implemented through regulations promulgated by EPA, 40 CFR part 70, for programs implemented by state and local agencies and tribes, and 40 CFR part 71, for programs generally implemented by EPA.

In summary, the title V program requires major sources (defined and interpreted by EPA to include sources that emit or have a PTE of 100 tpy of any pollutant subject to regulation) and certain other sources to apply for operating permits. Under EPA's long-standing interpretation, a pollutant, such as a

GHG, is "subject to regulation" when it is subject to a CAA requirement establishing actual control of emissions. Title V generally does not add new pollution control requirements, but it does require that each permit contain all pollution control requirements or "applicable requirements" required by the CAA (*e.g.*, New Source Performance Standard (NSPS), and SIP requirements, including PSD), and it requires that certain procedural requirements be followed, especially with respect to compliance with these requirements. "Applicable requirements" for title V purposes include stationary source requirements, but do not include mobile source requirements. Other procedural requirements include providing review of permits by EPA, states, and the public, and requiring permit holders to track, report, and annually certify their compliance status with respect to their permit requirements.

2. Title V Permit Requirements

This section provides a brief summary of the requirements of the title V program that are most relevant to this action. A source generally must apply for a title V permit within 1 year of first becoming subject to permitting—for new sources, this is usually within 1 year of commencing operation. The application must include, among other things, identifying information, a description of emissions and other information necessary to determine applicability of requirements and information concerning compliance with those requirements. The permitting authority uses this information to develop the source's operating permit.

Title V permits generally contain the following elements: (1) Emissions limitations and standards to assure compliance with all applicable requirements; (2) monitoring, recordkeeping, and reporting requirements, including submittal of a semiannual monitoring report and prompt reporting of deviations from permit terms; (3) fee payment; and (4) an annual certification of certification by a responsible official. The detailed requirements are set forth at 40 CFR 70.6.

In addition to the permit content requirements, there are procedural requirements that must be followed in issuing title V permits, including (1) Application completeness determination; (2) public notice and a 30-day public comment period, including an opportunity for a public hearing, on draft permits; (3) EPA and affected state review; and (4) a statement of the legal and factual basis of the draft permit. The permitting authority must take final action (issue or deny) on the permit applications within 18 months of receipt. EPA also has 45 days from receipt of a proposed permit to object to its issuance, and citizens have 60 days after that to petition EPA to object to a permit. Permits may also need to be revised or reopened if new requirements come into effect during the permit terms or if the source makes changes that conflict with, or necessitate changes to, the current permit. Permit revisions and re-openings follow procedural requirements which vary depending on the nature of the necessary change to the permit.

E. The Interpretive Memo

On December 18, 2008, EPA issued a memorandum, "EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program" (known as the "Johnson Memo" or the "PSD Interpretive Memo," and referred to in this preamble as the "Interpretive Memo") that set forth EPA's interpretation regarding which EPA and state actions, with respect to a previously unregulated pollutant, cause that pollutant to become "subject to regulation" under the Act. Whether a pollutant is "subject to regulation" is important for the purposes of determining whether it is covered under the federal PSD and title V permitting programs. The Interpretive Memo established that a pollutant is "subject to regulation" only if it is subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant (referred to as the "actual control interpretation"). On February 17, 2009, EPA granted a petition for reconsideration on the Interpretive Memo, and announced its intent to conduct a rulemaking to allow for public comment on the issues raised in the memorandum and on related issues. EPA also clarified that the Interpretive Memo would remain in effect pending reconsideration.

On March 29, 2010, EPA signed a notice conveying its decision to continue applying (with one limited refinement) the Interpretive Memo's interpretation of "subject to regulation" ("Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs"). *See* 75 FR 17004. EPA concluded that the "actual control interpretation" is the most appropriate interpretation to apply given the policy implications. However, we refined our interpretation in one respect: we established that PSD permitting requirements apply to a newly regulated pollutant at the time a regulatory requirement to control emissions of that pollutant "takes effect" (rather than upon promulgation or the legal effective date of the regulation containing such a requirement). In addition, based on the anticipated promulgation of the LDVR, we stated that the GHG requirements of the vehicle rule would take effect on January 2, 2011, because that is the earliest date that a 2012 model year vehicle may be introduced into commerce. In other words, the compliance obligation under the LDVR does not occur until a manufacturer may introduce into commerce vehicles that are required to comply with GHG standards, which will begin with model year 2012 and will not occur before January 2, 2011. We also reiterated EPA's interpretation that the 100 tpy major source threshold for title V is triggered only by pollutants "subject to regulation" under the Act, and we defined and applied that term for title V purposes in the same way that we did for PSD purposes. That is, we stated that a pollutant is "subject to regulation" if it is subject to a CAA requirement establishing "actual control of emissions;" that a pollutant is considered "subject to regulation" for title V purposes when such a requirement "takes effect"; and, based on the anticipated promulgation of the LDVR, that the GHG requirements of the ***31522** vehicle rule would take effect on January 2, 2011.

On April 1, 2010, we finalized the LDVR as anticipated, confirming that manufacturer certification can occur no earlier than

January 2, 2011. Thus, under the terms of the final notice for the Interpretive Memo, GHGs become subject to regulation on that date, and PSD and title V program requirements will also begin to apply upon that date.

IV. Summary of Final Actions

This section describes the specific actions we are taking in this final rule. It describes the overall tailoring approach for NSR and title V applicability, the steps we are taking to put it into place, and future actions that we commit to take. The next section, V, provides the legal and policy rationale for these actions. In that section, we provide a description of our rationale and response to comments for each action, presented in the same order as we describe the actions here.

A. How do you define the GHG pollutant for PSD and title V purposes?

1. GHG Pollutant Defined as the Sum-of-Six Well-Mixed GHGs

We are identifying the air pollutant for purposes of PSD and title V applicability to be the pollutant subject to regulation, which is the air pollutant for GHGs identified in EPA's LDVR, as well as EPA's endangerment and contribution findings.[8] In the LDVR, EPA set emissions standards under section 202(a) that were "applicable to emission" of a single air pollutant defined as the aggregate sum of six GHGs. The six GHGs, which are well-mixed gases in the atmosphere, are CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Earlier, EPA made the contribution finding for this single air pollutant.

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[8] *See* 74 FR 66496, 66499, 66536-7. December 15, 2009.

Furthermore, as proposed, we are using an emissions threshold that allows all six constituent gases to be evaluated using a common metric—CO_2e. Thus, to determine applicability, a source's GHG emissions are calculated on a CO_2e basis by multiplying the mass emissions of any of the six GHGs that the source emits by that gas's GWP and then summing the CO_2e for each GHG emitted by the source. This sum, expressed in terms of tpy CO_2e, is then compared to the applicable CO_2e-based permitting threshold to determine whether the source is subject to PSD and title V requirements.

In addition, because we are implementing this phase-in through the term "subject to regulation," the regulatory language is structured such that the statutory mass-based thresholds (*i.e.*, for PSD, 100/250 tpy for new construction and zero tpy for modifications at a major stationary source, and for title V, 100 tpy) continue to apply. As a result, stationary source apply and stationary sources or modifications that do not meet these thresholds are not subject to permitting requirements. While technically evaluation of the mass-based thresholds is the second step in the applicability analysis, from a practical standpoint most sources are likely to treat this as an initial screen, so that if they would not trigger PSD or title V on a mass basis, they would not proceed to evaluate emissions on a CO_2e basis. We have treated evaluation of mass-based thresholds as the initial step in our descriptions. As applicable, a source would evaluate these mass-based thresholds by summing each of the six GHGs it emits on a mass basis (*i.e.*, before applying GWP). We expect that it will be very rare for a new stationary source or modification to trigger permitting based on CO_2e and not also trigger based on mass alone.

Determining permit program applicability for the GHG "air pollutant" by using the sum-of-six GHGs is based on EPA's interpretation that the PSD and title V requirements apply to each "air pollutant" that is "subject to regulation" under another provision of the CAA. As discussed previously, the final LDVR for GHGs makes it clear that the emissions standards EPA adopted are standards applicable to emission of the single air pollutant defined as the aggregate mix of these six well-mixed GHGs. *See* LDVR, May 7, 2010, 75 FR 25398-99, section III.A.2.c, and 40 CFR 86.1818-12.[9] For reasons explained in more detail in section V, we have determined it is legally required, and preferable from a policy standpoint, for EPA to use the same definition of the air pollutant for permitting purposes as that used in the rule that establishes the control requirements for the pollutant. We also believe there are implementation advantages for applying PSD and title V in this way. Thus, this rule establishes that a stationary source will use the group of six constituent gases for permitting applicability, rather than treating each gas individually. Similarly, you will include all six constituent gases because that is how the air pollutant is defined, even though motor vehicles only emit four of the six.

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[9] 40 CFR 86.1818-12(a).

2. What GWP values should be used for calculating CO_2e?

We are requiring that wherever you perform an emissions calculations involving CO_2e for the purposes of determining the applicability of PSD or title V requirements, you use the GWP values codified in the EPA's mandatory GHG reporting rule.[10] This approach will assure consistency between the values required for calculations under the reporting rule and for PSD or title V. In addition, because any changes to Table A-1 of the mandatory GHG reporting rule regulatory text must go through a rulemaking, this approach will assure that the values used for the permitting programs will reflect the latest values adopted for usage by EPA after notice and comment.

B. When will PSD and title V applicability begin for GHGs and emission sources?

Overview

In this action, we establish the first two phases of our phase-in approach, which we refer to as Steps 1 and 2. We also commit to a subsequent rulemaking in which we will propose or solicit comment on establishing a further phase-in, that is, a Step 3, that would apply PSD and title V to additional sources, effective July 1, 2013, and on which we commit to take final action, as supported by the record,[11] by no later than July 1, 2012.

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[10] Table A-1 to subpart A of 40 CFR part 98—Global Warming Potentials, 74 FR 56395.

We also commit to undertaking an assessment of sources' and permitting authorities' progress in implementing PSD and title V for GHG sources, and to complete this assessment by 2015. We further commit to completing another round of rulemaking addressing smaller sources by April 30, 2016. Our action in that rulemaking would address permitting requirements for smaller sources, taking into account the remaining problems concerning costs to sources and burdens to permitting authorities. Finally, we determine in this action that we will apply PSD or title V requirements to sources that emit GHGs, or that conduct modifications that result in increases in emissions of GHGs, in amounts of less than 50,000 tpy CO_2e any earlier than when we take the required further action to address smaller sources by April 30, 2016.

***31523** Through this process, we will implement the phase-in approach by applying PSD and title V at threshold levels that are as close to the statutory levels as possible, and do so as quickly as possible, at least to a certain point. The level and timing of the thresholds that we promulgate in future actions will be based on our assessment of the resulting costs to sources and burdens to permitting authorities, and that, in turn, will depend on such variables as our progress in developing streamlining approaches and on permitting authorities' progress in developing permitting expertise and acquiring more resources. At this time, we cannot foresee exactly when or in what manner those developments will occur. Therefore, we cannot promulgate more components of the tailoring approach beyond what we promulgate in this action. We can say only that we may continue the phase-in process with further rulemaking after 2016. Alternatively, we may make a definitive determination in one of the future rulemaking actions that, under the "absurd results" doctrine, PSD or title V applies only to certain GHG sources, and does not apply to the remaining GHG sources, and with that rulemaking, bring this tailoring process to a close.

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[11] Although we commit to propose or solicit comment on lower thresholds and to take final action on that proposal by July 1, 2012, we cannot, at present, commit to promulgate lower thresholds. It will not be until the Step 3 rulemaking itself that we will gather and analyze data and receive comments that determine whether we have basis for promulgating lower thresholds.

1. What are the Step 1 thresholds, timing, and calculation methodology?

a. PSD Permitting

Step 1 of the Tailoring Rule phase-in will begin on January 2, 2011. With respect to the PSD program, GHG sources will become subject to PSD for their GHG emissions if they undergo PSD permitting anyway, either for new construction or for modification projects, based on emissions of non-GHG pollutants, in which case they will be subject to the PSD requirements for GHG if they increase GHG emissions by 75,000 tpy CO_2e or more. Under this step, only these sources, which we refer to as "anyway" PSD sources, will become subject to PSD; no sources will become major sources for PSD purposes or be treated as undertaking modifications that trigger PSD based solely on their GHG emissions. As a result, no additional PSD permitting actions will be necessary solely due to GHG emissions. However, existing or newly-constructed sources that are determined to be major sources based on non-GHG emissions are required to conduct a BACT review for their GHG emissions (from new construction) or emissions increases (from modifications), if they are subject to PSD due to their non-GHG emissions from construction or modification actions and each of the following conditions is met:

> (1) The GHG emissions (or net emissions increase) due to the new construction (or modification) project, calculated as the sum of the six well-mixed GHGs on a mass basis (no GWPs applied) exceed a value of 0 tpy; and
>
> (2) The GHG emissions (or net emissions increase) due to the new construction (or modification) project, calculated as the sum of the six well-mixed GHGs on a CO_2e basis (GWPs applied) equal or exceed a value of 75,000 tpy CO_2e.

The purpose of the first condition is to determine whether the GHG emissions or net emissions increase has resulted in an "increase in the amount" of an air pollutant as required by the Act. Because EPA has not defined a mass-based regulatory significance level for GHGs, that level, in effect, is treated as zero. *See* 40 CFR 52.21(b)(23)(ii) and 51.166(b)(23)(ii). In practice, this means any amount of new emissions or an emission increase will exceed the mass-based limit. We are not, at this time, establishing a significance level based on mass emissions, and instead we are establishing one based on CO_2e that addresses permitting burdens. The zero mass-based amount applies, but only as an initial screen to exclude sources or changes that have no mass increase of GHGs.

b. Title V Permitting

Under Step 1, only sources required to have title V permits for non-GHG pollutants (*i.e.*, "anyway" title V sources) will be required to address GHGs as part of their title V permitting. That is, no sources will become major for title V based solely on their GHG emissions. Note further, however, that the 75,000 tpy CO_2e limit does not apply to title V, so that anyway title V sources must apply any title V requirements to their GHG emissions. Sources with title V permits must address GHG requirements when they apply for, renew, or revise their permits. These requirements will include any GHG applicable requirements (*e.g.*, GHG BACT requirements from a PSD process) and associated monitoring, recordkeeping and reporting. When a permit application is otherwise required, they will also need to identify GHG emissions and other information in that application to the extent required under 40 CFR 70.5(c) and 71.5(c), including information necessary to determine applicable requirements.[12]

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[12] EPA notes, however, that many sources subject to title V under Steps 1 and 2 will also be subject to the GHG mandatory reporting rule. For these sources, the emissions description requirements in the title V regulations will generally be satisfied by referencing information provided under the reporting rule.

2. What are the Step 2 thresholds, timing, and calculation methodology?

a. PSD Permitting

Step 2 will begin July 1, 2011. Under Step 2, anyway PSD sources—that is, sources already subject to PSD based on non-GHGs and covered under Step 1 previously—will remain subject to PSD. In addition, sources with the potential to emit 100,000 tpy CO_2e or more of GHG will be considered major sources for PSD permitting purposes (provided that they also emit GHGs or some other regulated NSR pollutant above the 100/250 tpy (mass based) statutory thresholds. Additionally, any physical change or change in the method of operation at a major source (including one that is only major due to GHGs) resulting in a net GHG emissions increase of 75,000 tpy CO_2e or more will be subject to PSD review and requirements with respect to GHGs (provided that it also results in an increase of GHG emissions on a mass basis).

Specifically, for purposes of determining whether a GHG emission source, resulting from either new construction or a physical or operational change at an existing source, is considered a major source under PSD, both of the following conditions must be met:

(1) The GHG emission source, which is not major for another pollutant, emits or has the potential to emit GHG in amounts that equal or exceed the following, calculated as the sum-of-six well-mixed GHGs on a mass basis (no GWPs applied):

- 100 tpy for sources in any of the 28 major emitting facility source categories listed under PSD, or
- 250 tpy for any other stationary source.

(2) The GHG emission source emits or has the potential to emit GHGs in amounts that equal or exceed 100,000 tpy CO_2e basis.

For determining whether a modification project at a major stationary source is subject to PSD review, both of the following conditions must be met:

(1) The net GHG emissions increase resulting from the project, calculated as the sum-of-six well-mixed GHGs on a mass basis (no GWPs applied) equals or exceeds 0 tpy.

(2) The net GHG emissions increase resulting from the project, calculated as the sum-of-six well-mixed GHGs on a ***31524** CO_2e basis (GWPs applied) equals or exceeds 75,000 tpy CO_2e.

The purpose of the first condition in both of these determinations is to confirm whether the GHG emissions or emissions increase have exceeded, on a mass-basis, the statutory major source thresholds (where the source is not otherwise major) and mass-based statutory significance level for GHGs, which, as noted previously, is 0 tpy. *See* 40 CFR 52.21(b)(23)(ii) and 51.166(b)(23)(ii).

As an example of how the mass-based test would apply, consider a modification project that results in a 5 tpy increase of GHG emissions on a mass basis, associated with a high-GWP GHG gas (for example, SF_6, with a GWP value of 23,900), but also results in a 100 tpy reduction in CO_2e missions (assume no other contemporaneous increases or decreases of GHG). In this example, there would be a net decrease of GHG emissions on a mass basis (5 tpy-100 tpy = -95 tpy). Because there is no mass-based increase of GHG, this project does not trigger PSD, despite the fact that the net GWP-adjusted emissions increase of SF_6 in this example would equal 119,500 tpy of CO_2e and the project would thus exceed 75,000 tpy CO_2e.

b. Title V Permitting

Under Step 2, "anyway" title V sources—that is, sources already subject to title V based on non-GHGs and that are covered under Step 1 previously—will continue to be subject to title V. In addition, GHG emission sources that equal or exceed the 100,000 tpy CO_2e threshold will be required to obtain a title V permit if they do not already have one. It is important to note that the requirement to obtain a title V permit will not, by itself, result in the triggering of additional substantive requirements for control of GHG. Rather, these new title V permits will simply incorporate whatever applicable CAA requirements, if any, apply to the source being permitted. Both of the following conditions need to be met in order for title V to apply under Step 2 to a GHG emission source:

> (1) An existing or newly constructed source emits or has the potential to emit GHGs in amounts that equal or exceed 100 tpy calculated as the sum of the six well-mixed GHGs on a mass basis (no GWPs applied).

(2) An existing or newly constructed source emits or has the potential to emit GHGs in amounts that equal or exceed 100,000 tpy calculated as the sum of the six well-mixed GHGs on a CO_2e basis (GWPs applied).

3. What about Step 3?

In this rule, EPA establishes an enforceable commitment to complete another rulemaking no later than July 1, 2012, in which we will propose or solicit comment on a Step 3 of the phase-in and may also consider other approaches that may result in the permanent exclusion of a category of sources from PSD or title V requirements, under the *Chevron* framework, taking account of the "absurd results" doctrine.

Consistent with our phase-in approach, it is important for us to consider whether, at some point during the implementation of Step 2, it will become possible to administer GHG permitting programs for additional sources. For example, if EPA is able to promulgate measures that streamline programs to at least some extent, if permitting authorities increase their resources, or if implementation experience and more seasoned staff results in more effective use of scarce permitting resources, then we expect that we will be able to phase in the application of PSD and title V to more sources by establishing Step 3. We do not have enough information now to establish a final Step 3, particularly because there will be significant transition occurring in the GHG permitting programs during Steps 1 and 2. However, we believe that it will be possible to develop a record on which to base Step 3 sometime soon after we begin to implement Step 2.

Therefore, we plan to propose a rule in which we solicit comment on or propose lower thresholds for PSD and title V applicability, and we establish an enforceable commitment to finalize a rule in which we address those matters by July 1, 2012. In order to provide a year for permitting authorities and sources to prepare for any additional GHG permitting action in Step 3, we will establish that Step 3 would take effect on July 1, 2013. We also commit to explore, between now and the Step 3 proposal, a wide range of streamlining options. In the proposal, we will take comment on streamlining approaches we think may be viable (except to the extent we will have already issued guidance documents concerning streamlining approaches), and we will address those options in the final rule.

In addition, as part of the Step 3 action, we may solicit comment on a permanent exclusion of certain sources from PSD, title V or both, based on an "absurd results" rationale. For example, we may make a final determination that under the "absurd results" doctrine, PSD and/or title V do not apply to a set of GHG sources that, although above the statutory thresholds for those programs, are too small and relatively inconsequential in terms of GHG contribution. Another type of such exclusion for the title V program could be for sources that would otherwise be required to obtain an "empty permit," that is, for example, one that would not contain any applicable requirements because there are none that apply to the source. If we promulgate a permanent exclusion, we may conclude that by that time, we will have brought into the PSD and title V programs the full set of sources that would be consistent with congressional intent (or, if congressional intent on that point is unclear, with a reasonable policy consistent with statutory requirements) and, under those circumstances, we would find that such a rule brings the tailoring process to a close. The application of the "absurd results" rationale for a permanent exclusion is discussed in more detail in section V.B, later in this preamble.

4. What about the proposed 6-year exclusion for smaller sources?

The tailoring proposal contemplated at least a 6-year exclusion from permitting for small sources. This proposed exclusion was based on the overwhelming numbers of permitting actions at small sources and the need for time for permitting authorities to secure resources, hire and train staff, and gain experience with GHG permitting for new types of sources and technologies. It was also based on the time needed for EPA to develop, and for states to adopt, streamlining measures to reduce the permitting burden (*e.g.*, concerning PTE, presumptive BACT, or general permits). We therefore proposed such an exclusion, and proposed that it would last 6 years—5 years to complete a required study evaluating permitting burden and assessing the effect of streamlining measures or techniques in reducing this burden, plus an additional year to complete a final rulemaking that would phase in additional sources as appropriate based on the study.

We are finalizing the 6-year exclusion, and for reasons described later, are establishing that in no event will sources below 50,000 tpy CO_2e be subject to PSD or title V permitting during the 6-year period, nor will modifications be subject to PSD unless they increase emissions by 50,000 tpy CO_2e or more. The exclusion will last until we take the action described later to address smaller sources, which is required by April 30, 2016. The exclusion provides certainty that, before this date, EPA will not act to cover ***31525** sources and modifications below these thresholds, including during the required Step 3 rulemaking that will occur in 2012. In effect, this means that Step 3 will establish a major source threshold and significance level no lower than 50,000 tpy CO_2e. This does not necessarily mean we will cover sources below this level on April 30, 2016. It simply means that the provision we are adopting would assure that EPA does not cover such sources any sooner than that.

5. When and how will EPA take further action on smaller sources?

As we proposed, we are establishing an enforceable commitment to act within 5 years to complete a study projecting the administrative burdens that remain for small sources after permitting authorities have had time to secure resources, hire and train staff, and gain experience with GHG permitting for new types of sources and technologies, and after EPA has had time to develop (and states have had time to adopt) streamlining measures to reduce the permitting burden for such sources. We will use the results of this study to serve as the basis for an additional rulemaking that would take further action to address small sources. Similar to the enforceable commitment to act on Step 3, we are making an enforceable commitment to complete this rulemaking by April 30, 2016.

We cannot predict at this time what form that final action will take. It could function as a Step 4, bringing in additional sources based on, for example, streamlining actions, increased permitting authority resources, and experienced and more efficient permitting staff; and it could further indicate that we intend to follow-up with a Step 5 to bring in more sources. Alternatively, it could also function as a final step excluding certain sources permanently based on our application of the *Chevron* framework, taking account of the "absurd results" doctrine, and subjecting the remaining sources to permitting. However, whatever final action we take would explain any necessary changes to the Step 3 thresholds and would supersede the 6-year exclusion for sources and modifications below 50,000 tpy CO_2e.

C. How do state, local and tribal area programs adopt the final GHG applicability thresholds?

We are finalizing our proposed approach to change the definition of "major stationary source" in the PSD implementing regulations, and the "major source" definition in the title V implementing regulations to tailor the application of these permitting programs to GHG emissions. We are also finalizing a significance level for GHG emissions for purposes of defining a major modification under the PSD program, and add an exclusion from PSD and title V permitting for GHG emissions, until we complete a rulemaking required by April 30, 2016, for any sources that are not already subject to PSD and title V permitting and that emit less than 50,000 tpy of CO_2e.

As explained earlier, we are adopting thresholds that phase in the applicability of GHG permitting over a specified time period. In adopting regulatory changes to implement these thresholds, we follow an approach that is substantively the same as the approach proposed, but takes a different form for purposes of revisions to our PSD and title V regulations. Specifically, in this final rule, for our regulations, in conjunction with the definitions of "major stationary source" and "major modification" (for PSD) and "major source" (for title V), we are adopting a definition of the term "subject to regulation." Moreover, we are defining this term so that GHG emissions from sources above the threshold are treated as subject to regulation, and therefore the sources that emit them are subject to PSD and title V. We are not finalizing the approach we proposed, which was to revise the numerical thresholds in the definitions so that GHG sources would have a higher threshold. Although we are defining the term "subject to regulation," we recognize that from a substantive standpoint, our tailoring approach entails interpreting the definitions of "major emitting facility," "major modification," and "major source" to phase in the applicability of PSD and title V, as applicable, to GHG sources, and it makes no difference whether we interpret those definitions through a definition of the term "subject to regulation," revising the numerical thresholds, or revising other terms in those definitions.

We are adopting definitions of the term "subject to regulation" to implement the tailoring approach because that will facilitate rapid implementation of the final rules by states. Under this approach, states may not need to undertake a regulatory or legislative action before implementing the final rule. These states would be able to establish their interpretations of the term "subject to regulation" used in existing state rules before January 2, 2011, which is the date that the LDVR and permitting requirements would take effect, and thereby exempt sources below the threshold from PSD and title V as a matter of both federal and state law. We are also codifying in this definition EPA interpretations discussed in our recent action "Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs" (75 FR 17704) to provide a complete picture of the meaning of this phrase as it applies to all air pollutants.

Because we are finalizing the rule in a manner that will allow most states to rapidly implement the final rule, and because our recent action on the Interpretive Memo allowed for a longer transition time than we anticipated at proposal, we are delaying final action on our proposal to issue limited approvals for SIP-approved PSD programs and part 70 operating permit programs.[13] Instead, we are requesting that states submit information to the appropriate EPA Regional Administrator by August 2, 2010 so that we may determine whether it is still necessary to finalize any of our proposed limited approvals for any SIP-approved PSD and part 70 title V state programs. In that letter, states should explain whether they will apply the meaning of the term "subject to regulation" established by EPA in this action in implementing both their PSD and part 70 title V permitting programs, and if so, whether the state intends to do so without undertaking a regulatory or legislative process. If a state must revise its statutes or regulations to implement this rule, we ask that it provide an estimate of the time to adopt final rules in its letter to the Regional Administrator. If a state chooses not to apply the approach reflected in this rule, the letter should address whether the state has alternative authority to implement the final rule's tailoring approach or some other approach that is at least as stringent, but which also addresses the expected shortfalls in personnel and funding that would exist if the state carried out permitting at thresholds lower than those in the final rules. For any state that is unable or unwilling to apply the permitting thresholds in the final rules, and otherwise is unable to demonstrate adequate personnel and funding, or alternate authority to permit GHG emissions sources consistent with the final rules, EPA will move forward with finalizing a limited approval of the state's permitting program. By the same token, if we do not receive a letter from ***31526** a state in response to this request by August 2, 2010, we will be obliged to move forward with finalizing a narrowing of our approval of the existing SIP or title V program.

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[13] In the alternative, we also proposed to use our 110(k)(6) error correction authority to revise SIP-approved PSD programs.

We also ask any state that currently lacks authority to issue PSD or title V permits to any GHG emissions sources to notify the EPA Regional Administrator by letter as to whether the state intends to undertake rulemaking to revise its rules consistent with these applicability thresholds. For any state that lacks the ability to issue PSD or title V permits for GHG emissions sources consistent with the final rule, we intend to undertake a separate action to call for revisions to these programs. We also intend to move quickly to impose a Federal

Implementation Plan (FIP) for PSD through 40 CFR 52.21, and use our federal title V authority to ensure that GHG sources will be permitted consistent with the final rules. Our request for information from states is discussed further in section V.C.

D. How do you treat GHGs for purposes of title V permit fees?

We are not amending the title V regulations for fees at this time, including any of the provisions specifying the presumptive minimum fee. We are also not, at this time, calling for each state, local or tribal program to submit new fee adequacy demonstrations as a result of increased GHG permitting workload during Steps 1 and 2. However, as described in section VI.D the statutory and regulatory requirement to collect fees sufficient to cover all reasonable (direct and indirect) costs required to develop and administer title V programs still applies. Therefore, we are recommending that each program review its resource needs for GHG-emitting sources and determine if the existing fee approaches will be adequate. If those approaches will not be adequate, we suggest that state, local and tribal agencies should be proactive in raising fees to cover the direct and indirect costs of the program or develop other alternative approaches to meet the shortfall. We will closely monitor approved title V programs during implementation of the first two steps of the Tailoring Rule to ensure that the added workload from incorporating GHGs into the permit program does not result in fee shortfalls that imperil operating permit program implementation and enforcement. In developing alternative approaches, we note the value of approaches that do not require a perton fee for GHG and therefore do not require a GHG inventory to develop. Finally, we offer to work with permitting authorities that request our assistance with developing fee approaches.

E. Other Actions and Issues

This section describes other actions we intend to take in the future related to GHG permitting in addition to the actions that we are promulgating with this final rule. This section also responds to commenters' suggestions that we undertake certain additional actions in this rule, which we decline to do.

1. Timing for Permit Streamlining Techniques

As described at proposal, we intend to develop a series of streamlining approaches as an integral part of our phase-in approach. The approaches we described at proposal included: (1) Defining PTE for various source categories, (2) establishing emission limits for various source categories that constitute presumptive BACT, (3) establishing procedures for use of general permits and permits-by-rule, (4) establishing procedures for electronic permitting, and (5) applying lean techniques to establish more efficient permitting processes. Taken as a whole, these techniques have the potential to obviate the applicability of PSD and title V requirements for some GHG-emitting sources; promote more efficient treatment of GHG-emitting sources that will already be subject to PSD and title V; and allow the expeditious expansion of PSD and title V applicability to more GHG-emitting sources while protecting those sources and the permitting authorities from undue expenses.

As a result, we fully intend to move forward expeditiously with developing streamlining approaches. However, for reasons discussed in section V.E, we do not expect to develop and implement any of these approaches before Step 2 begins. Moreover, we generally expect that each of the first three—which are the most far-reaching—will take several years to implement because we will need to undertake notice and comment rulemaking to develop them, and then the permitting authorities will need to adopt them through the appropriate state or local processes. We commit to explore a wide range of possible approaches before the Step 3 rulemaking, and, in that rulemaking, to propose those that we think may be viable once we have had time to gather and review key supporting data, and once the states and we have key implementation experience that can inform our thinking. Because the streamlining approaches generally carry uncertainty—as demonstrated by comments we received raising legal and policy concerns, as discussed later, that we will have to address—we cannot commit with this action to adopt any streamlining actions in particular, nor to adopting them on any particular schedule. However, we intend to pursue streamlining options as expeditiously as possible, beginning immediately and proceeding throughout the phase-in period, and we encourage permitting authorities to do the same.

2. Guidance for BACT Determinations

Through this final rule we are not amending our regulations or issuing guidance on BACT for GHGs. As described in our proposal, we recognize the need to develop and issue technical and policy guidance for permitting of GHGs, and we plan to accomplish it through a separate effort that will involve stakeholder input. This effort is already underway; in addition to comments EPA received on the proposed Tailoring Rule related to GHG BACT guidance and information needs, EPA received a suite of recommendations from the Clean Air Act Advisory Committee (CAAAC) to which EPA is actively responding. This includes technical guidance and database tools that EPA anticipates issuing by June 2010, and policy guidance that will be issued by the end of 2010. Thus, this important information will be available to support permitting agencies in their BACT determinations at the time that the GHGs become a regulated NSR pollutant, once the LDVR takes effect in January 2011. EPA is confident that these measures will help support a smooth transition to permitting emissions of GHGs.

3. Requests for Higher Category-Specific Thresholds and Exemptions From Applicability

EPA has decided not to provide exemptions from applicability determinations (major source and major modification) under title V and PSD for certain GHG emission sources, emission activities, or types of emissions at this time. Commenters requested several applicability exemptions with respect to GHGs from, for example, agricultural sources, residential sources, small businesses, energy-intensive industrial processes (*e.g.*, aluminum, steel, cement, glass, and pulp and paper manufacturers), lime production, semiconductor production, poultry production, solid waste landfills, biomass combustion/biogenic emissions, fugitive emissions, and pollution control projects. For reasons explained in section V.E, we have ***31527** decided to address the need for tailoring through a uniform threshold-based approach, rather than through a collection of various specific exclusions.

4. Transitional Issues Including Requests for Grandfathering

For reasons explained in section V.E, EPA has determined that transitional issues for pending applications and permitted sources are adequately addressed by existing requirements and the amount of lead time provided before permitting requirements apply to GHGs under this rule and the March 29, 2010 final action regarding the Interpretive memo. This rule does not contain any additional exemptions or grandfathering provisions addressing the transition to PSD and title V permitting for GHGs.

We are not promulgating an exemption for PSD permit applications that are pending when Step 1 of the permitting phase-in begins for those sources that would otherwise need to obtain a PSD permit based on emissions of pollutants other than GHGs. Any PSD permits issued to such Step 1 sources on or after January 2, 2011 will need to address GHGs. This action makes no change to the position we expressed on this issue on April 2, 2010.

Final PSD permits issued before January 2, 2011 need not be reopened or amended to incorporate requirements for GHGs that take effect after the permit is issued. A source that is authorized to construct under a PSD permit but has not yet begun actual construction on January 2, 2011 may begin actual construction after that date without having to amend the previously-issued PSD permit to incorporate GHG requirements, provided the permit has not expired.

Sources that are not subject to PSD permitting requirements until Step 2 need not obtain a PSD permit addressing GHGs in order to continue any actual construction that begins before July 1, 2011, when such a source was not a major stationary source required to obtain a PSD permit. However, Step 2 sources that begin actual construction in Step 2 may do so only after obtaining a PSD permit.

The title V permitting regulations already include a robust set of provisions to address the incorporation of new applicable requirements and other transitional considerations. A title V source applying for the first time must submit its permit application within 12 months after the source becomes subject to the operating permit program or an earlier time at the discretion of the permitting authority. Where a source is required to obtain a PSD permit, the source must apply for a title V permit or permit revision within 12 months of commencing operation or on or before such earlier date as the permitting authority may establish. Where additional applicable requirements become applicable to a source after it submits its permit application, but prior to release of a draft permit, the source is obligated to supplement its application. Permitting authorities may also ask for additional information during the processing of an application. In addition, where a source that already has a title V permit becomes subject to additional applicable requirements, the permitting authority is required to reopen the permit to add those applicable requirements if the permit term has 3 or more years remaining and the applicable requirements will be in effect prior to the date the permit is due to expire.

V. What Is the Legal and Policy Rationale for the Final Actions?

In this section, we describe the legal and policy rationale for our action, including our rationale for the following: (1) Our approach to calculating GHG emissions for PSD and title V applicability purposes, (2) our approach to establishing the thresholds and timing of PSD and title V applicability to GHG emissions sources; (3) how state, local, and tribal area programs adopt the final GHG applicability thresholds; (4) treatment of GHGs for title V permit fees; (5) future activities, including streamlining actions. We present the rationale description in the following five subsections, corresponding to the basic presentation of the approach in section IV.

A. Rationale for Our Approach to Calculating GHG Emissions for PSD and Title V Applicability Purposes

1. Grouping of GHGs Into a Single Pollutant

In this section, we explain our treatment of the air pollutant at issue for purposes of PSD and title V, such that sources that emit that pollutant in the requisite quantities become subject to PSD and/or title V requirements. We explain our rationale for treating the GHG air pollutant as a combined group of six GHGs instead of six separate air pollutants defined by each individual GHG, and our rationale for including all six of the GHGs in that group. We also define the GHG metric to use for comparison to the applicability thresholds.

We proposed to identify the air pollutant as the aggregate group of the six GHGs that comprise the GHG pollutant, and to use a GHG metric for the applicability thresholds based on CO_2e. The summed CO_2e emissions would then be compared to the applicable permitting threshold to determine whether the source is subject to PSD and title V requirements. Historically, the PSD and title V regulatory provisions do not, in the first instance, define the "air pollutant" to which they apply, but rather rely for the definition of the pollutant on a cross-reference to the regulatory provision under another part of the Act that establishes the emission standards or limits for that pollutant that in turn causes the pollutant to be subject to regulation under PSD and title V permitting. As an example, the pollutant "total reduced sulfur" (TRS) is a pollutant comprised of the sum of multiple compounds that was originally defined under the NSPS, subpart BB, Standards of Performance for Kraft Pulp Mills, which then caused it to be subject to regulation under the PSD program. The actual compounds that define the pollutant TRS are identified in the NSPS. The PSD program regulations did not introduce its own independent definition of TRS, but instead relied on the definition as contained in the Kraft Pulp Mills NSPS.

However, at the time of our proposal, the endangerment and cause or contribute findings had not been completed and the LDVR for GHGs had not been finalized. Thus, there was no final agency action defining the "air pollutant" consisting of GHGs to be considered "subject to regulation." Absent a definition of "greenhouse gases" under another regulatory provision that we could cross-reference, we proposed to define "greenhouse gases" for permitting purposes as "the single air pollutant that is comprised of the group of six GHGs, as proposed in the [CAA] section 202(a) endangerment and contribution findings." 74 FR 55329, col. 1. The six well-mixed GHGs identified in the proposed contribution finding were: CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.

In the proposal, we further recognized that the LDVR for GHGs, as it was proposed, would result in reductions of only four of the gases, not all six, because only four are emitted by vehicles. However, we concluded that if the LDVR were finalized as proposed, then the air pollutant for purposes of PSD and title V applicability would be a single air pollutant that is the aggregate mix of the group of six GHGs because—

> [t]hese six GHGs as a class comprise the air pollutant that is the subject of the ***31528** endangerment finding and companion contribution finding and constitute the air pollutant that is regulated by the light-duty vehicle rule through measures that address the components of that air pollutant that are emitted from the mobile sources. Thus, although the CAA section 202(a) proposal establishes controls only with respect to four GHGs, as a legal matter, the proposal covers the entire set of GHGs that as a class are the single "air pollutant" in the proposed endangerment and contribution findings.

74 FR 55329 col. 1.

We also solicited comment on whether we should identify the GHG metric in a different way, such as addressing each GHG constituent compound individually or including (whether individually or as a group) only those four GHG constituent compounds for which reductions would occur through the emission standards or limits proposed in the LDVR.

A minority of the comments on our proposal addressed this issue. Some commenters supported combining the individual GHGs as one pollutant for purposes of determining permitting applicability, and stated that it is not uncommon for EPA to recognize "collective" air pollutants comprised of many individual compounds based upon shared threats to health and welfare, including such EPA-created group pollutants as sulfur oxides, nitrogen oxides, volatile organic compounds (VOCs), and particulate matter (PM).

On the other hand, a significant number of commenters also raised concerns about grouping the individual GHGs into one metric. Some of these commenters argued that grouping GHGs is not appropriate because GHGs are not like other air pollutants that are comprised of numerous substances of concern (*e.g.*, VOCs and PM), individual GHGs do not interact or combine to create a pollutant of concern, and EPA has not established a "GHG" NAAQS that supports the definition of the pollutant as a group. Some were concerned that regulating the GHGs as a group would increase the likelihood that a source will trigger permitting requirements, adding that this is unnecessary and would conflict with the "absurd results" and "administrative necessity" doctrines because it would lead to larger numbers of sources becoming subject to permitting. Some commenters opposing grouping suggested that we should explore regulating each of the GHG pollutants on an individual mass basis rather than collectively because in their view, it is reasonable and feasible to regulate and control emissions of each of the listed pollutants, other than CO_2, at the 100/250 tpy thresholds, or less if deemed necessary, in accordance with the established mechanisms of the Act and doing so would lead to a better environmental result. Finally, some commenters argued that disaggregating the pollutants would also allow for more appropriate technology review.

After considering these comments, and taking into account other related actions that have occurred since proposal, we have determined that PSD and title V permitting program requirements will apply, as proposed, to the "single air pollutant that is comprised of the group of six GHGs." 74 FR 55329, col. 1. We believe that this approach is both compelled by the statute and reflects the preferable policy approach.

As more fully discussed elsewhere in this rulemaking, the PSD requirements apply to a "major emitting facility" that undertakes construction or "modification." CAA sections 165(a), 169 (2)(C). The term "major emitting facility" is defined as, in general, a source that emits 100 or 250 tons of "any air pollutant," CAA section 169(1), and, similarly, the term "modification" is defined as a physical or operational change that results in the increased or new emissions of "any air pollutant." CAA sections 169(2)(C), 111(a)(4). Through regulation, we have interpreted the term "any air pollutant," as found in both the terms "major emitting facility" and "modification," more narrowly to mean any "regulated NSR pollutant," and we further define this term to include any pollutant that is "subject to regulation under the Act." 40 CFR 52.21(b)(50)(iv), 52.21.(b)(2).[14]

Similarly, as discussed elsewhere, the title V requirements apply to a "major source," which is defined, in general, as any source that emits at least 100 tpy of "any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). EPA has interpreted the term "any air pollutant" narrowly so that applies only with respect to air pollutants that are subject to regulation under the CAA. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993).

Based on these provisions, the key issue for present purposes in determining whether a source is subject to PSD (because it qualifies as a major emitting facility that undertakes construction or modification) or title V is whether the pollutant or pollutants that the source emits comprise the "air pollutant" that is "subject to regulation" under the Act.

The phrase "subject to regulation under the Act," by its terms, identifies the air pollutant that is subject to PSD and title V as the same air pollutant that is identified in the regulatory action under another provision of the Act. The term is a simple cross-reference. It carries no implication that EPA, in identifying the pollutant to which PSD or title V apply, may redefine the pollutant that is regulated elsewhere in the Act. Whatever the pollutant is that is regulated elsewhere, it is that pollutant to which PSD and title V apply.

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[14] By the same token, CAA section 165(a)(4) requires that a source subject to PSD impose best available control technology for "each pollutant subject to regulation under this chapter" that the source emits.

Since the time of our proposal, we have finalized both the contribution finding and the LDVR for GHGs. The final LDVR for GHGs specifies, in the rule's applicability provisions, the air pollutant subject to control as the aggregate group of the six GHGs, including CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.[15] Because it is this pollutant that is regulated under the LDVR, it is this pollutant to which PSD and title V apply. Specifically, the applicability provision in the LDVR provides a clear reference to the definition of the single pollutant comprised of the aggregate group of the six well-mixed GHGs, which makes clear PSD and title V applicability depends on the same sum-of-six GHG construct. We must follow this construct of the aggregate group of the six gases and do not have discretion to interpret the GHG "air pollutant" differently for the purposes of PSD or title V.

This construct of the pollutant as the aggregate group of the six gases is also consistent with the definition of the air pollutant in the final contribution finding for GHGs [*see* 74 FR 66496, 66499, 66536-7 (December 15, 2009)]. There, the Administrator defined the air pollutant as the "aggregate group of the same six * * * greenhouse gases," (74 FR 66536), and these well-mixed GHGs are defined to include CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.

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[15] The applicability provision of the LDVR is found in 40 CFR 86.1818-12(a).

Moreover, even if we had discretion to identify the GHGs air pollutant differently in the permitting programs than in the LDVR, we believe it is reasonable to identify the GHGs air pollutant through the sum-of-six construct for the same reasons why we adopted that definition in the contribution finding and for additional reasons noted below specific to the permit programs. The term "air ***31529** pollutant" is defined under CAA section 302(g) as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air." Under this definition, EPA has broad discretion to identify an air pollutant, including, as appropriate, treating a combination of air pollutant agents as a single air pollutant. Here, we think that the six well-mixed gases are appropriately combined into a single air pollutant because, as noted in the contribution findings, they share several important attributes: Each of the six gases:

- Is directly emitted (and is not formed by secondary processes in the atmosphere);
- Is long-lived in the atmosphere after it is emitted;
- Is sufficiently long-lived that it becomes "well-mixed," which means that its concentration is essentially uniform in the atmosphere (as opposed to having significant local/regional variation); and

- Has well understood atmospheric properties (*e.g.*, radiative forcing).

See 74 FR 66516-66518.

In addition, treating the six GHGs as a single air pollutant is consistent with the actions of international scientific bodies. For example, the Intergovernmental Panel on Climate Change (IPCC) considers in various reports how the six gases drive human-induced climate change and how that affects health, society, and the environment. Similarly, the United Nations Framework Convention on Climate Change (UNFCCC) requires reporting of these six gases and the commitments under the UNFCCC and Kyoto Protocol are based on the combined emissions of these six gases. Finally, as discussed later, it is standard practice to compute the "CO_2 equivalency" of aggregate emissions using GWP.

We disagree with commenters who argued that grouping all six GHGs is not appropriate because GHGs are not like other air pollutants that are comprised of numerous substances of concern (*e.g.*, VOCs and PM). First, as noted previously, we are following the approach to a single air pollutant comprised of the aggregate of the six GHGs initially adopted in the contribution finding and followed in the LDVR. Many of these same comments have already been addressed in the contribution finding and Response to Comment (RTC) document for that action, and those responses apply equally here.

In addition to the reasons described in the endangerment and contribution findings, there are CAA permitting programmatic and policy advantages to using the sum-of-six construct for the GHG air pollutant for PSD and title V applicability purposes. We believe now, as we did at proposal, that the benefits in using the cumulative group of GHGs outweigh any implementation advantages to using an individual-GHG-based metric. The advantages to sum-of-six definition include that it may: (1) Allow significantly more flexibility to sources for designing and implementing control strategies that maximize reductions across multiple GHGs and would also likely align better with possible future regulations that allow for such flexibility; (2) more effectively support possible future offsets or trading mechanisms that involve different source categories and different compositions of GHG emissions; and (3) could better accommodate and harmonize with future regulations because it establishes one class of pollutants that includes individual components that may, in turn, become subject to specific emission standards under future regulatory efforts.

We disagree with commenters who believe that aggregating the GHGs under one GHG metric for permitting applicability purposes would lead to an excessive amount of source permitting activity. This is because the phase-in approach addresses overwhelming permitting burdens associated with permitting of GHGs. It does so by designing our applicability thresholds to allow for a manageable amount of new permitting actions based on the emissions from sources using the sum-of-six metric. If we based applicability on individual gases, (assuming, again, that we had authority to deviate from the definition of "air pollutant" as used in the LDVR), we would still need to determine what level of permitting is manageable and appropriate based on thresholds on an individual gas basis and would expect that the final rule would result in the same levels of remaining burden. Accordingly, unless the permitting program were being implemented at the statutory thresholds, the effect of a decision to aggregate or not aggregate would not reduce workload; rather, it would simply shift work from permitting facilities that trigger based on combined GHGs to those that trigger based on individual GHGs. Although we acknowledge that this may affect applicability for a particular source, we disagree with the comment that doing so would conflict with our conclusions based on the "absurd results" or "administrative necessity" doctrines. By using a consolidated and weighted measurement, we are able to direct the limited administrative resources to those new sources and modifications with the greatest impact on GHG emissions.

We also believe that the additional flexibility resulting from the sum-of-six GHG metric will provide substantially more opportunities for sources to address emission increases of GHGs than they would have had under an individual gas based metric, and, thereby, possibly reduce their permitting burden through multi-gas mitigation strategies. We disagree with the comment that isolating BACT review on sources that emit a single GHG necessarily leads to better environmental results than it would for sources that undergo a combined review for all six gases. To the contrary, given that Congress built in considerations of energy, environmental, and economic impacts into the BACT requirement, we think that allowing consideration of those factors across six gases will likely result in decisions that more appropriately account for those impacts at the source.

2. Identifying Which GHGs Are Included in the Group

As discussed previously, we proposed to include the combination of six well-mixed GHGs as the air pollutant that triggers PSD and title V applicability: CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. Some commenters supported including all six. They cite the proposed contribution findings that identify the pollutant through the sum-of-six construct, and they emphasize that EPA, in order to protect the public, has to control all the GHGs it has regulated and reduce the overall impact of the mix of six GHGs.

However, a substantial number of commenters, mainly from industry sectors who also disagree with grouping the GHGs together, contend that only the constituent gases that are actually subject to controls under the LDVR should be included in determining applicability under the Tailoring Rule. Some of these commenters believe that only the three compounds (CO_2, CH_4, N_2O) for which the LDVR contains emissions standards or caps should be considered in the GHG metric for permitting, while others would also add HFCs (which are included in a credit flexibility arrangement under the LDVR) for a total of four GHGs. These commenters argued that PSD is not triggered for all six GHGs by the LDVR because under the proposed PSD ***31530** interpretation in the Interpretive Memo, actual emission controls under the Act are required to trigger PSD obligations for a given pollutant. They also argue that including all six would conflict with EPA's rationale for the Tailoring Rule by leading to larger numbers of sources subject to permitting, thereby increasing the harm that EPA says it wants to avoid. They further assert that the EPA cannot exercise its discretion to widen the scope of PSD and title V applicability to six GHGs when it is relying on the judicial doctrines of "absurd results" and "administrative necessity" to narrow PSD and title V applicability. They explain that in their view, those doctrines apply only when EPA has taken all steps possible to narrow the scope of PSD and title V and thereby avoid the administrative problems that force it to rely on those doctrines.

There were a few comments on whether to include specific gases as part of the sum-of-six grouping. Several commenters representing sectors that have significant SF_6 usage specifically argue that SF_6 should not be included as a GHG, at least at this time, because there are no known SF_6 controls, it is not clear how PTE would be calculated from such facilities, and EPA has not addressed the economic burden that regulation of these facilities would create. A solid waste industry commenter asserts that the Tailoring Rule should confirm that CH_4 and N2 O will not be regulated under PSD or title V because these pollutants are only emitted in miniscule amounts from automobiles.

We disagree with commenters who suggest that because the LDVR actually reduces only four of the six GHGs, EPA may apply PSD and title V to only those four GHGs. It is true that the LDVR standard for the single air pollutant that is comprised of the aggregate of six GHGs consists of individual standards for only four particular constituents of the single air pollutant—which are emissions limits or caps for three GHGs (CO_2, CH_4, and N_2O) and an emission crediting option for one GHG (HFCs)—but this does not dictate that only those four compounds are subject to regulation for permitting purposes. Although the LDVR results in reductions only with respect to four specific GHGs, as a legal matter the LDVR standard covers the entire set of GHGs that as a class are the single "air pollutant" in the contribution finding. Similar to our rationale for addressing the group of six GHGs as one pollutant for PSD and title V applicability purposes, we must adhere to the definition of applicability, cited previously, in the final LDVR for GHGs and include CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. We do not have discretion to select only a subset of these gases in defining our GHG threshold metric for the permitting applicability purposes. *See* LDVR, May 7, 2010, 75 FR 25398-99, section III.A.2.c. (discussing EPA's exercise of discretion under section 202(a) in setting emissions standards applicable to emission of the single air pollutant).

For the same reasons, we disagree that this approach is inconsistent with the Agency's final action in "EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program." While it is the case that only four constituent gases are reduced by the LDVR, the "air pollutant" that is controlled, and thus "subject to regulation," is the group of six, and it is this "air pollutant" to which PSD and title V apply.

We also disagree with commenters who suggested that including all six GHGs in determining permitting applicability would conflict with our "absurd results" and "administrative necessity" rationale for the phase-in periods and applicability thresholds for GHGs. Even if we did have discretion to identify the air pollutant for PSD and title V purposes as consisting of only four of the six well-mixed GHGs, we do not believe that doing so would have any meaningful impact on the administrative burdens that are at the heart of our reliance on the "absurd results" and "administrative necessity" doctrines. The number of additional permitting actions and amount of additional permitting burden resulting from including all six GHGs, rather than four, is minimal. This is because the administrative burden of GHG permitting is dominated by CO_2 and CH_4 emission sources. For example, with a major source threshold set at 100,000 tpy CO_2e, the combined population of sources that would be major for N_2O, HFCs, PFCs, and SF_6 accounts for fewer than two percent of the GHG sources that would remain covered.

For similar reasons, we disagree with commenters who specifically suggest SF_6 emissions should not be included in the applicability metric for GHGs. As we have stated earlier in this section, our selection of the GHG metric is driven by the definition of the "air pollutant" as defined in the LDVR, and in consideration of the final GHG endangerment finding. SF_6 is specifically included as one of the "well-mixed greenhouse gases" in the definition of air pollutant in the contribution finding, and is included in the definition of the air pollutant in the LDVR for which that rule is applicable. We do not believe we have the discretion to define the "air pollutant" differently for PSD and title V applicability purposes than the definition of the "air pollutant" that is regulated elsewhere. In any event, including SF_6 emissions based on the thresholds finalized in this rulemaking does not add an excessive administrative burden for permitting authorities. Based on our threshold evaluation study, we estimate that less than 40 sources of SF_6 nationwide would exceed the 100,000 tpy CO_2e threshold. Furthermore, SF_6 is a high GWP gas and, as discussed elsewhere, we have included a mass-based trigger for high GWP gases that will likely have the effect of further reducing this count.

For the same reasons, we disagree with the commenters who suggest we include black carbon and other short-lived climate forcers to the list of GHGs, as well as commenters asking for an exclusion of CH_4 and N_2O. The definition of the air pollutant, as cited in the LDVR, includes CH4 and N_2O and does not include black carbon or other short-lived gases.

3. Use of GWP vs. Mass-Based GHG Thresholds

For the reasons discussed previously, we are determining permit program applicability based on the sum-of-six well-mixed gases that comprise the GHG air pollutant. This section discusses our use of both the CO_2e metric and mass emissions of the GHGs for applicability purposes.

Under our proposal, a source's emissions of all six GHGs would be combined into a single metric by multiplying the mass of each individual GHG (in tpy) by its GWP value, and summing these products to determine the total emissions of the GHG pollutant in tpy CO_2e. We received comments on this aspect of the proposed metric. Several commenters explicitly support the use of GWP and the CO_2e metric for GHG emissions. These commenters believe EPA has the authority to select an appropriate metric to measure GHGs in the PSD program, and policy considerations support the choice of GWP. Some of them note that GWP is a widely-used metric which employs internationally-recognized conversion factors to compare GHGs based upon their climate properties, and some add that states and local areas that have climate action plans for GHG reductions use CO_2e. Some of these commenters believe this metric will ensure a ***31531** standard measure across all permitting agencies and will lead to a more effective system for permitting authorities and create more opportunities to reduce emissions over the full class of GHGs, rather than focusing on reducing individual GHGs.

On the other hand, some commenters oppose the use of GWP and CO_2e, believing that thresholds should be based on individual mass-based emissions for each GHG. Some of these commenters felt that EPA has no discretion to ignore the metric for regulation established by Congress for PSD in section 169 of the Act. Some commenters were also concerned that the use of CO_2e will complicate the implementation of BACT because sources that trigger PSD will be required to install BACT for each regulated pollutant, not for CO_2e. As a result, a source that exceeds the threshold primarily due to its CO_2 emissions would be forced to install BACT for all other individual GHGs, regardless of how minor those other emissions may be. Finally, a commenter was concerned that use of GWP would complicate implementation because GWP values can sometimes change.

In our proposal preamble discussion of GHG metric, EPA also raised the possibility of including a limitation in the metric to address the prospect (expected to occur only rarely) that high-GWP gases could be emitted in quantities less than statutory thresholds for PSD and title V but nevertheless exceed the proposed thresholds in terms of CO_2e. Most commenters on this subject support a dual threshold under which a source would be subject to title V or PSD only if its GHG emissions exceeded both the statutory thresholds on an actual tonnage basis and the tailored thresholds on a CO_2e basis. Commenters supporting this approach felt that it would be unlawful to apply PSD when GHGs are below the statutory thresholds, or when there is not a net emissions increase. Others added that the complexity of accounting for emissions according to both mass and GWP should be manageable and is not a reason to ignore the role of mass-based emission rates in determining the applicability of PSD requirements. Additionally, one commenter observed that a dual threshold is consistent with phasing in the Tailoring Rule and is an effective way to address the current uncertainty surrounding how to measure high-GWP gases such as SF_6. In contrast, a few commenters stated they do not support a dual threshold, primarily on the grounds that there is no benefit to the added complexity.

After considering these comments, we have decided to adopt applicability thresholds in the final rule based on a CO_2e metric for the sum-of-six well-mixed gases, and also to adopt an additional mass-based threshold for the sum-of-six gases as discussed in the proposal. First, as discussed in the previous section, we have explained why the appropriate pollutant for

PSD purposes is the single pollutant GHG, which is composed of the six well-mixed gases. Regarding the CO_2e metric, we continue to believe there are a number of advantages, as laid out in the proposal, to a CO_2e measure that would not be available if we used only a mass-based metric. These include: (1) A CO_2e metric, by incorporating the GWP values, best addresses the relevant environmental endpoint, which is radiative forcing of the GHGs emitted; (2) when combined with a sum-of-six gases approach, the CO_2e metric best allows for consideration of their combined effects when sources emit any one or combination of the six well-mixed GHGs; (3) a cumulative CO_2e metric is consistent with the metric used in the mandatory GHG reporting rule and other related rules and guidelines; and (4) a CO_2e metric allows more flexibility for designing and implementing control strategies that maximize reductions across multiple GHGs. We recognize the tension between the mass-based metric in the statute and the CO_2e-based metric we are adopting in this rule, but as discussed later, we will address this by also retaining the mass-based metric. Moreover, given our need to tailor our approach to covering sources of GHGs, we believe that the considerations driving our choice to also use a CO_2e-based metric are appropriate for defining the phase-in and allow for permitting resources to be directed at those sources and modifications that have the greatest impact on radiative forcing of the GHGs emitted.

We recognize the concern of commenters who stated that we cannot ignore the statutory thresholds based on the mass-based emissions of an air pollutant as described under CAA section 169(1). As we mentioned in the proposal, because both the PSD and title V statutory thresholds are expressed on a mass basis (*i.e.*, tons of a pollutant with no weighting values applied) we were concerned from a legal standpoint that the metric proposed (CO_2e) could have the effect of subjecting to PSD or title V requirements a source whose emissions fall below the statutory threshold limits on a strictly mass basis, but whose CO_2e-based emissions exceed the CO_2e thresholds we establish under the Tailoring Rule. As an example, in rare instances it is possible that a source may emit only a non-CO_2 GHG in very small amounts, on a mass basis, but one that carries a very large GWP. In this case, it is possible that the source may emit the GHG in amounts that fall below the PSD and/or title V statutory applicability threshold (100 or 250 tpy, as applicable) on a mass basis, but exceed the 100,000 CO_2e PSD and title V applicability thresholds for Step 2 finalized in this action. Under these circumstances, without a mass-based threshold, the source would trigger PSD and title V for its CO_2e emissions even though its GHG mass emissions would not, in fact, exceed the statutory triggers.

Upon review of the comments pertaining to this issue and further analysis of the legal and programmatic implications, we are adopting a two-part applicability process, for both major source applicability determinations for GHGs under PSD and title V and for determining if a net increase has occurred in PSD applicability determinations for modifications. As explained in the RTC document, we accomplish this two-step applicability approach by continuing to rely on the existing mass-based ap-plicability provisions in the current regulations, and by including new regulatory provisions that add a definition of "subject to regulation" that in turn includes the phase-in thresholds. Similarly, for PSD modification reviews and associated netting analyses, the same two-step process must be used. Our summary in section IV.A described how we expect this provision to be implemented in practice.

We acknowledge that the possibility of changing GWP values is a downside to the use of CO_2e for the GHG metric, and we address this comment in the next section, where we discuss our plan to codify GWP values. By codifying GWP, any changes will be manageable, and, in our judgment, will not outweigh the benefits of a CO_2e-based approach. We also acknowledge that a CO_2e-based approach may appear to complicate the BACT review and implementation process. However, we disagree with the commenter's ultimate conclusion that BACT will be required for each constituent gas rather than for the regulated pollutant, which is defined as the combination of the six well-mixed GHGs. To the contrary, we believe that, in combination with the sum-of-six gases approach described above, the use of the CO_2e metric will enable the implementation of flexible approaches to design and implement mitigation and control strategies that look across all six ***31532** of the constituent gases comprising the air pollutant (*e.g.*, flexibility to account for the benefits of certain CH_4 control options, even though those options may increase CO_2). Moreover, we believe that the CO_2e metric is the best way to achieve this goal because it allows for tradeoffs among the constituent gases to be evaluated using a common currency.

4. Determining What GWP Values Are To Be Used

At proposal, we proposed to link the calculation of CO_2e for GHGs to GWP values in EPA's "Inventory of U.S. Greenhouse Gas Emissions and Sinks" (GHG Inventory). *See, e.g.*, proposed 40 CFR 51.166(b)(58). Numerous commenters expressed concerns about this proposal on various grounds, including the following:

- The EPA should follow the proper notice-and-comment procedures and the requirements of the Information Quality Act for the relevant technical underpinnings of the proposal. The EPA relies upon the GWPs of the IPCC without providing the supporting data for review, and it is inappropriate to use this as a basis for this rule without first making all the raw data available for public inspection and comment.
- The EPA cannot tie the definition of GWP to the GHG Inventory because it is a non-regulatory document that may be changed without notice-and-comment rulemaking. Before EPA uses a new GWP, that GWP must be subject to notice and comment to comply with the requirements of CAA section 307 and the Administrative Procedure Act (APA).
- An annual update of GWP would create a moving target for sources conducting applicability determinations and assessing compliance with minor NSR and PSD emission limits. The EPA needs to ensure that applicability and compliance with limits continue to be based on the GWP that existed when the determination was made or the limit was established.

- The EPA should freeze the GWP at the current values by incorporating those values into the regulation. The EPA could still revise the "NSR" GWP, but would have to revise the regulation to do so.

Commenters added that it is important to ensure that all permitting agencies are using the same calculations for the determination of CO_2e for GHGs.

We agree with commenters who suggested we should codify, either in the Tailoring Rule or through reference to codified values in another rulemaking, the GWP values to be used in permitting analyses. We agree that this approach provides certainty as to which GWP values need to be used by permitting authorities and allows sources to plan appropriately for possible changes in the GWP values. As mentioned in the comments, recommended GWP values from IPCC can change over time. While this is infrequent—the last such changes were in 2007—when it occurs, there are generally significant lag times in universal adoption of new values because of inconsistencies that could be created in national inventories and emission reporting mechanisms. In a regulatory setting, such as in the permitting programs, this could potentially create significant implementation issues, such as when a GWP change occurs while a permit action is in progress.[16] EPA also recognized similar potential implementation issues in developing its final mandatory GHG reporting rule, and codified in the regulatory text for that rule the GWP values to be used in reporting GHGs as part of that final rulemaking.

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[16] We note that our approach does not entirely avoid the possibility that a GWP change can occur while a permit is in progress although it will ensure advance notice of such a change. In the event that we plan to propose a change to GWP values, we will work with permitting authorities as necessary to provide guidance to sources on transitional issues.

For these reasons, we have decided to follow the approach in the mandatory GHG reporting rule and require that for PSD and title V permitting requirements, wherever emissions calculations are performed, that permitting authorities and sources use GWP values that are codified in EPA rules. We will establish the GWP values for PSD and title V rules based on a cross-reference to the values that are codified in the EPA's mandatory GHG reporting rule. 74 FR 56395, Table A-1 to subpart A of 40 CFR part 98—Global Warming Potentials. Any changes to Table A-1 of the mandatory GHG reporting rule regulatory text must go through an appropriate regulatory process. In this manner, the values used for the permitting programs will reflect the latest values adopted for usage by EPA after a regulatory process and will be consistent with those values used in the EPA's mandatory GHG reporting rule. Furthermore, the lead time for adopting changes to that rule will provide a transition time to address implementation concerns raised by commenters.

5. Use of Short Tons vs. Metric Tons

We proposed that the GHG metric would be expressed in terms of English (or short) tons, rather than metric (or long) tons. A few commenters support using short tons for this purpose. Others prefer the use of metric tons, and most of them note that the mandatory GHG reporting rule is based on metric tons and believe that the Tailoring Rule should be consistent with that rule. These commenters believe that using different units in the two rules would be confusing and could result in sources that are not subject to the mandatory GHG reporting rule becoming subject to PSD. Some of the commenters add that various "cap and trade" legislative proposals also quantify GHGs in metric tons. A few other commenters recommend that EPA harmonize the applicability thresholds established under the Tailoring Rule and the mandatory GHG reporting rule without expressing a preference for short or metric tons.

We are finalizing our proposal to use short tons because short tons are the standard unit of measure for both the PSD and title V permitting programs and the basis for the threshold evaluation to support this rulemaking. Calculation inputs for PSD are typically prepared in English units (*e.g.*, pounds of fuel, British thermal units (Btu), etc.) which is the common convention for all PSD analyses and the units of the statutory thresholds under the Act.

It is true that the GHG reporting rule uses metric tons, but this does not create an inconsistency between permitting programs and the reporting rule because the two rules already use different applicability approaches. Although we originally proposed 25,000 tpy as the major source level for permitting programs, which was similar to the threshold in the reporting rule, we decided to adopt substantially higher thresholds in the final rule. Furthermore, even if the numbers were similar, the thresholds used for the reporting rule are based on actual emissions, while the PSD and title V programs thresholds are based on PTE. Therefore, we are less persuaded by arguments for consistency, and believe it is more important for ease of permit program implementation to ensure that GHG emissions calculations for PSD and title V will build on the same set of input variables used to develop short-ton based estimates for non-GHG pollutants. Thus, the use of short tons should actually facilitate the development of the GHG emission estimate. It would likely be more confusing to require a multi-pollutant PSD applicability analysis to present emissions information using different units for different pollutants, as would be the case if we required metric tons for GHG but continue to use short tons ***31533** for every other pollutant. Finally, we do not expect this choice to introduce additional complexity because the conversion between short tons and metric tons is a very simple calculation. Therefore, based on these considerations we are requiring that short tons be used as the basis for emission calculations used to meet PSD and title V permitting requirements.

B. Rationale for Thresholds and Timing for PSD and Title V Applicability to GHG Emissions Sources

In this subsection, we describe our legal and policy rationale for our determinations concerning PSD and title V applicability to GHG emissions sources. This subsection includes: (1) An overview of our rationale; (2) data concerning costs to sources and administrative burdens to permitting authorities; (3) a review of the *Chevron* legal framework and the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines, as well as a review of how those doctrines fit into the *Chevron* framework;

(4) an overview of the relevant PSD and title V requirements and their legislative history; (5) our application of the "absurd results" doctrine for tailoring the PSD requirements; (6) our application of the "absurd results" doctrine for tailoring the title V requirements; (7) our plans to issue further rulemaking that will address the "absurd results" basis for both PSD and title V requirements; (8) our rationale for the phase-in schedule for applying PSD and title V to GHG sources; (9) our application of the "administrative necessity" basis for tailoring the PSD and title V requirements; and (10) our application of the "one-step-at-a-time" basis for tailoring the PSD and title V requirements.

1. Overview

Under the familiar *Chevron* two-step approach to construction of agency-administered statutes, the agency must first, at *Chevron* Step 1, determine whether Congress's intent in a particular provision on a specific question is clear; and if so, then the agency must follow that intent. If the intent of the provision is not clear, then the agency may, under *Chevron* Step 2, fashion a reasonable interpretation of the provision. The best indicator of congressional intent is the literal meaning of the provision and generally, according to the case law, if the literal meaning addresses the specific question, then the agency should follow the literal meaning.

However, the courts have developed three doctrines relevant here that authorize departure from a literal application of statutory provisions. The first is the "absurd results" doctrine, which authorizes such a departure if the literal application would produce a result that is inconsistent with congressional intent, and particularly if it would undermine congressional intent. The judicial doctrine of "administrative necessity" authorizes an agency to depart from statutory requirements if the agency can demonstrate that the statutory requirements, as written, are impossible to administer. The "one-step-at-a-time" doctrine authorizes an agency, under certain circumstances, to implement a statutory requirement through a phased approach. Each of the three doctrines fits into the *Chevron* framework for statutory construction because each of the three is designed to effectuate congressional intent.

To apply the statutory PSD and title V applicability thresholds literally to sources of GHG emissions would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program. These extraordinary increases in the scope of the permitting programs would mean that the programs would become several hundred-fold larger than what Congress appeared to contemplate. Moreover, the great majority of additional sources brought into the PSD and title V programs would be small sources that Congress did not expect would need to undergo permitting and that, at the present time, in the absence of streamlined permit procedures, would face unduly high permitting costs. Further, again at the present time, in the absence of streamlined permit procedures the administrative strains would lead to multi-year backlogs in the issuance of PSD and title V permits, which would undermine the purposes of those programs. Sources of all types—whether they emit GHGs or not—would face long delays in receiving PSD permits, which Congress intended to allow construction or expansion. Similarly, sources would face long delays in receiving title V permits, which Congress intended to promote enforceability. For both programs, the addition of enormous numbers of additional sources would provide relatively little benefit compared to the costs to sources and the burdens to permitting authorities. In the case of PSD, the large number of small sources that would be subject to control constitute a relatively small part of the environmental problem. In the case of title V, a great many of the sources that would be newly subject to permit requirements would have "empty" permits, that is, permits that do not include any applicable requirements, and that therefore serve relatively little purpose. For these reasons, the "absurd results" doctrine applies to avoid a literal application of the thresholds at this time. By the same token, the impossibility of administering the permit programs brings into play the "administrative necessity" doctrine. This doctrine also justifies not applying the PSD or title V applicability threshold provisions literally to GHG sources at this time.

The situation presented here is exactly the kind that the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines have been developed to address. Separately and interdependently, they authorize EPA and the permitting authorities to tailor the PSD and title V applicability provisions through a phased program as set forth in this rule, and to use the initial period of phase-in to develop streamlining measures, acquire expertise, and increase resources, all of which would facilitate applying PSD and title V on a broader scale without overburdening sources and permitting authorities. In this manner, the phased approach reconciles the language of the statutory provisions with the results of their application and with congressional intent.

2. Data Concerning Costs to Sources and Administrative Burdens to Permitting Authorities

This final action concerning applicability of PSD and title V to GHG-emitting sources, including the decisions on timing for the selected permitting thresholds, is based on our assessments of both the costs to the regulated sources to comply with PSD and title V permitting requirements and the administrative burdens to the permitting authorities to process PSD and title V permit actions for GHG-emitting sources. This section provides a summary of our cost and administrative burden assessments of permitting that would be required in the absence of any tailoring as well as under various tailoring options.

Our estimates of costs to the sources and administrative burdens to the permitting authorities from PSD and title V applicability for GHG emissions are based on labor and cost information from the existing Information Collection Requests (ICRs) for PSD and title V programs.[17] We apply the same basic ***31534** methodology used for the proposal, which incorporates information on numbers and types of affected sources and estimated permitting actions.

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[17] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds;" Prepared by EPA Staff; March 2010.

We evaluate administrative burdens in terms of staffing needs, time for processing permits, and monetary costs, and we make some judgments about how those burdens would affect the permitting authorities' ability to effectively manage and administer their programs with the addition of GHG emission sources. We present the administrative burden data for applying PSD and title V requirements at the literal statutory thresholds—that is, the 100/250 tpy levels for PSD (and 0 tpy for modifications) and the 100 tpy level for title V—as well as at other thresholds, which range from 25,000 tpy CO_2e to 100,000 tpy CO_2e. We have significantly revised upwards our assessments of costs to sources and administrative burdens since proposal, and we summarize later our reasons for doing so. We also present significant comments concerning administrative burdens, and our responses to those comments.

In the next section, concerning legal and policy rationale for our actions, we discuss how these data on costs to the sources and administrative burdens to the permitting authorities informed our decisions that PSD and title V requirements should not, at present, be applied to GHG-emitting sources under the literal terms of the statutory thresholds as well as our decisions concerning what thresholds to apply for Steps 1 and 2 of the applicability phase-in approach and the applicability floor of 50,000 tpy CO_2e.

a. Costs to Sources

As we did at proposal, we have estimated costs to the sources of complying with PSD and title V starting from the data in the ICRs. We recognize that the sizes of the sources, as measured by their emissions, that would be swept into the PSD and title V programs would vary greatly, and that their permitting costs would vary as well. For example, their PSD permitting costs would depend on the amount and types of their emissions and their control requirements. Accordingly, we have determined average costs, as described later.

For PSD, at proposal, we estimated that on average, an industrial source would incur costs of $84,500 to prepare the PSD application and receive the permit, and on average, a commercial or residential source would incur costs of 20 percent that amount, or $16,900. 74 FR 55337 col. 3 to 55339 col. 3. For this action, we retain the same burden estimates for an average industrial source. This type of source would need 866 hours, which would cost $84,500, to prepare the application and the PSD permit. However, based on comments received, we have determined that a more accurate estimate for an average commercial or residential source is 70 percent of that amount of time that an industrial source would need, up from our proposal of 20 percent. Thus, an average commercial or residential source would need 606 hours, which would cost $59,000, to prepare the PSD application and receive the permit. We are increasing this time over what we proposed because we now recognize that virtually all commercial and residential sources will have no experience with the PSD permitting process, and therefore will face a significant learning curve that will entail more time to complete the application, develop control recommendations, and take the other required steps. We believe this learning period could extend from 2 to possibly 4 years or more from the date that the sources become subject to PSD requirements, depending on the type and actual number of new sources that come in for permitting. In addition, we expect that in many cases, draft PSD permits for GHGs will receive comments from various stakeholders, from citizens groups to equipment vendors, who will seek to participate in the permit process, and that all this could add to the hours that the permittee will need to invest in the process.[18] The actual costs to sources to install BACT controls, while still uncertain at this point, would likely add additional costs across a variety of sources in a sector not traditionally subject to such permitting requirements.

For title V, at proposal, we estimated that on average, an industrial source would incur costs of approximately $46,400 to prepare the title V application and receive the permit, and on average, a commercial or residential source would incur costs of 10 percent that amount, or almost $5,000. 74 FR 55338 col. 1 to 55339 col. 3. For this action, we retain the same burden estimates for an average industrial source. This type of source would need 350 hours, which would cost $46,400, to prepare the application and the title V permit. However, we have determined that a more accurate estimate for an average commercial or residential source is 50 percent of that amount of time that an industrial source would need, up from our proposal of 10 percent. Thus, an average commercial or residential source would need about

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[18] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

175 hours, which would cost $23,200, to prepare the title V application and receive the permit. This increase is due to the same reasons as with the PSD program just discussed. We now recognize that virtually all commercial and residential sources will have no experience with the title V permitting process and, therefore, will face a significant learning curve that will entail more time to assess, for the first time, their GHG emissions (because such sources are not covered by EPA's mandatory GHG reporting rule), complete the application, respond to permitting authority comments, meet other title V administrative requirements, and respond to interested stakeholders.[19]

b. Administrative Burdens to Permitting Authorities

(1) Estimated Permitting Authority Burden at Proposal

As at proposal, we estimated the administrative burdens to the permitting authorities at the various threshold levels for PSD or title V applicability as follows. First, for a particular threshold level, we estimated the number of GHG-emitting sources that would be subject to PSD requirements because they would undertake new construction or modification, and the number of existing sources that would be subject to title V requirements. Second, we estimated the average additional administrative burden and cost of each PSD permitting action and each title V permitting action for the GHG-emitting sources. Third, we multiplied those two estimates, and the product is the additional administrative burden at the particular threshold level. We employed the same methodology for this final rule, but, as discussed later, and described in more detail in our final burden analysis,[20] we have updated several key assumptions since the proposal as a ***31535** result of our consideration of comments received.

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[19] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

First, we present the administrative burdens at the statutory levels for PSD and title V applicability. At proposal, for the PSD program, we estimated the administrative burdens that would result from applying PSD at the 100/250 tpy major emitting facility threshold levels in two ways, as described in this section. We stated that at present, 280 sources are subject to PSD each year, both for new construction and modifications. This figure served as the baseline from which to calculate increases in administrative burdens due to permitting GHG-emitting sources.

The first method that we used to calculate the administrative burdens to the permitting authorities was in terms of workload hours, which we then converted to monetary costs. To make the workload calculation, we first estimated the number of GHG-emitting sources that would become subject to PSD through new construction and modification.

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[20] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

Based on our GHG threshold data analysis, we estimated that almost 41,000 new and modified sources per year would become subject to PSD review. We first calculated the number of new sources that would become subject to PSD. To do this, we estimated growth rates for the various sectors, and then applied those growth rates to the numbers of sources in those sectors. We then calculated the number of modifications. To do this, we first assumed that each year, two percent of sources that meet or exceed the threshold levels for PSD applicability due to their conventional pollutants undertake modifications. We then calculated the number of sources that would meet or exceed the threshold levels for PSD applicability due to their GHG emissions, and applied the same assumption that two percent of them would undertake modifications. In this manner, we estimated the number of modifications of GHG-emitting sources that would become subject to PSD.

We noted that currently, 280 PSD permits are issued each year, but that applying PSD to GHG-emitting sources at the 100/250 tpy statutory threshold levels would cause an increase in permits of more than 140-fold. The reason for the extraordinary increase in PSD applicability lies simply in the fact that it takes a relatively large source to generate emissions of conventional pollutants in the amounts of 100/250 tpy or more, but many sources combust fossil fuels for heat or electricity, and the combustion process for even small quantities of fossil fuel produces quantities of CO_2 that are far in excess of the sources' quantities of conventional pollutants and that, for even small sources, equal or exceed the 100/250 tpy levels.

Based on the 140-fold increase in permits, we then estimated the per-permit burden on permitting authorities. As we stated in the proposal:

> We estimated the number of workload hours and cost a permitting authority would expend on each new source and each modification. We based these estimates on the workload hours and cost for processing permits for new sources of non-GHG emissions, which we derived from labor and cost information from the existing ICRs for PSD programs. The ICRs show that permitting authorities expend 301 hours to permit a new or modified industrial source * * *.
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> We then made assumptions for number of workload hours and costs for new sources of GHG emissions. We assumed that permitting new industrial GHG sources that emit in excess of the 250-tpy threshold would be of comparable complexity to permitting non-GHG emitting industrial sources that are subject to PSD. Thus, for these sources, we assumed that permitting authorities would expend the same number of workload hours and costs, on a per-permit basis, as they do for non-GHG emitting industrial sources. On the other hand, for commercial and residential GHG sources that emit GHGs above the 250-tpy threshold (and as a result would be subject to the requirements of the PSD permitting program at this threshold level), we assumed that the workload hours and cost for permitting these

> sources would be significantly less than—only 20 percent of—the hours and cost necessary to prepare and issue initial PSD permits or permit modifications for industrial GHG sources. This 20-percent estimate amounts to 60 hours of permitting authority time per residential or commercial permit.
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> Based on these assumptions, the additional annual permitting burden for permitting authorities, on a national basis, is estimated to be 3.3 million hours at a cost of $257 million to include all GHG emitters above the 250-tpy threshold.

74 FR 55301 col. 2.

Note that at the proposal, in calculating the PSD administrative burdens that would occur each year due to GHG emissions, we did not undertake separate calculations for the administrative burdens associated with permitting obligations stemming from the GHG emissions of the 280 sources already subject to PSD permitting requirements due to their conventional pollutants. In effect, we treated these 280 sources are part of the over 40,000 sources that would become subject to PSD due to their GHG emissions.

The second way that we evaluated the burden on permitting authorities was by reviewing a study conducted by state and local air permitting agencies. As we said in the preamble:

In addition to conducting our burden analysis, we also reviewed summary information from state and local air permitting agencies regarding additional resources and burden considerations if GHG sources that emit above the 100/250-tpy thresholds were subjected to the PSD and title V programs. This information covered 43 state and local permitting agencies, representing programs from different regions of the country and various permitting program sizes (in terms of geographic and source population coverage) * * *. This information showed significant burdens projected by permitting agencies with adding sources of GHG emissions in terms of staffing, budget, and other associated resource needs. Importantly, the agencies based their analysis on the assumption that, for purposes of determining whether a source is major, its emissions would be calculated on an actual emissions ("actuals") basis, and not on a PTE basis. On an actuals basis, the agencies estimated a 10-fold increase in the number of permits.

Specifically, the agencies estimated that:

- Assuming, again, that number of permits was to increase by 10-fold (based on actual emissions), the resulting workload would require an average of 12 more [full-time equivalents (FTEs)] per permitting authority at an estimated cost of $1 million/year;
- Without the additional FTEs, the average processing time for a permit would increase to 3 years, which is three times the current average processing time;
- Permitting authorities would need 2 years on average to add the necessary staff;

- Permitting authorities would also need, on average, eight additional enforcement and judicial FTEs;
- Ninety percent of permitting agencies would need to train their staff in all aspects of permitting for sources of GHG emissions.
- A quarter of permitting agencies were currently under a hiring freeze.

We went on to explain that this state survey significantly underestimated the administrative burdens:

> It is important to reiterate that the state and local permitting information on burden was based on the number of additional facilities subject to PSD because their emissions of GHGs exceed the 100/250-tpy thresholds at actual emissions rates, not PTE-based emissions rates. However, the PSD applicability requirements are based on PTE. By adjusting the increase in number of permits to account for GHG sources that exceed the 100/250-tpy applicability thresholds based on their PTE emissions, EPA estimated a 140-fold increase in numbers of PSD permits, much more than the 10-fold increase estimated by the states based on actual emissions.

74 FR 55301 col. 2-3.

In addition to PSD, we also estimated title V burdens at the statutory threshold. At proposal, for the title V program, we estimated the administrative burdens that would result from applying title V requirements at the 100 tpy major ***31536** source threshold level in the same two ways as for PSD, as follows. The first method was to calculate the administrative burdens in terms of workload hours, which we then converted to monetary costs. To make the workload calculation, we first estimated the number of existing GHG-emitting sources that would become subject to title V. Based on our GHG threshold data analysis, we estimated that approximately 6 million sources would become subject to title V. Compared to the 14,700 title V permits currently issued, this would be an increase in permits of more than 400-fold. We noted, in addition, that most of the 14,700 sources already subject to title V also emit GHGs and may be affected as well.

We then described the type of work that the permitting authorities would need to do for these GHG-emitting sources—the six million that would become newly subject to title V and most of the 14,700 that are already subject to title V—as follows. Note at the outset that the permitting authorities' workload is greater for sources newly subject to title V than for existing sources that seek a revised or renewed permit. As EPA noted in the preamble:

> [T]he [ ] permits [for the 6 million new sources] would need to include any requirements for non-GHGs that may apply to the source, such as provisions of an applicable SIP. For any such requirements, permitting authorities would also need to develop terms addressing the various compliance assurance requirements of title V, including monitoring, deviation reporting, six-month monitoring reports, and annual compliance certifications.

> Adding to the burden described above would be the burden to add GHG terms to the 14,700 existing title V permits. While, in general, existing title V permits would not immediately need to be revised or reopened to incorporate GHG (because as noted above, there are generally not applicable requirements for GHGs that apply to such sources), permitting authorities may face burdens to update existing title V permits for GHG under two possible scenarios: (1) EPA promulgates or approves any applicable requirements for GHGs that would apply to such a source, which would generally require a permit reopening or renewal application, or (2) the source makes a change that would result in an applicable requirement for GHGs to newly apply to the source, such as PSD review, which would generally require an application for a permit revision. Permitting authorities will also need to process permit renewal applications, generally on a five-year cycle, and such renewals would need to assure that the permit properly addresses GHG. Finally they would have to process title V applications for new sources (including all the PSD sources previously discussed).

74 FR 55302 cols. 2-3.

In light of those demands, we estimated the per-permit burden on permitting authorities as follows. Note, at the outset, that as with PSD, we based the workload hours on information in ICRs for industrial sources, and we then assumed that the workload for commercial and residential sources would be the indicated percentage of the workload for industrial sources:

> As with PSD, we have quantified the extent of the administrative problem that would result in workload hours and cost on the basis of information concerning hours and costs for processing existing title V permits that is indicated on ICRs. However, we recognize that more than 97 percent of these new sources would be commercial and residential sources. We estimate that for permitting authorities, the average new commercial or residential permit would require 43 hours to process, which is 10 percent of the time needed for the average new industrial permit. For an average existing permit, which permitting authorities would need to process through procedures for significant revisions and permit renewals, adding GHG emissions to the permit would result in, we estimate, 9 additional hours of processing time, which is 10 percent of the amount of time currently necessary for processing existing permits. We estimate that the total nationwide additional burden for permitting authorities for title V permits from adding GHG emissions at the 100-tpy threshold would be 340 million hours, which would cost over $15 billion.

74 FR 55302 col. 3.

As with PSD, the second way that we evaluated the burden on permitting authorities at the statutory threshold was by reviewing a study conducted by state and local air permitting agencies of the burden of applying title V to existing GHG-emitting sources at the 100 tpy statutory threshold level. As we said in the preamble to the proposed rule:

> [W]e also reviewed summary information from state and local permitting agencies, which showed significant burdens associated with adding GHGs in their title V programs in terms of staffing, budget, and other associated resource needs.[21] Again, note that the permitting agencies based their estimates on numbers of permits that would be required from sources subject to the 100-tpy title V applicability threshold on an actuals—not PTE—basis. Based on that level, the agencies assumed a 40-fold increase in numbers of permits, and estimated that:
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> - The resulting workload would require an average of 57 more FTEs per permitting agency at an estimated cost of $4.6 million/year;
> - Without the additional FTEs, the average processing time for a permit would increase to almost 10 years, which is 20 times the current average permit processing time;
> - Permitting authorities would need 2 years on average to add the necessary staff;

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[21] "NACAA Summary on Permitting GHGs Under the Clean Air Act"; Memorandum from Mary Stewart Douglas, National Association of Clean Air Agencies to Juan Santiago, EPA/OAQPS, September 3, 2009.

- On average, permitting authorities would need 29 additional enforcement and judicial staff;
- Eighty percent of permitting authorities would need to train their staff in all aspects of permitting for sources of GHG emission.
- A quarter of permitting agencies were currently under a hiring freeze.

As with PSD, we added that this state survey significantly underestimated the administrative burdens:

> It is important to reiterate that, as with PSD, the state and local information on projected permitting burden is based on the number of additional facilities subject to title V because their emissions of GHGs exceed the 100-tpy thresholds at actual emissions rates, not the PTE-based emissions rates. However, the title V applicability requirements are based on PTE. As noted elsewhere in this preamble, the state and local agencies estimated a 40-fold increase in numbers of title V permits based on the amount of GHG sources' actual emissions. By adjusting the summary estimates provided by the state and local agencies to account for GHG sources that exceed the 100-tpy threshold based on their PTE emissions, EPA estimated that the average permitting authority would need 570 more FTEs to support its title V permitting program.

74 FR 55302 col. 3—55303 col. 1.

(2) Revisions to Proposal Estimates of Permitting Authority Burden

We received numerous comments from state and local authorities stating that EPA had underestimated the administrative burden on the permitting authorities in the proposal. State and local authorities stated that in particular, EPA underestimated the number of modifications and the amount of time it would take permitting authorities to process permits, particularly for commercial and residential sources. Based on the comments and additional analysis that we have conducted in response, we are revising in several respects our estimates of the administrative burdens for applying PSD and title V at the statutory threshold levels.

First we present revisions to our analysis regarding the burdens at the statutory levels. Before we present those changes, we want to note a revision to our methodology that affected our estimate of the number of permits currently issued under existing programs. We are revising upwards the number of sources that are already subject to PSD permitting requirements anyway for their conventional pollutants, which, as discussed previously, we refer to as "anyway" sources. This revision has implications ***31537** both for (1) the number of sources that would become subject to PSD due to their GHG emissions; and also (2) the baseline number of sources already subject to PSD, which we use to compare the amount of increases in administrative burden due to permitting GHG sources. At proposal, we stated that 280 sources each year are subject to PSD due to their new construction or modifications. However, upon further analysis, we have realized that this figure is too low because it includes only sources that have emissions of one or more NAAQS pollutants at the 100/250 tpy thresholds and that are located in areas of the country that are designated attainment or unclassifiable for all of those pollutants, and thus are not designated nonattainment for any of those NAAQS pollutants. We estimate that another 520 sources have emissions of one or more NAAQS pollutants at the 100/250 tpy thresholds and are located in areas of the country that are nonattainment for at least one of those NAAQS pollutants. Some of these 520 sources may also emit one or more pollutants at the 100/250 tpy level for which their area is designated attainment or unclassifiable, and therefore may be subject to PSD for those pollutants. Accordingly, the correct number of "anyway" sources subject to PSD each year is the 280 sources that are located in areas that are attainment or unclassifiable for each pollutant that the sources emit at the 100/250 tpy level, plus at least some of the 520 sources that are located in areas that are nonattainment for at least one of the NAAQS pollutants that the sources emit at or above the 100/250 tpy threshold. In the absence of data on the number of nonattainment NSR permits that do not have a PSD component, and because we expect this to be a small number, we have assumed for purposes of this action, that each of the 520 sources is subject to PSD for at least one pollutant, so that we will consider all 800 sources as subject to PSD. Of this number, we estimate that 70 percent, or 560 sources will undergo a modification, while the remaining 240 permitting actions will involve new construction. Of the modifications, we assume that 80 percent, or 448, would become subject to additional requirements due to their GHG emissions because those projects have combustion-related activities that would likely emit GHGs in the requisite quantities. Our estimate of 80 percent of modification activities significantly involving combustion activities is based on a review of a random sample of PSD permits. In total we estimate that 688 sources, either upon new construction or modification, would need to add GHG requirements to their otherwise required PSD permitting action.

We should also note that in this rulemaking we are justifying our conclusions about permitting authority administrative burdens on the basis of their PSD and title V cost as calculated on both a separate basis and a combined basis. That is, we believe that the administrative burdens of the PSD program justify our tailoring approach for the PSD requirements, and the administrative burdens of the title V program justify our tailoring approach for the title V requirements, but in addition, the administrative burdens of both programs on a combined basis justify the tailoring approaches. Viewing the administrative burdens on a combined basis provides a useful perspective because most permitting authorities have a single organizational unit that is responsible for both the PSD program and the title V program, and in many cases, the same employees work on both programs. In addition, in some jurisdictions, permitting authorities issue a single, merged permit that includes both PSD and title V requirements. For these reasons, considering administrative burdens on a combined PSD and title V basis, offers a more accurate picture of the issues these agencies will face in transitioning to GHG permitting.

Turning to the revisions to our burden estimates that we made as a result of public comment, we begin by noting that many commenters believed that we significantly underestimated the administrative burdens associated with the proposed thresholds or that the administrative burden under the proposed thresholds would still overwhelm the states and result in significant permitting delays and uncertainty for sources. Many of these commenters indicate that our estimate of the number of sources that would be subject to permitting is too low, and some add that we have underestimated the per-permit effort required. (More detail on these comments is given elsewhere on the methodology used in the analysis.) Several state and local agencies provided estimates of the increased number of permits and/or staff that would be required under the thresholds we proposed that were higher than our original estimates. Specifically, commenters recommended that we increase the estimated administrative burdens for PSD permits by anywhere from 100 percent to over 2,000 percent; and that we increase the burdens for title V permits by anywhere from 29 percent to 240 percent. Many commenters indicated that EPA has not adequately accounted for "synthetic minor" sources or modification projects, stating that many such sources and projects will not be able to keep GHGs below the proposed thresholds, and those who could do so may not be able to establish enforceable synthetic minor limits. Numerous commenters also stated that the EPA has underestimated the rate of major modifications for GHGs under PSD. Some commenters assert that we underestimated the number of permits required for specific industry sectors, including the oil and gas production industry, the natural gas transmission industry, the semiconductor industry, the wood products industry, the brick industry, and landfills. Some of the state and local commenters also believe that we have overestimated their ability to hire and train sufficient staff to administer GHG permitting.

We are persuaded by the data and arguments provided by the many commenters who believe EPA underestimated the number of permitting actions and the burdens of each action, and thus the overall administrative burdens associated with permitting GHG sources. Accordingly, we have reevaluated our assessment of these administrative burdens, for both the PSD and title V programs. In conducting this reevaluation, we considered arguments made by the commenters, as well as any actual data they provided, and then we determined whether and how to modify various aspects of our detailed assessment of the burdens. Based on this consideration we have substantially revised upwards our estimate of administrative burdens, based on the analysis included in the final docket for this rulemaking.[22] The revisions affect two elements of our analysis by showing: (1) A substantial increase in the number of PSD and title V permits that will occur at a given threshold, and (2) an increase in the average burden estimate for each such permit.

Regarding the increase in our estimate of the number of projects that will occur, we estimated an increase in both PSD and title V permit actions, though the greatest changes were for PSD. At proposal, we estimated that, if PSD requirements were to apply to GHG sources at the 100/250 tpy statutory levels, 40,496 projects—consisting of 3,299 projects at industrial sources and 37,197 projects at commercial or ***31538** residential sources—would need PSD permits each year. Some of these projects involve the construction of an entirely new source, but the majority of these are modifications. We now estimate that at the 100/250 tpy levels, 81,598 projects would become subject to PSD each year. These projects include 26,089 actions at industrial sources and 55,509 at commercial and residential sources. We describe our calculation of this 81,598 amount in a TSD.[23] The great majority of these 81,598 projects that would become subject to PSD are modifications. We base these estimates on the assumption that the significance levels would be 100 tpy regardless of category.

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[22] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

Our estimate of the number of PSD modifications is where we made our most significant upward revisions from our proposal, based on comments. Our doubling of the estimated PSD permitting actions—from 40,496 at proposal to 81,598—results from three separate adjustments we made to our estimates at proposal of the number of permit actions that would result from applying PSD to GHG sources. Two of these increased the number of major modifications, and one of these increased the number of major sources and modifications. The most significant adjustment, and one that was raised by multiple commenters, was that we undercounted the number of major modification projects at existing major sources because we did not include the existing projects that avoid major PSD review by either taking "synthetic minor" limits or by netting out for conventional pollutants, but that would not be able to avoid PSD through those mechanisms for GHGs.

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[23] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

We agree that the ability and procedures for sources to achieve reductions, or minimize increases, due to GHGs through adoption of enforceable limits or through netting out are not well established at this point. We believe that there will be numerous instances, particularly for combustion-related projects, where it will not be possible for sources to achieve the same level of reductions for CO_2–emissions as they do for emissions of nitrogen oxides (NO_X), for example, simply because there are not as many proven control techniques that can reduce CO_2–emissions to the same degree as NO_X. Also, more research will be necessary in the type of emission units and processes resulting in GHG emissions, and how they operate over a wide range of utilization patterns at a variety of source categories, before permitting authorities will be able to establish procedures and rules for developing minor source permit limitations. Therefore, we adjusted our count of major modification permits under PSD upward to account for this.

The second change to the number of permits concerns the general modification rate of 2 percent that we applied at proposal, based on historical experience across all pollutant types. Commenters provided information that suggest that this 2 percent figure is an underestimate for GHG sources because their emissions of CO_2 are high and accumulate quickly from various changes involving combustion units. Therefore, a greater percentage of their physical or operational changes will result in GHG emissions in excess of the significance levels that we identified at proposal. In light of these comments, we reviewed the source populations and pollutant mix within the various populations, and determined that we should revise our general modification rate to 4 percent for GHG sources. This 4 percent rate was obtained by dividing the current annual major NSR permit actions involving modifications by the 14,700 existing sources. We have revised our burden analysis accordingly. Again, the burden analysis in the docket describes our basis for these calculations in more detail.

The third adjustment to the number of permits involves our estimate of the number of sources with PTE that is greater than the various thresholds considered. This affects the number of major sources at the statutory thresholds, which we used to estimate the number of PSD and title V major sources, but also has an effect on the number of major modifications because the number of modifications depends on the size of the population of major sources. Commenters provided evidence that our estimates of capacity utilization (which, as described previously, we use for estimating potential-to-emit based on data for actual emissions) for the general manufacturing source category (referred to as "unspecified stationary combustion" in our analysis) and for the oil and gas industry were not accurate. In our proposal, our estimated range for capacity utilization for "unspecified stationary combustion" varied from 70 to 90 percent depending on manufacturing category. For the oil and gas industry, our estimate was 90 percent. We received comments indicating that these utilization rates are higher than what is normally achieved in real-world conditions, particularly for smaller manufacturing type facilities. Accordingly, in this action, we are using a 50 percent capacity utilization rate for both of these source categories, which better reflects what can be deemed reasonable operation under normal conditions for facilities in these source categories. This adjustment increased the overall number of affected facilities at various threshold levels and we have revised our burden analysis accordingly.

A few commenters asserted that we underestimated the number of residential homes, commercial buildings, and retail stores that would be subject to permitting requirements because these commenters believed the estimate in EPA's TSD was based on actual emissions from space heating equipment rather than PTE. We wish to clarify that our threshold analysis estimates for the number of residential and commercial sources (as well as all other sources) did use a PTE basis. To calculate the PTE amount for these sources, we extrapolated from the actual emissions data for the residential and commercial sources. Specifically, we assumed that a typical residential facility operates its fuel combustion sources at only 10 percent of its capacity and a typical commercial facility operates at only 15 percent of its capacity. Based on these assumptions, we multiplied residential actual emissions by a factor of 10, and commercial actual emissions by a factor of 6.6 to obtain PTE-based estimates. There is very little information available on the capacity utilization rates of fuel combustion equipment at different types of residential and commercial facilities, but we believe our methodology was reasonable for these types of sources and we did not adjust it in response to this comment. Information on the development of these estimates is provided in our Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation.

The second source of upward revisions to our administrative burden estimate is that we are increasing the estimated average cost to permitting authorities of issuing each PSD and title V permit at the statutory thresholds. At proposal, we estimated that for PSD permits, permitting authorities would expend, on average, 301 hours to permit an industrial source of GHG emissions, and 20 percent of that time, or 60 hours to permit a commercial or residential source. After estimating that amount of workload, we went on to estimate the monetary cost to permitting authorities of that workload. Similarly, for title V permits, we estimated at proposal that permitting authorities would expend 10 percent of the number of hours needed to process an industrial permit in order ***31539** to process a commercial or residential permit for GHG sources.

We received comments from both permitting authorities and sources asserting that our methodology underestimated the administrative burden on grounds that (1) Our methodology fails to recognize that when a source triggers PSD for conventional pollutants, additional labor hours would be required to issue BACT for GHGs; (2) our estimate of 60 hours (versus 301 hours) to issue PSD permits to commercial and residential sources of GHGs is unrealistically low; (3) our estimate failed to account for the increase in the complexity of permits for criteria pollutants due to (i) increases in criteria pollutant emissions becoming newly subject to BACT at sources that are major only for GHGs, which will result in increased permitting and (ii) BACT controls for criteria pollutants (*e.g.*, an oxidizer for VOCs) may result in significant GHG emissions, triggering an additional BACT determination; and (4) our methodology failed to account for the significant additional PSD and title V burdens due to sources that obtain federally enforceable permit limits on GHGs in order to become "synthetic minors" and thereby avoid PSD (and possibly also title V).

Based on these comments and our own reassessment of permitting actions created by the addition of GHGs, we have revised upwards in several ways our estimate of the additional per-permit costs of applying PSD and title V to GHG sources, including the following: First we have added an estimate of the additional permitting cost for adding a GHG component to "anyway" PSD and title V permitting actions for conventional pollutants. We estimated this burden based on information in the comments together with our own judgment about how to adjust the burden numbers contained in the current supporting statements for our approved permitting ICRs. These adjustments are found in our revised burden estimate document.

Second, we have raised the per-permit burden hours for commercial and residential sources for PSD and title V. At proposal, our estimates were based on the fact that many of these permits will be technically simpler due to such factors as a lower number of emissions points, simpler processes, and less required modeling. However, commenters pointed out that, until EPA streamlines its permitting procedures, there are many permitting activities that represent a fixed cost, such as public notice, hearing, and response to comment activities. In addition, we agree, as commenters pointed out, that many of these sources will need significantly more permitting authority staff time to assist them in the permit application and preparation process because of their lack of experience with these requirements. In addition, permitting authorities will have little, if any, experience in permitting commercial and residential sources, and therefore will face a learning curve that will entail more time to take per-mitting action. In addition, we expect that in many cases PSD and title V permit applications for GHGs will receive comments from various stakeholders, from citizens groups to equipment vendors, who will seek to participate in the permit process, and responding and revising permits accordingly will add to the hours that the permitting authority will spend.

As a result, we raised the PSD per-permit hours for various steps in the permitting process, as described in the burden estimate document. While we continue to estimate that permitting authorities will expend, on average, 301 hours to issue a PSD permit to an industrial source, and that this would cost $23,243, we now recognize that a permitting authority would expend 70 percent of that time or 210 hours, to permit a commercial or residential source, which would cost $16,216. Similarly, for title V, while we continue to estimate that permitting authorities will expend, on average, 428 hours to issue a title V permit to an industrial source, and that this would cost $19,688, we now recognize that a permitting authority would expend 50 percent of the time, or 214 hours, to permit a commercial or residential source, which would cost $9,844.

We disagree with commenters who suggested that by basing our estimates on the numbers of newly constructing and modifying sources with high enough emissions to qualify as major emitting facilities, we failed to account for the costs of sources that seek "synthetic minor" permits to avoid PSD, and possibly title V, requirements. In fact, our methodology includes sources that might take such limits as newly-major sources for their GHG emissions; and therefore we count the full administrative burden associated with a PSD permit and a title V permit for those sources. In effect, we assume that such sources would go through PSD or title V permitting, rather than take "synthetic minor" limits. We take this approach because although we suspect that there may, in fact, be significant synthetic minor activity, we do not have data that would allow us to determine whether, and how many of, these sources will be able to adopt "synthetic minor" limits or restrict their operations to obtain minor source permitting status. Nor do we have data on the amount of the administrative burden that would fall on any particular permitting authority to establish a "synthetic minor" limit, except that we understand that the amount varies widely across states. As a result, we opted to include these sources in our analysis as sources receiving a PSD or title V permit. Therefore, to the extent that synthetic minor activity occurs, our estimate would already have included the burden for that activity. In fact, our estimate would have overestimated the burden to the extent that a permitting authority would have less administrative costs to issuing a "synthetic minor" permit, as compared to a PSD or title V permit.

(3) Revised Burden Estimates at Statutory Thresholds Based on the revisions just described, we estimate that in all, if sources that emit GHGs become subject to PSD at the 100/250 tpy levels, permitting authorities across the country would face over $1.5 billion in additional PSD permitting costs each year. This would represent an increase of 130 times the current annual burden hours under the NSR major source program for permitting authorities. The permitting authorities would need a total of almost 10,000 new FTEs to process PSD permits for GHG emissions.

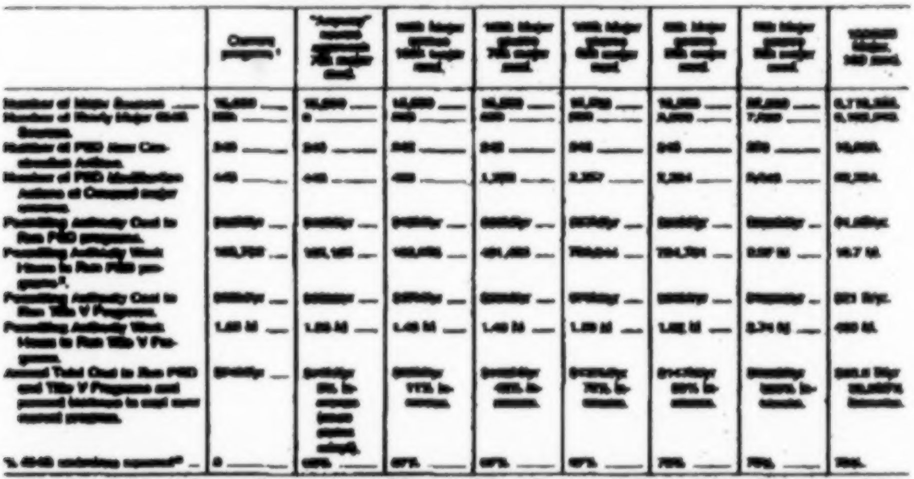
In addition, we estimate that in all, if sources that emit GHGs become subject to title V at the 100 tpy level, permitting authorities across the country would incur about 1.4 billion additional work hours, which would cost $63 billion. We estimate that most of this work would be done over a 3 year period, which would amount to 458 million in additional work hours, and $21 billion in additional costs, on an annual basis over that 3-year period.

We also note that the survey of state and local permitting authorities described in the proposed rulemaking continues to shed light on the extent of the administrative burdens, including staffing, budget, and other associated resource needs, as projected by the permitting authorities. As noted previously, that survey concluded that application of the PSD requirements to GHG-emitting sources at the level of 100/250 tpy or more of actual emissions would, without additional FTEs, increase the average processing time for a PSD permit from one to 3 years. The survey further concluded that application of the title V requirements to GHG-emitting sources at the level of 100 tpy or more of actual emissions would, without additional FTEs, increase the average processing time for ***31540** a title V permit from 6 months to 10 years. As we noted at proposal, this survey assumed a ten-fold increase in the number of PSD permits and a 40-fold increase in the number of title V permits due to GHG-emitting sources, but those assumptions were severely underestimated because they were based on actual emissions. At proposal, our calculations, which were based on potential emissions, indicated a 140-fold increase in PSD permits and a more than 400-fold increase in title V permits. In this rulemaking, we recognize that even our estimates at proposal were severely underestimated. We now recognize that the number of PSD permits will be about twice what we estimated at proposal, and the average processing time for both PSD and title V permits will be two or three times greater than what we estimated at proposal. The survey of state and local permitting authorities provided other useful information as well, including the fact that it would take the permitting authorities 2 years, on average, to hire the staff necessary to handle a ten-fold increase in PSD permits and a 40-fold increase in title V permits, and that 90 percent of their staff would need additional training in all aspects of permitting for GHG sources.

(4) Revised Estimates of Administrative Burdens at Various Threshold Levels

In order to determine the appropriate PSD and title V applicability level for GHG sources, we not only estimated the burden at the statutory thresholds, as described previously, but we also estimated the number of sources, number of permitting actions, and amount of administrative burden at various applicability levels for both PSD and title V, based on the revised methodology described previously, that we used to estimate the administrative burdens of applying PSD and title V at the statutory levels. This information is summarized in Table V-1. Note that Table V-1 also includes, in the last column, the administrative burdens, described previously, associated with the 100/250 tpy thresholds.

TABLE V-1—COVERAGE AND BURDEN INFORMATION



As described in the TSD, we considered several different major source/major modification threshold combinations. We chose the combinations to reflect representative, incremental steps along the possible range. Because it is time- and resource- intensive to develop estimates for a given step, we chose intervals that best reflect representative points within the range, given those time and resource constraints. Here, we discuss key observations about some of the combinations that we assessed. As the table indicates, under the current PSD and title V programs, approximately 15,000 sources qualify as major PSD sources for at least one pollutant and therefore meet the applicability thresholds. Of these, approximately 668 sources are subject to PSD requirements each year for at least one pollutant—240 because they undertake new construction, and 448 because they undertake modifications. The permitting authorities' administrative burdens for the NSR program are 153,795 work hours, and $12 million. For the title V program, the 15,000 sources are, for the most part already permitted, and therefore need revised permits as required and renewal permits on a 5-year schedule. The permitting authorities' title V administrative burdens on an annual basis are 1,349,659 work hours and $62 million.

The first threshold Table 1 describes—and which, as discussed later, we are adopting for Step 1—is the ***31541** "anyway" source approach. Under this approach, (i) PSD applies to the GHG emissions from projects that are subject to PSD anyway as new sources or major modifications due to their emissions of non-GHG pollutants and that result in an increase (or, in the case of modifications, a net increase) of at least 75,000 tpy CO_2e; and (ii) title V applies to what we will call "anyway" title V sources, that is, sources that are subject to title V anyway due to their emissions of non-GHG pollutants. Under this approach, the number of sources subject to PSD each year—including new construction and modifications—is the same as under the current program, but the permitting authorities will need to address GHG emissions as part of those permitting actions each year and, to do so, will require, each year, 34,400 additional workload hours costing an additional $3 million. For title V, we estimate that the number of title V sources that require permitting actions will, on average, be the same each year, but permitting authorities will need to address GHG requirements for some of them; as a result, permitting authorities will need, each year, 27,468 additional work hours costing $1 million in additional funding.

Another threshold described in Table V-1 is the one we are adopting under Step 2, as described later, under which (i) sources will be subject to PSD on account of their GHG emissions if they newly construct and emit at least 100,000 tpy CO_2e, or if they are existing sources that emit at least 100,000 tpy CO_2e of GHGs and make a modification that results in a net emissions increase of at least 75,000 tpy CO_2e and (ii) existing sources will be subject to title V due to their GHG emissions if they emit 100,000 tpy CO_2e in GHG emissions. Under this approach, which we will call the 100,000/75,000 approach, we estimate that each year, compared to current levels, the permitting authorities will need to issue GHG permits to two additional sources that newly construct and to 915 additional sources that undertake modifications. Doing so will require 310,655 additional workload hours costing an additional $24 million, compared to the current program. For title V, an additional 190 sources will require new title V permits each of the first 3 years, and the permitting authorities' associated costs will be 141,322 work hours and $7 million more than the current program.

The last approach we will describe here may be called the 50,000/50,000 approach, which, as discussed later, we adopt as the floor for thresholds during the first 6 years after promulgation. Under this approach, (i) sources will be subject to PSD on account of their GHG emissions if they newly construct and emit at least 50,000 tpy CO_2e, or if they are existing sources that emit at least 50,000 tpy CO_2e of GHGs and make a modification that results in a net emissions increase of at least 50,000 tpy CO_2e; and (ii) existing sources will be subject to title V on account of their GHG emissions if they emit 50,000 tpy CO_2e in GHG emissions. Under this approach, each year, the permitting authorities will need to issue GHG permits to 3 additional sources that newly construct and 1,900 that undertake modifications above current permitting levels. Doing so will require 613,986 additional workload hours costing $47 million, compared to the current program. For title V, an additional 1,189 sources will require new title V permits each of the first 3 years and the permitting authorities' associated costs will be 568,017 work hours and $26 million more than the current program.

We present the remaining entries in the table to illustrate how the cost and burden estimates vary with increasing or decreasing thresholds relative to those selected in this rule. These variations are important in understanding how alternative thresholds would compare to the ones selected. We also include entries reflecting the baseline (current program without GHG permitting) and the burdens if we immediately implemented the full statutory thresholds on January 2, 2011, without tailoring or streamlining.

3. "Absurd Results," "Administrative Necessity," and "One-Step-at-a-Time" Legal Doctrines

a. Introduction and Summary

Having described the factual underpinnings of our action, which are the costs to sources and administrative burdens to permitting authorities, we now describe the legal underpinnings. They involve the framework for analyzing agency-administered statutes, as established by the U.S. Supreme Court in *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837, 842-43 (1984). In this case, *Chevron* framework must take into account the "absurd results," "administrative necessity," and "one-step-at-a-time" legal doctrines. We believe that each of these doctrines provides independent support for our action, but in addition, the three doctrines are directly intertwined and can be considered in a comprehensive and interconnected manner. Moreover, although each of the three doctrines predate the 1984 *Chevron* decision, in which the U.S. Supreme Court established the framework for construing agency-administered statutes, each fits appropriately into the *Chevron* framework.[24]

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[24] Although we set out an analysis of how the three doctrines fit into the *Chevron* framework, we note that even if the

To reiterate, for convenience, the statutory provisions at issue: Congress, through the definition of "major emitting facility," applied the PSD program to include "any * * * source [that] emit[s], or ha[s] the potential to emit, one hundred [or, depending on the source category two hundred fifty] tons per year or more of any air pollutant." CAA sections 165(a), 169(1). In addition, Congress, through the definition of "modification," applied the PSD program to include "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." CAA sections 165(a), 169(2)(C), 111(a)(4). Similarly, Congress, through the definition of "major source," specified that the title V program includes "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). EPA, through long-established regulatory action, in the case of PSD, and long-established guidance, in the case of title V, has interpreted these definitions narrowly so that they apply only with respect to air pollutants that are subject to regulation under the CAA.

Applying these definitions by their terms, as interpreted narrowly by EPA, to GHG sources at the present time would mean that the PSD and title V programs would apply to an extraordinarily large number of small sources, the sources would incur

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doctrines are viewed independently of the *Chevron* framework, they support this action.

unduly high compliance costs, and permitting authorities would face overwhelming administrative burdens. As a result, we believe Congress did not intend for us to follow this literal reading, and instead, with this action, we chart a course for tailoring the applicability provisions of the PSD program and the title V program by phasing them in over time to the prescribed extent.

For our authority to take this action, we rely in part on the "absurd results" doctrine, because applying the PSD and title V requirements literally (as previously interpreted narrowly by ***31542** EPA) would not only be inconsistent with congressional intent concerning the applicability of the PSD and title V programs, but in fact would severely undermine congressional purpose for those programs. We also rely on the "administrative necessity" doctrine, which applies because construing the PSD and title V requirements literally (as previously interpreted narrowly by EPA) would render it impossible for permitting authorities to administer the PSD provisions. The tailoring approach we promulgate in this action is consistent with both doctrines. It is also consistent with a third doctrine, the "one-step-at-a-time" doctrine, which authorizes administrative agencies under certain circumstances to address mandates through phased action.

Our discussion of the legal bases for this rule is organized as follows: In this section V.B.3, we provide an overview of the three doctrines and describe how they fit into the *Chevron* framework for statutory construction. In section V.B.4, we discuss the PSD and title V programs, including each program's relevant statutory provisions, legislative history, and regulatory history. In sections V.B.5 and V.B.6 we discuss the "absurd results" approach for PSD and title V, respectively, that we are finalizing in our action. In section V.B.7., we discuss additional rulemaking in which we may consider exempting certain categories of sources from PSD and title V under the "absurd results" doctrine. In section V.B.8, we discuss the legal and policy rationale for the phase-in schedule that we are adopting for applying PSD and title V to GHG sources. In section V.B.9 we discuss the "administrative necessity" approach for PSD and title V, respectively. In section V.B.10, we discuss the third legal basis for our action, the "one-step-at-a-time" doctrine.

b. The "Absurd Results" Doctrine

Turning first to the "absurd results" doctrine, we note at the outset that we discussed the doctrine at length in the notice of proposed rulemaking, and we incorporate by reference that discussion, although we make some refinements to that discussion in this preamble. The starting point for EPA's interpretation of the PSD and title V applicability provisions and reliance on the "absurd results" doctrine is the familiar *Chevron* two-step analysis. We discuss this analysis in greater detail later, but in brief, in interpreting a statutory provision, an agency must, under *Chevron* Step 1, determine whether Congress's intent on a particular question is clear; if so, then the agency must follow that intent. If the intent of the provision is not clear, then the agency may, under Step 2, fashion a reasonable interpretation of the provision. *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837, 842-43 (1984).

The courts consider the best indicator of congressional intent to be the plain meaning of the statute. However, the U.S. Supreme Court has held that the literal meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls." *United States* v. *Ron Pair Enterprises*, 489 U.S. 235, 242 (1989). This doctrine of statutory interpretation may be termed the "absurd results" doctrine.

Although, as just noted, the U.S. Supreme Court has described the "absurd results" cases as "rare," in that case the Court seemed to be referring to the small percentage of statutory-construction cases that are decided on the basis of the doctrine. The DC Circuit, in surveying the doctrine over more than a century of jurisprudence, characterized the body of law in absolute numbers as comprising "legions of court decisions." *In re Franklyn C. Nofziger*, 925 F.2d 428, 434 (DC Cir. 1991). Indeed, there are dozens of cases, dating from within the past several years to well into the 19th century,[25] in which the U.S.

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[25] For early cases in which the U.S. Supreme Court applied the "absurd results" doctrine, *see Holy Trinity Church* v. *U.S.*, 143 U.S. 457, 516-17 (1892) ("any alien" does not include a foreign pastor; Court stated, "It is a familiar rule, that a thing may be within the letter of the statute and yet not within the statute, because not within its spirit, nor within the intention of its makers * * *. If a literal construction of the words be absurd, the Act must be construed as to avoid the absurdity"); *Chew Heong* v. *United States*, 112 U.S. 536, 555 (1884) (rejecting a literal interpretation of treaty that would have prevented the re-entry of a person into the U.S. upon the ground that he did not possess a certificate which

Supreme Court has applied the "absurd results" doctrine to avoid the literal application of a statute, or if not so holding, has nevertheless clearly acknowledged the validity of the doctrine. Some of the more recent of these cases include: ***Logan*** v. ***United States***, 552 U.S. 23, 36-37 (2007) ("[s]tatutory terms, we have held, may be interpreted against their literal meaning where the words 'could not conceivably have been intended to apply' to the case at hand [citation omitted]"); ***Nixon*** v. ***Missouri Municipal League***, 541 U.S. 125, 132-33 (2004) ("any entity" includes private but not public entities); ***Raygor*** v. ***Regents of Univ. of Minn.***, 534 U.S. 533, 542-45 (2002) ("implying a narrow interpretation of * * * 'any claim asserted' so as to exclude certain claims dismissed on Eleventh Amendment grounds"); ***United States*** v. ***X-Citement Video, Inc.***, 513 U.S. 64, 69 (1994) (rejecting a literal interpretation of the statutory term "knowingly" on grounds that Congress could not have intended the "positively absurd" results that some applications of such an interpretation would produce, "[f]or instance, a retail druggist who returns an uninspected roll of developed film to a customer "knowingly distributes" a visual depiction and would be criminally liable if it were later discovered that the visual depiction contained

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did not exist prior to his departure, and which could not possibly have been issued); ***Heyenfeldt*** v. ***Daney Gold Mining Co.***, 93 U.S. 634, 638 (1877) (statutory language expressly referred to past land sales and dispositions, "but evidently they were not employed in this sense, for no lands in Nevada had been sold or disposed of by any act of Congress," and the language of the statute "could not * * * apply to past sales or dispositions, and, to have any effect at all, must be held to apply to the future").

images of children engaged in sexually explicit conduct"); *Rowland* v. *Cal. Men's Colony*, 506 U.S. 194, 200 (1993) (finding that an artificial entity such as an association is not a "person" under the statute, and describing the absurdity doctrine as a "common mandate of statutory construction"); *United States* v. *Ron Pair Enterprises*, 489 U.S. 235, 242 (1989) (the plain meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls"); *Green* v. *Bock Laundry Machine Company*, 490 U.S. 504 (1989) (provision in Federal Rule of Evidence that protects "the defendant" against potentially prejudicial evidence, but not the plaintiff, refers to only criminal, and not civil, defendants); *Public Citizen* v. *United States Dep't of Justice*, 491 U.S. 440, 453-54 (1989) (rejecting a broad, straightforward reading of the term "utilize," on grounds that a literal reading would appear to require the absurd result that all of FACA's restrictions apply if a President consults with his own political party before picking his Cabinet, and such a reading "was unmistakably not Congress' intention"); *Watt* v. *Alaska*, 451 U.S. 259, 266 (1981) (rejecting reliance on plain statutory language and concluding that the term "minerals" in section 401(a) of the Wildlife Refuge Revenue Sharing Act applies only to minerals on acquired refuge lands; stating "[t]he circumstances of the enactment of particular legislation may persuade a ***31543** court that Congress did not intend words of common meaning to have their literal effect"); *Train* v. *Colorado Public Interest Research Group, Inc.*, 426 U.S. 1, 23-24 (1976) (prohibition in Federal Water

Pollution Control Act against discharging into navigable waters "pollutants," which are defined to include "radioactive materials," does not apply to three specific types of radioactive materials); *Jackson* v. *Lykes Bros. S.S. Co.*, 386 U.S. 731, 735 (1967) (refusing to distinguish between a longshoreman hired by "an independent stevedore company" and one hired by "the shipowner * * * to do exactly the same kind of work," despite the clear terms of the Act, and stating: "[w]e cannot hold that Congress intended any such incongruous, absurd, and unjust result in passing this Act," when the Act was "designed to provide equal justice to every longshoreman similarly situated"); *Lynch* v. *Overholser*, 369 U.S. 705, 710, (1962) (statutory construction is not confined to the "bare words of a statute"); *United States* v. *Bryan*, 339 U.S. 323, 338 (1950) ("Despite the fact that the literal language would encompass testimony elicited by the House Committee in its questioning of respondent relative to the production of the records of the association, the Court will not reach that result if it is contrary to the congressional intent and leads to absurd conclusions. And we are clearly of the opinion that the congressional purpose would be frustrated if the words, "in any criminal proceeding," were read to include a prosecution for willful default under R.S. § 102.").[26]

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[26] For other U.S. Supreme Court cases, *see Utah Junk Co.* v. *Porter*, 328 U.S. 39, 44 (1946) ("literalness may strangle meaning"); *Markham* v. *Cabell*, 326 U.S. 404, 409 (1945) ("The policy as well as the letter of the law is a guide to decision."); *United States* v. *American Trucking Associations, Inc.* 310 U.S. 534 (1940) (the term "employees" in the Federal Motor Carrier Act, is limited to employees whose

The DC Circuit has also handed down numerous decisions that applied the absurd results doctrine to avoid a literal interpretation or application of statutory provisions or that have acknowledged the doctrine. Some of the most recent ones include: *Arkansas Dairy Cooperative Ass'n, Inc.*, v. *U.S. Dep't of Agriculture*, 573 F.3d 815 (DC Cir. 2009) (rejecting the canon of construction that presumes that Congress is aware of existing law pertinent to the legislation that it enacts, when in this case, the presumption that Congress was aware of the Departments definition of "hearing" would lead to "the absurd result that Congress intended to impose a requirement with which the Secretary could not comply;" stating: "Courts, 'in interpreting the words of a statute, [have] some scope for adopting a restricted rather than a literal or usual meaning of its words where acceptance of that meaning would lead to absurd results * * * or would thwart the obvious purpose of the statute * * *.' " (quoting *In re*

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activities affect safety); *C.V. Sorrels* v. *U.S.*, 287 U.S. 435, 446-49 (1932) (provisions of National Prohibition Act that criminalize possessing and selling liquor do not apply if defendant is entrapped; Court declines to apply the "letter of the statute" because doing so "in the circumstances under consideration is foreign to its purpose"); *United States* v. *Katz*, 271 U.S. 354, 362 (1926) (holding that the statutory words "no person" refer only to persons authorized under other provisions of the Act to traffic alcohol, thus rejecting a literal application of general terms descriptive of a class of persons made subject to a criminal statute); *Hawaii* v. *Mankichi*, 190 U.S. 197, 212-14 (1903) (refusing to adopt a literal application of the "Newlands resolution" which would have entitled every criminal in the State of Hawaii convicted of an offense between 1898-1900 to be set at large, as "surely such a result could not have been within the contemplation of Congress").

Trans Alaska Pipeline Rate Cases, 436 U.S. 631, (1978)); *Buffalo Crushed Stone, Inc.* v. *Surface Transportation Board*, 194 F.3d 125, 129-30 (DC Cir. 1999) (regulation of Surface Transportation Board providing that if a notice of exemption "contains false or misleading information, the use of the exemption is void ab initio" does not apply to a notice containing false information when declaring the notice void ab initio would undermine the goals of the governing statute; a conflict between the "literal application of statutory language" and maintaining the integrity of the regulatory scheme should be resolved by construing the text in accordance with its purpose); *Mova Pharm. Corp.* v. *Shalala*, 140 F.3d 1060, 1068-69 (DC Cir. 1998) (as discussed later, describes the "absurd results" doctrine in the context of the *Chevron* framework for statutory construction; invalidates a Food and Drug Administration's (FDA) regulation designed to remedy what the FDA described as the absurd result of a literal application of the statutory provisions governing FDA approval of successive generic drug applications, on grounds that "[i]n effect, the FDA has embarked upon an adventurous transplant operation in response to blemishes in the statute that could have been alleviated with more modest corrective surgery;" states that "[t]he rule that statutes are to be read to avoid absurd results allows an agency to establish that seemingly clear statutory language does not reflect the "unambiguously expressed intent of Congress," *Chevron*, 467 U.S. at 842, and thus to overcome the first step of the *Chevron* analysis"); *Environmental Defense Fund* v. *EPA*, 82 F.3d 451, 468-69 (DC Cir. 1996) (although Act requires that a federal action conform to the SIP that is currently in place, EPA may instead require conformity to a revised implementation plan that state commits to develop; "[t]his is one of those rare cases * * * [that] requires a more flexible, purpose-oriented interpretation if we are to avoid 'absurd or futile results.' "); *American Water Works Ass'n* v. *EPA*, 40 F.3d 1266, 1271 (DC Cir. 1994) (holding that EPA's interpretation of the term "feasible" so as to require a treatment technique instead of a maximum contaminant level (MCL) for lead is reasonable; the court stated: "Indeed, where a literal reading of a statutory term would lead to absurd results, the term simply 'has no plain meaning * * * and is the proper subject of construction by the EPA and the courts.' If the meaning of 'feasible' suggested by the NRDC is indeed its plain meaning, then this is such a case; for it could lead to a result squarely at odds with the purpose of the Safe Drinking Water Act." (quoting *Chem. Mfrs. Ass'n* v. *Natural Res. Def. Council, Inc.*, 470 U.S. 116, 126 (1985)) (citation omitted); *In re Nofziger*, 925 F.2d 428, 434-35 (DC Cir. 1991) (provision authorizing payment of attorney fees to the subject of an investigation conducted by an independent counsel of the Department of Justice only if "no indictment is brought" against such individual does not preclude payment of attorney fees when an indictment is brought but is determined to be invalid).

c. The "Administrative Necessity" Doctrine

In the proposed rulemaking, we also described in detail the "administrative necessity" doctrine, 74 FR 55311 col. 3 to 55318 col. 3, and we incorporate that discussion by reference into this notice. Under this doctrine, if a statutory provision, however clear on its face, is impossible for the agency to administer, then the agency is not required to follow the literal requirements, and instead, the agency may adjust the requirements in as refined a manner as possible to assure that the requirements are administrable, while still achieving Congress's overall intent. The DC Circuit set out the doctrine of "administrative necessity" in a line of cases that most prominently includes *Alabama Power* v. *Costle*, 636 F.2d 323 (DC Cir. 1980). The Court cited the doctrine most recently in *New York* v. *EPA*, 443 F.3d 880, 884, 888 (DC Cir. 2006).

As we stated in the proposed rulemaking, "We believe that the "administrative necessity" case law establishes a three-step process under which an administrative agency may, under the appropriate circumstances, in ***31544** effect revise statutory requirements that the agency demonstrates are impossible to administer so that they are administrable." 74 FR 55315 col. 1. Specifically:

> [T]he three steps are as follows: When an agency has identified what it believes may be insurmountable burdens in administering a statutory requirement, the first step the agency must take is to evaluate how it could streamline administration as much as possible, while remaining within the confines of the statutory requirements. The second step is that the agency must determine whether it can justifiably conclude that even after whatever streamlining of administration of statutory requirements (consistent with those statutory requirements) it conducts, the remaining administrative tasks are impossible for the

> agency because they are beyond its resources, *e.g.*, beyond the capacities of its personnel and funding. If the agency concludes with justification that it would be impossible to administer the statutory requirements, as streamlined, then the agency may take the third step, which is to phase in or otherwise adjust the requirements so that they are administrable. However, the agency must do so in a manner that is as refined as possible so that the agency may continue to implement as fully as possible Congressional intent.

74 FR 55315 cols. 1-2.

It should also be noted that we believe the administrative burdens encountered by the state and local permitting authorities are fully relevant under the "administrative necessity" doctrine. Although the case law that discusses the doctrine focuses on federal agencies (*see* 74 FR 55312-14), under the CAA, state and local agencies are EPA's partners in implementing provisions of the CAA, and have primary responsibility for implementing the PSD program. They generally adopt EPA's PSD requirements in their SIPs, as required under CAA section 110(a)(2)(C); and they generally adopt EPA's title V requirements in their title V programs, as required under CAA section 502(d). They issue the PSD and title V permits and are responsible in the first instance for enforcing the terms of the permits. In all these respects, the law that the state and local permitting authorities administer is both federal and state law. Under certain circumstances, EPA may become responsible for permit issuance and enforcement in the first instance, but even then, EPA may, and frequently has, delegated those duties to a state, in which case, the state implements federal law directly. Thus, although the PSD and title V programs are federal requirements, for the most part, it is the states that implement those programs. For this reason, the administrative burdens that the states face in implementing the programs are relevant in determining the applicability of the "administrative necessity" doctrine.

d. "One-Step-at-a-Time" Doctrine

In addition to the "absurd results" and "administrative necessity" doctrines, another judicial doctrine supports at least part of EPA's Tailoring Rule, and that is the doctrine that agencies may implement statutory mandates one step at a time, which we will call the "one-step-at-a-time" doctrine. In the notice of proposed rulemaking, we also described this doctrine and recent case law applying it. 74 FR 55319 col. 1-3. As we noted, that the U.S. Supreme Court recently described the doctrine in *Massachusetts* v. *EPA*, 549 U.S. 497, 524 (2007), as follows: "Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop;" and instead they may permissibly implement such regulatory programs over time, "refining their preferred approach as circumstances change and as they develop a more nuanced understanding of how best to proceed." We assume familiarity with our discussion in the proposal, but we expand upon it here to review the case law in greater detail and to highlight certain components of the doctrine that are particularly relevant to the Tailoring Rule. The roots of the doctrine go back at least to the DC Circuit's

1979 decision in *United States Brewers Association, Inc.* v. *EPA*, 600 F.2d 974 (DC Cir. 1979). There, the Court considered a challenge to EPA's guidelines for managing beverage containers, which EPA was required to promulgate under the Resource Conservation and Recovery Act of 1976 (RCRA). RCRA gave EPA one year to promulgate the guidelines. EPA promulgated a partial set of guidelines, started two others, and was challenged before the year was out by petitioners who objected to the initial guideline, saying it fell short of the statutory mandate. The Court upheld the initial guideline, stating: "Under these circumstances we think the question of whether the Agency has fully satisfied the mandate of the statute is not fit for judicial review at this time, when the Agency, still well within the one-year period granted by statute, is deeply involved in the process of formulating rules designed to carry out the congressional mandate. The Agency might properly take one step at a time." *States Brewers Association, Inc.* v. *EPA*, 600 F.2d at 982.

The Court addressed the doctrine at greater length in *National Association of Broadcasters* v. *FCC*, 740 F.2d 1190, 1209-14 (DC Cir. 1984): There, the Court noted that under certain statutory schemes, step-by-step agency action might not be authorized; but the Court emphasized that when it is authorized, it may offer significant benefits; and the Court went on to delineate some of the circumstances under which its use is justified. In that case, the Court held that Federal Communications Commission (FCC) acted reasonably in making a spectrum allocation decision that granted direct broadcast satellite service priority use of a gigahertz (GHz) band in

5-years time, and—although acknowledging that fixed service users that were, at that time, using that band, would have to relocate to other bands—in postponing the details of the fixed service relocation to future proceedings. The Court described in some detail "[t]he circumstances under which * * * [an] agency may defer resolution of problems raised in a rulemaking," as follows:

> The requisite judgment is in essence a pragmatic one. In an ideal world, of course, agencies would act only after comprehensive consideration of how all available alternatives comported with a well-defined policymaking objective, and in some circumstances, statutes indeed mandate that agencies proceed by only such a course * * *. But administrative action generally occurs against a shifting background in which facts, predictions, and policies are in flux and in which an agency would be paralyzed if all the necessary answers had to be in before any action at all could be taken * * *. We have therefore recognized the reasonableness of [an agency's] decision to engage in incremental rulemaking and to defer resolution of issues raised in a rulemaking even when those issues are "related" to the main ones being considered * * *.
>
> At the same time, [an agency] cannot 'restructure [an] entire industry on a piecemeal basis' through a rule that utterly fails to consider how the likely future resolution of crucial issues will affect the rule's rationale * * *.

> Drawing a line between the permissible and the impermissible in this area will generally raise two questions. First the agency will likely have made some estimation, based upon evolving economic and technological conditions, as to the nature and magnitude of the problem it will have to confront when it comes to resolve the postponed issue. With regard to this aspect of the agency's decision, as long as the agency's predictions about the course of future events are plausible and flow from the factual record compiled, a reviewing court should accept the agency's estimation * * *. Second, once the nature and magnitude of the unresolved issue is determined, the relevant question is whether it was reasonable, in the context of the decisions made in the proceeding under review, for the agency to have deferred the issue to the future. With respect to that question, postponement will be most easily justified when an agency acts against a background of rapid technical and social change and when ***31545** the agency's initial decision as a practical matter is reversible should the future proceedings yield drastically unexpected results. In contrast, an incremental approach to agency decision making is least justified when small errors in predictive judgments can have catastrophic effects on the public welfare or when future proceedings are likely to be systematically defective in taking into account certain relevant interests * * *.

740 F.2d at 1210-11 (citations omitted).

In *City of Las Vegas* v. *Lujan*, 891 F.2d 927 (DC Cir. 1989), the Court suggested that one component of upholding partial agency compliance with a statutory directive is evidence that the agency was on track for full compliance. There, the Court upheld the Department of Interior's decision to list the population of desert tortoises living north and west of the Colorado River (the "Mojave" population) as endangered species, but not the nearby population living south and east of the river (the "Son-oran" population). The agency explained that the Mojave population faced certain threats that the Sonoran population did not, and the Court found nothing to fault in that reasoning. The Court added: "Since agencies have great discretion to treat a problem partially, we would not strike down the listing if it were a first step toward a complete solution, even if we thought it 'should' have covered both the Mojave and Sonoran populations." *City of Las Vegas* v. *Lujan*, 891 F.2d 927, 935 (DC Cir. 1989) (footnote omitted).

In *Grand Canyon Air Tour Coalition* v. *F.A.A.*, 154 F.3d 455 (DC Cir. 1998), the DC Circuit added another component to the "one-step-at-a-time" doctrine: While reiterating that "ordinarily, agencies have wide latitude to attack a regulatory problem in phases and that a phased attack often has substantial benefits," *id.* at 471, the Court went on to uphold partial agency action even when that action was long-delayed. There, the relevant statute was the Overflights Act, which required the Federal Aviation Administration (FAA) to reduce aircraft noise from sightseeing tours in Grand Canyon National Park, and established the goal of "substantial restoration of natural quiet and experience of the park." The statute required the agency to develop a plan to implement the statutory requirements within 120 days after enactment, and report to Congress within 2 years after the date of the plan as to the plan's success. In fact, the FAA did not develop, through rulemaking, a plan until ten years after enactment, and when it did, it acknowledged that the plan was only a partial one, and that it would need two more rules and another ten years to meet the statutory goal of substantial restoration. Although recognizing that the Overflights Act did not establish an explicit timetable for meeting the statutory goal, the Court stated that "[t]he language of the Overflights Act does manifest a congressional concern with expeditious agency action," and described the agency's action variously as "tardy," "undeniably slow," and "slow and faltering." *Id.* at 476-77. Even so, the Court upheld the FAA's action against different challenges from appellants and intervenors that (i) the agency acted unreasonably in not promulgating a complete plan to meet the statutory goal, instead of promulgating just the first step; and (ii) the agency acted unreasonably in not waiting until it had a complete plan before promulgating the first step. The Court stated: "We agree that it would be arbitrary and capricious for an agency simply to thumb its nose at Congress and say—without any explanation—that it simply does not intend to achieve a congressional goal on any timetable at all * * *," but went on to emphasize that the FAA's rule was the first of three that the agency assured would achieve the statutory goal. The Court cited *City of Las Vegas* v. *Lujan*, discussed previously, for the proposition that "a court will not strike down agency action 'if it were a first step toward a complete solution.' "*Grand Canyon Air Tour Coalition* v. *F.A.A.*, 154 F.3d 455, 477-78 (DC Cir. 1998).[27]

e. Consistency of Doctrines With *Chevron* Framework

Although the formation of the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines predate the *Chevron* two-step analysis for construing statutes that Congress has authorized an agency to administer, we believe that the doctrines can be considered very much a part of that analysis, and courts have continued to apply them post-*Chevron*. Under *Chevron* Step 1, an agency must determine whether "Congress has directly spoken to the precise question at issue." If so, "the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." However, if "the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute."

Chevron U.S.A. Inc. v. *NRDC*, 467 U.S. 837, 842-42 (1984).

Thus, Step 1 under *Chevron* calls for determining congressional intent for the relevant statutory directive on the specific issue presented. To determine Congress's intent, the agency must look first to the statutory terms in question, and generally interpret them according to their literal meaning, within the overall statutory context, and perhaps with reference to the legislative history. If the literal meaning of the statutory requirements is clear then, absent indications to the contrary, the agency must take it to indicate congressional intent and must implement it. Even if the literal meaning of the statutory requirements is not clear, if the agency can otherwise find indications of clear congressional intent, such as in the legislative history, then the agency must implement that congressional intent.

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[27] For other cases, *see Arizona Public Service Co.* v. *EPA*, 562 F.3d 1116, 1125-26 (10th Cir. 2009); *General American Transp. Corp.* v. *ICC*, 872 F.2d 1048, 1058 (DC Cir. 1989); *Hazardous Waste Treatment Council* v. *EPA*, 861 F.2d 277, 287 (DC Cir. 1988); *Western Union International, Inc.* v. *FCC*, 725 Fl2d 732, 754 (DC Cir. 1984).

The DC Circuit has indicated that the "absurd results" doctrine fits into the *Chevron* Step 1 analysis in the following way: Recall that in the cases in which the courts have invoked this doctrine, the literal meaning of the statutory requirements has been clear, but has led to absurd results. This can occur when the literal meaning, when applied to the specific question, conflicts with other statutory provisions, contradicts congressional purpose as found in the legislative history—and, in particular, undermines congressional purpose—or otherwise produces results so illogical or otherwise contrary to sensible public policy as to be beyond anything Congress would reasonably have intended. *See United States* v. *Ron Pair Enterprises*, 489 U.S. 235, 242-43 (1989); *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 571 (1982).

Under these circumstances, the agency must not take the literal meaning to indicate congressional intent. As the DC Circuit has explained, "where a literal reading of a statutory term would lead to absurd results, the term 'simply has no plain meaning * * * and is the proper subject of construction by the EPA and the court.' "*American Water Works Assn* v. *EPA*, 40 F.3d 1266, 1271 (DC Cir. 1994) (quoting *Chemical Manufacturers' Association* v. *NRDC*, 470 U.S. 116, 126 (1985)). Under these circumstances, if the agency can find other indications of clear congressional intent, then the agency must implement that intent. *See United States* v. *Ron Pair Enterprises*, 489 U.S. 235, 242-43 (1989). This may mean implementing the statutory terms, albeit not in accordance with their literal meaning, ***31546** but in a way that achieves a result that is as close as possible to congressional intent. As the DC Circuit said in *Mova Pharm. Corp.* v. *Shalala*, 140 F.3d 1060 (DC Cir. 1998):

> The rule that statutes are to be read to avoid absurd results allows an agency to establish that seemingly clear statutory language does not reflect the "unambiguously expressed intent of Congress," * * * and thus to overcome the first step of the *Chevron* analysis. But the agency does not thereby obtain a license to rewrite the statute. When the agency concludes that a literal reading of a statute would thwart the purposes of Congress, it may deviate no further from the statute than is needed to protect congressional intent * * *. [T]he agency might be able to show that there are multiple ways of avoiding a statutory anomaly, all equally consistent with the intentions of the statute's drafters * * *. In such a case, we would move to the second stage of the *Chevron* analysis, and ask whether the agency's choice between these options was

> "based on a permissible construction of the statute." Otherwise, however, our review of the agency's deviation from the statutory text will occur under the first step of the *Chevron* analysis, in which we do not defer to the agency's interpretation of the statute.

Id. at 1068 (quoting *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837, 842, 843 (1984) (citations omitted)).

The "administrative necessity" doctrine is not as well developed as the "absurd results" doctrine, so that the courts have not had occasion to explicitly describe how the doctrine fits into the *Chevron* analytical framework. However, we think that a reasonable approach, in line with the DC Circuit's approach to the "absurd results" doctrine as just described, is as follows: Recall that under the "administrative necessity" doctrine, an agency is not required to implement a statutory provision in accordance with the literal requirements when doing so would be impossible, but the agency must nevertheless implement the provision as fully as possible. Placed in the context of the *Chevron* framework, we think that that the "administrative necessity" doctrine is based on the premise that inherent in the statutory design is the presumption that Congress does not intend to impose an impossible burden on an administrative agency. *See Alabama Power* v. *Costle*, 636 F.2d 323, 357 (DC Cir. 1980) (describing the "administrative necessity" approach as one of the "limited grounds for the creation of exemptions [that] are inherent in the administrative process, and their unavailability under a statutory scheme should not be presumed, save in the face of the most unambiguous demonstration of congressional intent to foreclose them").

Therefore, if the literal meaning of a statutory directive would impose on an agency an impossible administrative burden, then that literal meaning should not be considered to be indicative of congressional intent. Rather, congressional intent should be considered to achieve as much of the statutory directive as possible. As a result, the agency must adopt an approach that implements the statutory directive as fully as possible. This is consistent with the DC Circuit's holding in Mova Pharm. Corp that if congressional intent is clear, but the plain meaning of a statute does not express that intent, then the agency must, under *Chevron* Step 1, select an interpretation that most closely approximates congressional intent. *Mova Pharm. Corp*, 140 F.3d at 1068.[28]

The "one-step-at-a-time" doctrine fits into the *Chevron* framework in much the same manner that the "administrative necessity" doctrine does. That is, inherent in the statutory design is the presumption that Congress intended an agency, under certain circumstances, to implement the statutory requirements in a one-step-at-a-time fashion, as long as the agency stays on a path towards full implementation.

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[28] We recognize that we described the relationship between the *Chevron* framework and the "administrative necessity" doctrine somewhat differently in the proposal, 74 FR 55312, and that, after further analysis, we are refining our view of that relationship as described previously.

Under all of the circumstances described previously, congressional intent is clear—whether it is indicated by the plain language or otherwise—and as a result, the agency must follow that intent under *Chevron* Step 1. On the other hand, the agency may determine that congressional intent on the specific issue is not clear. In these cases, the agencies should proceed to *Chevron* Step 2 and select an interpretation or an application that is a permissible construction of the statute. This situation generally occurs when the statutory provisions are ambiguous or silent as to the specific issue, and there are no other indications of clear congressional intent. In addition, in some cases in which the literal meaning of the statutory provision, when applied to the specific question, leads to an absurd result—and, therefore, the statutory provision should be considered not to have a plain meaning—there may be no other indications of clear congressional intent. Under all these circumstances, the agency is authorized, under *Chevron* Step 2, to develop and implement a construction of the statute that the courts will uphold as long as it is reasonable.

As noted previously, the DC Circuit, has pointed out that this situation may also occur when the literal language leads to an absurd result, and, in attempting to implement congressional intent, the agency is "able to show that there are multiple ways of avoiding a statutory anomaly, all equally consistent with the intentions of the statute's drafters * * *. In such a case, we would move to the second stage of the *Chevron* analysis, and ask whether the agency's choice between these options was 'based on a permissible construction of the statute.'" *Mova Pharm. Corp*, 140 F.3d at 1068. As the U.S. Supreme

Court has recently said, although in a context different than "absurd results," "In the end, the interpretation applied by EPA "governs if it is a reasonable interpretation of the statute—not necessarily the only possible * * * interpretation, nor even the interpretation deemed most reasonable by the courts." *Entergy Corp.* v. *Riverkeeper, Inc.*, 129 S. Ct. 1498, 1505 (2009).

As a related matter, although the courts have described *Chevron* Step 2 as requiring that the agency's policy be "a permissible construction of the statute," *see Mova Pharm. Corp,* 140 F.3d at 1068 (quoting *Chevron*, 467 U.S. at 842-43), if the statutory requirements cannot be read literally because doing so would produce "absurd results," then the agency's policy need not be completely consistent with those particular requirements. The policy must still, in order to be upheld, be consistent with Congress's actions, but those actions should be considered to afford the agency broad discretion considering that both the statutory terms cannot be considered dispositive and underlying congressional intent is not clear. As the U.S. Supreme Court has recently said, although in a context different than "absurd results," In the end, the interpretation applied by the agency governs if it is a reasonable interpretation of the statute—not necessarily the only possible * * * interpretation, nor even the interpretation deemed most reasonable by the courts." *Entergy Corp.* v. *Riverkeeper, Inc.*, 129 S. Ct. 1498, 1505 (2009).

There is another aspect of the "administrative necessity" doctrine worth noting in this context: The doctrine applies when (i) a literal application of the statutory directive to the case at hand is impossible for the agency to administer; and (ii) even so, either Congress clearly intended the statutory directive to apply to the case ***31547** at hand or, if Congress did not clearly intend that, then the agency reasonably construes the statute to apply the statutory directive to the case at hand. In contrast, if Congress did not intend the statutory directive to apply to the case at hand, or if congressional intent is uncertain and the agency considers another approach to be reasonable, then the "administrative necessity" doctrine would not apply. As a result, the agency would not be required to implement the statutory directive to the case at hand at all, much less in a more administrable fashion.

f. Interconnectedness of the Legal Doctrines

Although we believe that each of the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines provide independent support for our action, we also believe that in this case, the three doctrines are intertwined and form a comprehensive basis for EPA's tailoring approach. As just discussed, each of the three doctrines is tied into the *Chevron* analytical framework because each is designed to give effect to underlying intent. As discussed previously, each of the three doctrines comes into play in this case because a literal reading of the PSD and title V applicability provisions results in insurmountable administrative burdens. Those insurmountable administrative burdens—along with the undue costs to sources—must be considered "absurd results" that would undermine congressional purpose for the PSD and title V programs. Under the "absurd results" doctrine, EPA is authorized not to implement the applicability provisions literally—that is, not to implement them as applying on the January 2, 2011 date that PSD and title V are triggered to all GHG sources at or above the statutory thresholds—but instead to tailor them in a manner consistent with congressional intent. That means applying the PSD and title V requirements through a phase-in approach to as many sources as possible and as quickly as possible, starting with the largest sources, as EPA does with this Tailoring Rule,[29] at least to a certain point. By the same token, the insurmountable administrative burdens bring into play the "administrative necessity" doctrine, under which EPA is, again, authorized not to implement the applicability provisions literally, but instead to apply them in a manner consistent with administrative resources. This also means phasing them in through the approach in the Tailoring Rule. Finally, the "one-step-at-a-time" doctrine, which authorizes incremental action by agencies to implement statutory requirements under certain circumstances, provides further support for the phased tailoring approach in the Tailoring Rule.

g. Application of *Chevron* Approach

The *Chevron* analytical approach, and the three legal doctrines at issue here, apply to this action in the following manner: To reiterate, for convenience, the statutory provisions at issue: Congress, through the definition of "major emitting facility," applied the PSD program to include (i) "any * * * stationary sources of air pollutants which emit or have the potential to emit, one hundred [or, depending on the source category, two hundred fifty] tons per year or more of any air pollutant," CAA sections 165(a), 169(1); and (ii) and such sources that undertake a physical or operational change that "increases the amount of any air pollutant emitted" by such sources, CAA sections 165(a), 169(2)(C), 111(a)(4).[30] Similarly, Congress, through the definition of "major source," specified that the title V program includes "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). EPA, through long-established regulatory action, in the case of PSD, and long-established interpretation, in the case of title V, has interpreted these definitions so that they apply only with respect to air pollutants that are subject to regulation under the CAA.

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[29] As discussed later, EPA may, in future rulemaking, make a final determination that under the "absurd results" doctrine, Congress did not intend for EPA to apply PSD to very small sources, that is, those, with emissions at or near the 100/250 tpy statutory levels.

For each of these applicability provisions, the approach under *Chevron* is as follows: Under *Chevron* Step 1, we must determine whether Congress expressed an intention on the specific question, which is whether the PSD or title V applicability provisions apply to GHG sources. Said differently, the specific question is whether, in the case of PSD, Congress intended that the definitions of "major emitting facility" and "modification" apply, respectively, to all GHG sources that emit at least 100 or 250 tpy or GHGs and to all physical or operational changes by major emitting facilities that "increase[ ] the amount" of GHGs; and, in the case of title V, whether the definition of "major source" applies to all GHG sources that emit at least 100 tpy GHGs.

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[30] A physical or operational change is treated as a "modification" that is subject to PSD if it either "increases the amount of any air pollutant emitted" by the source or "results in the emission of any air pollutant not previously emitted." For convenience, unless otherwise indicated, when we refer to changes that "increase[ ] the amount of any air pollutant emitted," we mean both to those types of changes and changes that "result[ ] in the emission of any air pollutant not previously emitted."

To determine intent, we must first examine the terms of the statute in light of their literal meaning. Here, the literal reading of each provision covers GHG sources. For PSD, a GHG source that emits at least 100 or 250 tpy GHGs literally qualifies as "stationary source [ ] of air pollutants which emit[s] or ha[s] the potential to emit, one hundred [or two hundred fifty] tons per year or more of any air pollutant [subject to regulation under the CAA]." CAA section 169(1). For modifications, a physical or operational change that increases the amount of GHG emissions qualifies as a "modification" because it "increases the amount of any air pollutant emitted" by the source. Similarly, for title V, a GHG source that emits at least 100 tpy GHGs literally qualifies as "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant [subject to regulation under the CAA]." CAA sections 502(a), 501(2)(B), 302(j).

Although each definition is clear that it applies to GHG sources as a general matter, applying each definition in accordance with its literal meaning to all

GHG sources at the specified levels of emissions and at the present time—in advance of the development of streamlining methods and greater permitting authority expertise and resources—would create undue costs for sources and impossible administrative burdens for permitting authorities. These results are not consistent with other provisions of the PSD and title V requirements, and are inconsistent with—and, indeed, undermine—congressional purposes for the PSD and title V provisions. Accordingly, under the "absurd results" doctrine, neither the PSD definition of "major emitting facility" or "modification" nor the title V definition of "major source," should be applied literally to all GHG sources, and therefore none should be considered to have a literal meaning with respect to its application to all GHG sources.

In analyzing the provisions of each definition more closely, we believe that each has four terms, any one of which could be considered not to have its literal meaning, in this respect. Specifically, each provision includes (i) The term "any * * * source," or "a stationary source," and that term could be considered not to refer literally to all ***31548** of the GHG sources; (ii) either the term "two hundred fifty tons per year" or "100 tons per year," or the term "increases the amount," and those terms could be considered not to refer literally to the tonnage amount of emissions from all of the GHG sources; (iii) the term "any air pollutant,"[31] and that term could be considered not to refer literally to the emissions from all of the GHG sources; and (iv) the term "subject to regulation under the CAA" (which we have interpreted "any air pollutant" to include), and that term could be considered not to refer literally to the emissions from all of the GHG sources. As long as any one of those four terms may be considered not to have its literal meaning as applied to GHG sources, then the definition as a whole—again, for PSD, the terms "major emitting facility" or "modifications," and for title V, the term "major source"—cannot be considered to apply literally to GHG sources. Because we read the terms together, as integral parts of each definition as a whole, we do not think that the choice of which of those four terms within each definition cannot be considered to apply literally to GHG sources has substantive legal effect. In other words, we believe that any one of these terms, or all of them together as part of each definition as a whole, should be considered not to apply literally in the case of GHG sources.

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[31] We do not believe that this term is ambiguous with respect to the need to cover GHG sources under either the PSD or title V program, only with respect to what sources of GHG should be covered under the circumstances presented here.

Having determined that each definition does not have a literal meaning with respect to the applicability of PSD or title V applies to all GHG sources, we must next inquire as to whether Congress has nevertheless expressed an intent on that question through other means. We discuss the statutory terms and legislative history of the PSD and title V provisions in more detail later, but for now it suffices to say that on the issue of whether PSD and title V apply to GHG sources, we believe that congressional intent is clear, and that is to apply PSD and title V to GHG sources generally. We believe that this intent is clear from the broad phrasing of the applicability provisions—as noted earlier, the definitions apply by their terms to GHG source generally, even though the definitions should not be applied literally to all GHG sources—the fact that the various components of the PSD and title V programs can be readily applied to GHG sources, and the fact that the two programs can readily accommodate at least some GHG sources. As a result, we believe that as a matter of *Chevron* Step 1, PSD and title V generally apply to GHG sources. Our previous regulatory action defining the applicability provisions made this clear, and we do not reopen this issue in this rule-making. Moreover, even if this long-established regulatory position were not justifiable based on *Chevron* step 1—on the grounds that in fact, congressional intent on this point is not clear—then we believe that this position, that the statutory provisions to apply PSD and title V generally to GHG sources, was justified under *Chevron* step 2.[32]

On the issue of how to apply PSD to GHG sources, including the specific threshold levels and the timing, we believe that Congress could be considered to have expressed a clear intent that GHG sources be included in the PSD program at as close to the statutory thresholds as possible, and as quickly as possible, and at least to a certain point, all as consistent with the need to assure that the PSD program does not impose undue costs on sources or undue administrative burdens on the permitting authorities. Under this view, EPA would be required at *Chevron* Step 1 to adopt the Tailoring Rule because, by phasing in PSD applicability, it most closely gives effect to Congress's intent. Under these circumstances, EPA is authorized to exercise its expert judgment as to the best approach for phasing in the application of PSD to GHG sources.

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[32] In this preamble and the response to comments document we fully address arguments that commenters and others have presented about congressional intent and coverage of GHGs. We do so to be fully responsive, even though we believe that this is a settled matter for which the time for judicial review has past.

Even so, we recognize that it could be concluded that on the issue of how to apply PSD to GHG sources, congressional intent is unclear. Under these circumstances, EPA has the discretion at *Chevron* Step 2 to adopt the Tailoring Rule because it is a reasonable interpretation of the statutory requirements (remaining mindful that the applicability requirements cannot be applied literally). Under the Tailoring Rule, EPA seeks to include as many GHG sources in the permitting programs at as close to the statutory thresholds as possible, and as quickly as possible, although we recognize that we ultimately may stop the phase-in process short of the statutory threshold levels.

As for title V, we believe that taken together, the various statutory requirements and statements in the legislative history do not evidence a clear congressional intent for how title V is to be applied to GHG sources. As discussed later, the relevant title V requirements and statements in legislative history differ from PSD, not least because they include provisions that concern empty permits that point in different directions. As a result, here, too, EPA has the discretion at *Chevron* Step 2 to adopt the Tailoring Rule as a reasonable interpretation of the statutory requirements. Alternatively, even if the statute does express a clear intent as to title V that, similar to PSD, title V requirements must be phased in as closely to the statutory threshold as possible and as quickly as possible, this Tailoring Rule is consistent with that intent.

It should also be noted that although EPA has concluded that applying the PSD and title V applicability provisions literally in the case of GHG sources would produce "absurd results" and therefore is not required, this conclusion has no relevance for applying other CAA requirements—such as the requirements concerning endangerment and contribution findings under CAA section 202(a)(1) or emission standards for new motor vehicles or new motor vehicle engines under CAA section 202—to GHGs or GHG sources. EPA's conclusions with respect to the PSD and title V applicability requirements are based on the specific terms of those requirements, other relevant PSD and title V provisions, and the legislative history of the PSD and title V programs.

Within the context of the *Chevron* framework, the "administrative necessity" doctrine applies as follows: Under the doctrine, Congress is presumed to intend that the PSD and title V applicability requirements be administrable. Here, those applicability requirements, if applied to GHG sources in accordance with their literal meaning, would be impossible to administer. Accordingly, under *Chevron* Step 1, it is consistent with congressional intent that EPA and the permitting authorities be authorized to implement the applicability requirements in a manner that is administrable, that is, through the tailoring approach.

As for the "one-step-at-a-time" doctrine, we believe it applies within the *Chevron* framework in conjunction with the "absurd results" and "administrative necessity" doctrines. As we discuss elsewhere, the PSD and title V applicability provisions by their terms require that sources at or above the 100/250 tpy thresholds comply with PSD and title V requirements at the time those requirements are triggered, which ***31549** is when GHGs become subject to regulation. Therefore, if the literal meaning of the applicability provisions as applied to GHG sources were controlling—that is, if it reflected congressional intent—it would foreclose use of the one-step-at-a-time doctrine to implement a phase-in approach. However, the literal meaning is not controlling because—in light of the absurd results, including the insurmountable administrative burdens, that would result from the literal meaning—congressional intent is not to require the application of the PSD and title V requirements to all GHG sources at or above the statutory thresholds at the time that GHGs become subject to regulation. Instead, as described previously, we consider congressional intent for the applicability provisions, as applied to GHG sources, either (i) to be clear that PSD and title V should be phased in for GHG sources as quickly as possible, or (ii) to be unclear, so that EPA may reasonably choose to phase PSD and title V in for those sources in that manner. Under either view, congressional intent for PSD and title V applicability to GHG sources accommodates the "one-step-at-a-time" approach.

4. The PSD and Title V Programs

Having discussed both the factual underpinnings and, immediately above, the legal underpinnings for our tailoring approach, we now discuss the PSD and title V programs themselves, including, for each program, the key statutory provisions, their legislative history, and the relevant regulations and guidance documents through which EPA has implemented the provisions. We start with the PSD program.

a. The PSD program

(1) PSD Provisions

Several PSD provisions are relevant for present purposes because of the specific requirements that they establish and the window that they provide into congressional intent. These provisions start with the applicability provisions, found in CAA sections 165(a) and 169(1), which identify the new sources subject to PSD, and CAA section 111(a)(4), which describes the modifications of existing sources that are subject to PSD. CAA section 165(a) provides:

> No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless—
>
> (1) A permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;

> (2) The proposed permit has been subject to a review in accordance with this section * * *, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;
>
> *   *   *   *   *
>
> (3) The proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility * * *.

The term "major emitting facility" is defined, under CAA section 169(1) to include:

> * * * stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from [28 listed] types of stationary sources. * * * Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

As for modification of existing sources, CAA section 169(1)(C) provides that the term "construction," as used in CAA section 165(a) (the PSD applicability section) "includes the modification (as defined in section 111(a)(4)) of any source or facility." Section 111(a)(4), in turn, provides:

> The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

As interpreted by EPA regulations, these provisions, taken together, provide that new stationary sources are subject to PSD if they emit at the 100/250-tpy thresholds air pollutants that are subject to EPA regulation, and that existing stationary sources that emit such air pollutants at the 100/250-tpy thresholds are subject to PSD if they undertake a physical or operational change that increases their emissions of such air pollutants by any amount.

Other provisions of particular relevance are the requirements for timely issuance of permits. The permitting authority must "grant[ ] or den[y] [any completed permit application] not later than one year after the date of filing of such completed application." CAA section 165(c).

In addition, the PSD provisions articulate "the purposes of [the PSD program]," which are to balance environmental protection and growth. CAA section 160. One of the purposes, in subsection (1), is specifically "to protect public health and welfare," and another, in subsection (3), is "to insure that economic growth will occur in a manner consistent with the preservations of existing clean air resources."

The PSD provisions also include detailed procedures for implementation. Most relevant for sources of GHG are the provisions that the proposed permit for each source must be the subject of a public hearing with opportunity for interested persons to comment, CAA section 165(a)(2), and each source must be subject to BACT, as determined by the permitting authority on a source-by-source basis, CAA section 165(a)(4), 169(3).

(2) PSD Legislative History

The legislative history of the PSD provisions, enacted in the 1977 CAA Amendments, makes clear that Congress was largely focused on sources of criteria pollutants: primarily sulfur dioxide, PM, NO_X, and carbon monoxide (CO). This focus is evident in the basic purpose of the PSD program, which is to safeguard maintenance of the NAAQS. *See* S 95-127 (95th Cong., 1st Sess.), at 27.

Congress designed the PSD provisions to impose significant regulatory requirements, on a source-by-source basis, to identify and implement BACT and, for criteria pollutant, to also undertake certain studies. Congress was well aware that because these requirements are individualized to the source, they are expensive. Accordingly, Congress designed the applicability provisions (i) to apply these requirements to industrial sources of a certain type and a certain size—sources within 28 specified source categories and that emit at least 100 tpy—as well as all other sources that emit at least 250 tpy, and, by the same token, (ii) to exempt other sources from these requirements.[33]

Although Congress required that CAA requirements generally apply to "major emitting facilities," defined as any source that emits or has the potential to emit 100 tpy of any pollutant, Congress applied PSD to only sources at 100 tpy or higher in 28 specified industrial source categories, and at 250 tpy or ***31550** more in all other source categories. This distinction was deliberate: According to Sen. McClure, Congress selected the 28 source categories after reviewing an EPA study describing 190 industrial source categories. 122 *Cong. Rec.* 24521 (July 29, 1976) (statement by Sen. McClure).

Congress also relied on an EPA memorandum that identified the range of industrial categories that EPA regulated under its regulations that constituted the precursor to the statutory PSD program,[34] and listed both the estimated number of new sources constructing each year and the amount of pollution emitted by the "typical plant" in the category. The memorandum was prepared by B.J. Steigerwald, Director of the Office of Air Quality Planning and Standards and Roger Strelow, EPA's Assistant Administrator for Air and Waste Management ("Steigerwald-Strelow memorandum"). The Steigerwald-Strelow memorandum makes clear that the 100 tpy cut-off for the 28 listed sources categories, and the 250 tpy cut-off for all other sources, was meaningful; that is, there were a large number of sources below those cut-offs that Congress explicitly contemplated would not be included in the PSD program. *Id.* at 24548-50.

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[33] Coverage of modifications by the PSD program was addressed by a technical amendment which added a cross reference in section 169 to section 111. The legislative history of this provision is scant and there is no suggestion that Congress would have contemplated sweeping in large number of changes from smaller sources through the addition of this provision.

[34] Beginning in 1974, EPA implemented a program that required sources of certain NAAQS pollutants seeking to construct in attainment or unclassifiable areas to implement emission controls for the purpose of preventing deterioration in the ambient air quality in those areas. This program was the precursor to the PSD program Congress enacted in 1977.

Consistent with this, the legislative history on the Senate side also specifically identified certain source categories that Senators believed should not be covered by PSD. The Senate bill language limited PSD to sources of 100 tpy or more in 28 listed source categories, and to any other categories that the Administrator might add. Sen. Muskie stated that the Senate bill excluded "houses, dairies, farms, highways, hospitals, schools, grocery stores, and other such sources." 123 *Cong. Rec.* 18021 (June 8, 1977) (statement of Sen. Muskie). Sen. McLure's list of excluded source categories were "[a] small gasoline jobber, or a heating plant at a community college, [which] could have the potential to emit 100 tons of pollution annually." 122 *Cong. Rec.* 24548-49 (July 29, 1976) (statement of Sen. McClure). The Senate Committee Report included a comparable list, and in describing it, concisely articulated the cost-conscious basis for the line-drawing: "[the PSD] procedure * * * must include an effective review-and-permit process. Such a process is reasonable and necessary for very large sources, such as new electrical generating plants or new steel mills. But the procedure would prove costly and potentially unreasonable if imposed on construction of storage facilities for a small gasoline jobber or on the construction of a new heating plant at a junior college, each of which may have the potential to emit 100 tons of pollution annually." S. Rpt. 95-127 at 96-97.

The enacted legislation differs from the Senate bill by replacing the authorization to EPA to include by regulation source categories in addition to the listed 28 source categories with an inclusion of all other sources if they exceed 250 tpy, and with an authorization for the states to exempt hospitals and educational institutions. But Congress's overall intention remains clear, as the DC Circuit described in *Alabama Power*: "Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air * * *. [With respect to] the heating plant operating in a large high school or in a small community college * * * [w]e have no reason to believe that Congress intended to define such obviously minor sources as 'major' for the purposes of the PSD provision."[35] 636 F.2d at 353-54.

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[35] Note that although Congress specifically authorized the states to exempt "nonprofit health or education institutions" from the definition of "major emitting facility," this statement by the DC Circuit should be taken as the Court's view that Congress did not design PSD to cover sources of the small size described.

A particularly important indication of congressional intent to limit the PSD program it was designing to larger sources comes in considering the emissions profile of the small-sized boilers. Congress focused closely on identifying which sources with emissions in excess of 100 tpy should not be subject to PSD even though they are subject to CAA requirements generally. But Congress viewed a large set of sources as emitting below 100 tpy and therefore not included in the PSD program. Chief among these sources, in terms of absolute numbers of sources, were small boilers. The Steigerwald-Strelow memorandum identified two categories of these boilers, differentiated by size. The first ranges in size from 10 to 250 x 10^6 Btu per hour (Btu/hr), and has a "typical plant" size of 10^7 Btu/hr, with "BACT emissions from typical plant" of 53 tpy, and a total of 1,446 sources in the category. The second category ranges in size from 0.3 to 10 x 10^6 Btu/hr, and has a "typical plant" size of 1.3 x 10^6 Btu/hr, with "BACT emissions from typical plant" of 2 tpy, and a total of 11,215 sources in the category. The memorandum discusses these two categories in the context of explaining which source categories exceed a size of 100 tpy—and therefore would be subject to PSD if a 100 tpy threshold were set—by stating, "Fortunately, most truly small boilers and typical space heating operations would not be covered." 122 *Cong. Rec.* 24549 (July 29, 1976).

The legislative history also provides a window into the scope of the program that Congress anticipated and related administrability concerns. According to the Steigerwald-Strelow memorandum, the number of new sources each year whose "BACT emissions from typical plant" exceed 100 for the 28 listed source categories and 250 for all other source categories is less than 100 per year. Although the Steigerwald-Strelow memorandum does not attempt to estimate the number of modifications, it appears that based on this information, Congress had reason to expect the total size of the PSD program to be measured in the hundreds or perhaps thousands of permits each year. A program of this size would be manageable by EPA and the permitting authorities.

(3) PSD Regulatory History: Regulations Concerning the Definition of "Major Stationary Source"

For present purposes, the regulatory history of the PSD program is most noteworthy because it shows that since the inception of the program following the 1977 CAA Amendments, EPA has interpreted the statutory PSD applicability provisions to apply more narrowly—to any air pollutant subject to regulation—than their literal meaning ("any air pollutant"). EPA's initial rulemaking implementing the PSD program, which was proposed and finalized in 1977-1978, made explicit that the entire PSD program applied to only pollutants regulated under the Act. 43 FR 26380, 26403, 26406 (June 19, 1978) (promulgating 40 CFR 51.21(b)(1)(i)). In 1979-1980, EPA revised the PSD program to conform to *Alabama Power* v. *Costle*, 636 F.2d 323 (DC Cir. 1980).44 FR 51924 (September 5, 1979) (proposed rule); 45 FR 52676 (August 7, 1980) (final rule). In this rulemaking, EPA did not disturb the pre-existing provisions that limited the applicability of the PSD program to *31551 regulated air pollutants.[36] In 1996 EPA proposed, and in 2002 finalized, a set of amendments to the PSD provisions that included revisions to conform with the 1990 CAA Amendments, which, in relevant part, exempted hazardous air pollutants (HAPs) from PSD, under CAA section 112(b)(6). *See* 61 FR 38250 (July 23, 1996), 67 FR 80186 (December 31, 2002). In the preamble to the final rule, EPA noted that based on a request from a commenter, EPA was amending the regulations to "clarify which pollutants are covered under the PSD program." EPA accomplished this by promulgating a definition for "regulated NSR pollutant," which listed categories of pollutants regulated under the Act, and by substituting that defined term for the phrase "pollutants regulated under the Act" that was previously used in various parts of the PSD regulations. 67 FR 80240. The definition of "regulated NSR pollutant" includes several categories of pollutants (including, in general,

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[36] As noted elsewhere in this notice, in *Alabama Power*, the DC Circuit noted that the definition of "major emitting facility" under CAA section 169(1) could apply to air pollutants not regulated under other provisions of the Act, and discussed the contrast of this broad definition to the narrower application of the BACT provisions. 636 F.2d at 352-53 & n. 60. In its rulemaking notices responding to *Alabama Power*, EPA discussed at length certain issues, such as the applicability of NSR to pollutants emitted below the "major" thresholds, that are based on the reference in "major emitting facility" to "any air pollutant." However, throughout its discussion, EPA interpreted that reference as "any regulated air pollutant," again without specifically acknowledging the difference or without acknowledging the above-noted statements in *Alabama Power*. *See* 45 FR 52710-52711. EPA did not indicate that it had received comments on this issue.

NAAQS pollutants and precursors, pollutants regulated under CAA section 111 NSPS, Class I or II substances regulated under CAA title VI) and a catch-all category, "[a]ny pollutant that otherwise is subject to regulation under the Act." *E.g.*, 40 CFR 52.21(b)(50). As in the previous rulemakings, EPA did not address the difference between the definition of "major emitting facility" and its regulatory approach or indicate that it had received comments on this issue. While the definition of "major modification" in the PSD regulations has changed over time with respect to how emission increases are calculated, the regulatory history with respect to pollutant coverage parallels that of major emitting facility.

We recount this regulatory history as background information. We are not reconsidering or reopening these regulations to the extent they interpret the definition of "major emitting facility" and "modification" narrowly to be limited to pollutants subject to regulation under the Act.

b. Title V Program

Having reviewed the key statutory provisions, their legislative history, and the relevant administrative interpretations for the PSD program, we now do the same for the title V program.

(1) Title V Provisions

The key title V provisions for present purposes start with the applicability provisions, which are found in CAA sections 502(a), 501(2)(B), and 302(j). These provisions provide that it is unlawful for any person to operate a "major source" without a title V permit, section 502(a), and define a "major source" to include "any major stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 501(2)(B) and 302(j). As noted elsewhere, these provisions, taken together and as interpreted by EPA, provide that stationary sources are subject to title V if they emit at the 100-tpy threshold air pollutants that are subject to EPA regulation.

In addition, although title V does not have a set of provisions describing its purpose, it is clear from its provisions and its legislative history, discussed later, that its key goal is to gather into one permitting mechanism the CAA requirements applicable to a source and impose conditions necessary to assure compliance with such requirements, and thereby promote the enforceability of CAA requirements applicable to the covered sources. Section 503(b)(1) requires that the source's permit application contain a compliance plan describing how the source will "comply with all applicable requirements" of the CAA, and section 504(a) requires that "[e]ach permit issued under [title V] shall include * * * such * * * conditions as are necessary to assure compliance with applicable requirements of [the Act]." *See* H.R. Rep. No. 101-490, at 351 (1990) ("It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable to the source.").

Importantly, title V is replete with provisions designed to make the permitting process as efficient and smooth-running as possible, including the expeditious processing of permit applications and the timely issuance of permits. Section 503(c) requires that "the permitting authority shall approve or disapprove a completed application * * * and shall issue or deny the permit, within 18 months after the date of receipt thereof * * *." Section 502(b)(6) requires the permitting authority to develop "adequate, streamlined, and reasonable procedures for expeditiously determining when applications are complete, for processing such applications, for public notice * * * and for expeditious review of permit actions, including * * * judicial review in State court of the final permit action by [specified persons]." Section 502(b)(7) includes a "hammer" provision designed to reinforce timely permit issuance, which is that the permitting authority's program must include:

> To ensure against unreasonable delay by the permitting authority, adequate authority and procedures to provide that a failure of such permitting authority to act on a permit application or permit renewal application (in accordance with the time periods specified in [CAA] section 503 * * *) shall be treated as a final permit action solely for purposes of obtaining judicial review in State court of an action brought by any person referred to in paragraph (6) to require that action be taken by the permitting authority on such application without additional delay.

Section 502(b)(8) requires the permit program to include "[a]uthority and reasonable procedures consistent with the need for expeditious action by the permitting authority on permit applications and related matters, to make available to the public [certain permit-related documents]". Section 502(b)(9) requires a permit revision to incorporate requirements promulgated after issuance of the permit, but only if the permit is for a major source and has a term of 3 or more years remaining. In addition, the revision must occur "as expeditiously as practicable." Section 502(b)(10) requires the permit program to include operational flexibility provisions that "allow changes within a permitted facility * * * without requiring a permit revision, if the changes are not modifications * * * and * * * do not exceed the emissions allowable under the permit * * *."

In addition, title V includes a comprehensive and finely detailed implementation schedule that mandates timely issuance of permits while building in EPA and affected state review, public participation, and timely compliance by the source with reporting requirements. Following the date that sources become subject to title V, they have 1 year to submit their permit applications. CAA section 503(c). As noted previously, the permitting authority then has 18 months to issue or deny the permit. CAA section 503(c). Permitting authorities must provide an opportunity for public comment and a hearing. CAA section 502(b)(6). If the permitting authority proposes to issue ***31552** the permit, the permitting authority must submit the permit to EPA, and notify affected states, for review. CAA section 505(a)(1). EPA then has 45 days to review the permit and, if EPA deems it appropriate, to object to the permit. CAA section 505(b)(1). If EPA does object, then the permitting authority must, within 90 days, revise it to meet the objections, or else EPA becomes required to issue or deny the permit. CAA section 505(c). If

EPA does not object, then, within 60 days of the close of the 45-day review period, any person may petition EPA to object, and EPA must grant or deny the petition within 60 days. CAA section 505(b)(2). If a permit is issued, it must include a permit compliance plan, under which the permittee must "submit progress reports to the permitting authority no less frequently than every 6 months," and must "periodically (but no less frequently than annually) certify that the facility is in compliance with any applicable requirements of the permit, and [ ] promptly report any deviations from permit requirements to the permitting authority." CAA section 503(b).

(2) Title V Legislative History

The legislative history of title V, enacted by Congress in the 1990 CAA Amendments, indicates the scope of the program that Congress expected: Congress expected the program to cover some tens of thousands of sources, which would approximate the scope of the permit program under the Clean Water Act. The Senate Committee on Environment and Public Works stated:

> EPA estimates that the new permit requirements will cover about 8,200 major sources that emit 100 tons per year or more of criteria pollutants (which are regulated under SIPs). In addition, many smaller sources are (or, as EPA promulgates additional regulations, will be) covered by new source performance standards under section 111 of the Act, hazardous air pollutant standards under section 112 of the

> Act, and nonattainment provisions of this legislation. By comparison, under the Clean Water Act, some 70,000 sources receive permits, including more than 16,000 major sources. Although many air pollution sources have more emission points than water pollution sources, the additional workload in managing the air pollution permit system is estimated to be roughly comparable to the burden that States and EPA have successfully managed under the Clean Water Act.

S. Rep. 101-228, at 353 (1990).[37] Sen. Mitchell, the Senate Majority Leader, stated that he expected "over 10,000 permits [to] * * * be issued under this program." 136 *Cong. Rec.* S3239-03 (March 27, 1990). Others in Congress had similar estimates. *See, e.g.*, 136 *Cong. Rec.* S3166 ("thousands and thousands of permit applications * * * will be required to be submitted") (statement of Sen. Nickles).

Furthermore, the legislative history indicates that Congress did not contemplate that large numbers of very small sources would be subject to title V's requirements.[38] This becomes clear by reviewing the legislative history of a companion piece of legislation to the operating permits provisions that Congress enacted into CAA section 507, which is the "Small business stationary source technical and environmental compliance assistance program." CAA section 507. Under this provision, sources that, among other things, "are not major stationary source[s]" and that emit less than 50 tpy of any regulated pollutant, as well as less than 75 tpy or all regulated pollutants, are eligible for assistance under CAA section 507. CAA section 507(c)(1). The House Committee Report described this provision—including what types of sources it expected this provision to benefit—as follows:

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[37] The House Committee on Energy and Commerce acknowledged that it was "uncertain about the magnitude of permit applications likely to be submitted under the bill initially and thereafter in each State or to EPA," H. Rep. 101-490 p. 346.

[38] Title V can apply to certain small businesses in some circumstances. Under CAA sections 502(a) and 501(2)(A), title V applies to major sources of HAPs, which includes sources that may emit as little as 10 tpy of a single HAP, and which may include some dry cleaners and other small

> New section [507] is a small source/small business provision added by the Committee. It seeks to help small businesses to comply with the problems that are likely to occur under the Act as amended by this bill. For purposes of this section, small businesses or small emitters are defined as sources that are emitting 100 tons or less per year and that have a number of employees that would qualify them for assistance from the Small Business Administration (SBA). As we look to the future of environmental protection under the Act, we take special steps here to

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businesses. In addition, under CAA section 502(a), title V applies to area sources subject to standards under CAA sections 111 or 112 (or required to have a PSD or nonattainment NSR permit), unless the Administrator exempts those sources from title V because compliance would be impracticable, infeasible, or unnecessarily burdensome.

> ensure that it is possible for these small businesses to comply with minimum hassle and in recognition of the problems that are unique to them. Such small businesses include printers, furniture makers, dry cleaners, and millions of other small businesses in this country.

House Committee Report, H.R. 101-590, at 354. In this manner, the House Committee Report made clear that it expected "millions of * * * small businesses"—including "printers, furniture makers, dry cleaners" and many others—to benefit from the CAA section 507 small source/small business program, but Congress did not expect them to become subject to the operating permit requirements of title V because their emissions fell below 100 tpy, which is, in general, the threshold for title V applicability as a "major source."

The legislative history of title V confirms that Congress viewed a principal purpose of title V as providing a vehicle to compile the requirements applicable to the source. As the report of the House Committee on Energy and Commerce ("House Committee Report") stated, "It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable to the source." H.R. Rep. No. 101-490, at 351 (1990). Combined with the source's reporting requirements, this compilation of applicable requirements would facilitate public awareness of a source's obligations and compliance and would facilitate compliance and enforcement.

On the Senate side, Sen. Chafee, one of the floor managers of the bill, made a similar point:

> The permits will serve the very useful function of gathering and reciting in one place—the permit document itself—all of the duties imposed by the Clean Air Act upon the source that holds the permit. This would clearly be an improvement over the present system, where both the source and EPA must search through numerous provisions of state implementation plans and regulations to assemble a complete list of requirements that apply to any particular plant * * *.
>
> Once these permits are in place, plant managers will be better able to understand and to follow the requirements of the Clean Air Act. At the same time, EPA will be better able to monitor how well each plant is complying with those requirements. This is a highly sensible approach for all concerned.

136 *Cong. Rec.* S213 (January 24, 1990) (statement of Sen. Chafee). Sen. Lieberman made a similar statement. 136 *Cong. Rec.* 3172-73 (March 26, 1990) (statement of Sen. Lieberman). Thus, a central purpose of the title V permit program is to compile all the requirements applicable to the source into a single place, the permit. Implicit in this purpose is that the sources subject to title V will have applicable requirements to be compiled. As Sen. Chafee directly stated, "[T]he vast majority of these permit applications will * * *, in all likelihood, only codify the existing requirements of the applicable State implementation plan." ***31553** 136 *Cong. Rec.* S2720 (March 20, 1990) (statement of Sen. Chafee).

More broadly, the legislative history also indicates congressional concern about the costs of permitting for small businesses, and a determination to minimize those costs to the extent possible. This concern is reflected in several provisions of title V. For example, section 502(a) authorizes EPA to exempt all or part of a source category—except for any major source from the title V permit program if EPA "finds that compliance with [title V] requirements is impracticable, infeasible, or unnecessarily burdensome on such categories." Similarly, the permit fee provisions include a presumptive minimum fee amount, but authorize an exemption from that presumptive amount upon a showing that a lesser amount will meet overall fee requirements, CAA section 502(b)(3)(B)(iv). One of the drafters of this provision, Rep. Wyden, explained that its purpose was to preserve the flexibility of states to impose lower fees of small businesses:

> I note that the provision on fees allows reductions for small sources where appropriate. The state has some flexibility, under the general permit fee provisions, to adjust fee levels for any source so long as the average fee charged meets the statutory minimum.

136 *Cong. Rec.* H12884 (Oct. 26, 1990) (statement of Rep. Wyden). *See, e.g.*, 136 *Cong. Rec.* H2559 (May 21, 1990) (statement of Rep. Wyden) (discussing need to "help small businesses through the air permit labyrinth").

The legislative history also indicates that Congress was deeply concerned both about the need not to burden sources generally with undue costs and to assure the administrability of the title V program, and as a result, was determined to make the program as smooth-running as possible. These goals are reflected in many of the title V requirements, as discussed previously. *See*, *e.g.*, CAA section 502(b)(6) (requiring "adequate, streamlined, and reasonable procedures for expeditiously determining when applications are complete, for processing such applications, for public notice * * * and for expeditious review of permit actions); CAA section 502(b)(7) (includes a "hammer" provision designed to reinforce timely permit issuance); CAA section 502(b)(9)-(10) (limiting circumstances under which permit revision is required; requiring revision to occur "as expeditiously as practicable;" including operational flexibility provisions).

The legislative history confirms that these provisions were designed to reduce costs to sources and promote administrability. The "Chafee-Baucus Statement of Senate Managers" for the bill explained the purpose of the CAA section 502(b)(6) requirement for "[a]dequate, streamlined, and reasonable procedures for expeditious[ ]" permit actions as follows:

> [M]uch concern has been expressed that this new permitting process will unduly delay the proper functioning of many sources, and we intend to mitigate any delay by directing that the process be expeditious.

In addition to this general directive for expeditious processing, we mandate in new section 503 that permitting authorities approve or reject permit applications within certain specified time periods following filing. In this fashion, we have taken explicit steps to protect against undue delays.

136 *Cong. Rec.* S16941 (statement of Sen. Chafee). The same statement explained that the permit revision procedures of CAA section 502(b)(9) reflect a—

> careful effort to ensure that the permit program works effectively and efficiently. Succinctly, this provision accommodates two competing concerns. On the one hand, it is important to ensure that permit requirements remain up-to-date as the provisions of the Clean Air Act are developed and new requirements are imposed. On the other hand, it also is important to be sure that we do not reduce the permit program to a shambles by requiring sources to engage in a continuous process of revising their permits as these new requirements are imposed.

136 *Cong. Rec.* 16942 (Oct. 27, 1990) (Chafee-Baucus statement of Senate Managers) (statement of Sen. Chafee).

In addition, these concerns were at the bottom of the following statement by Sen. Chafee, in which he described how the bill's drafters had revised it in response to a concern by industry that an earlier version of the bill would have put undue costs on industry:

> We have also heard concerns from industry that S. 1630 would burden sources unduly by requiring them to submit—along with their

> permit applications—plans explaining how they intend to comply with all requirements of the Clean Air Act that apply to them.
>
> But, Mr. President, we emphatically do not intend to burden industry with preparation and submission of unnecessary compliance plans. The substitute clarifies that any compliance plans would address only those matters by which the sources would comply with new requirements imposed by this act as it is finally signed into law. These plans would not need to address compliance with any existing Clean Air Act requirements, unless the source is in violation of those requirements.

136 *Cong. Rec.* S2107 (March 5, 1990) (statement of Sen. Chafee).

As another indication of congressional concern over administrability, Congress recognized that at the beginning of the program, large numbers of permit applications might overwhelm the permitting authorities. To protect against this, Congress included in CAA section 503(c) a phase-in schedule for permitting authorities to act on the initial set of permit applications. Under 503(c), permitting authorities were not required to act on the initial set of permit applications within 18 months after it received the application, but rather could act on one-third of them on an annual basis over a 3-year period. Sen. Chafee, in describing an early version of this provision—which would have allowed permitting authorities to phase in the submission of permit applications—explained that its purpose was "to avoid a logjam of permit applications[,] * * * ensure that [regulatory] gridlock can be avoided, and [ensure] that the permitting process will work with a minimum of disruption and delay." 136 *Cong. Rec.*, S2106 (March 5, 1990) (statement of Sen. Chafee).

(3) Title V Regulatory History

As with PSD, for present purposes, the regulatory history of the title V program is most noteworthy because it shows that beginning shortly after the inception of the program following the 1990 CAA Amendments, EPA has interpreted the statutory title V applicability provisions to apply more narrowly—to any air pollutant *subject to regulation*—than their literal meaning ("any air pollutant"). As discussed previously, title V applies to any "major source," defined, as relevant here, under CAA sections 501(2)(B) and 302(j), as "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant * * *." EPA's regulations mirror the CAA definitional provisions. 40 CFR 70.2.

However, since 1993, EPA has interpreted the applicability provisions more narrowly. At that time, which was shortly after title V was enacted, EPA issued a guidance document making clear that it interprets this requirement to apply to sources of pollutants "subject to regulation" under the Act. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993) (Wegman Memorandum). The interpretation in this memorandum was based on: (1) EPA's reading of the definitional chain for "major source" under title V, including the definition of "air pollutant" under section 302(g) and ***31554** the definition of "major source" under 302(j); (2) the view that Congress did not intend to require a variety of sources to obtain title V permits if they are not otherwise regulated under the Act (*see also* CAA section 504(a), providing that title V permits are to include and assure compliance with applicable requirements under the Act); and (3) consistency with the approach under the PSD program.

While the specific narrow interpretation in the Wegman Memorandum of the definition of "air pollutant" in CAA section 302(g) is in question in light of the holding in *Massachusetts* v. *EPA*, 549 U.S. 497, 533 (2007) (finding this definition to be "capacious"), we believe that the overall rationale for our interpretation of the applicability of title V remains sound. EPA continues to maintain its interpretation, consistent with CAA sections 302(j), 501, 502 and 504(a), that the provisions governing title V applicability for "a major stationary source" can only be triggered by emissions of pollutants subject to regulation. This interpretation is based primarily on the purpose of title V to collect all regulatory requirements applicable to a source and to assure compliance with such requirements, *see, e.g.*, CAA section 504(a), and on the desire to promote consistency with the approach under the PSD program.

In the Tailoring Rule notice of proposed rulemaking, EPA acknowledged the Wegman Memorandum and affirmed the memorandum's continued viability, stating that "EPA continues to maintain this interpretation." 74 FR 55300, col. 3, fn.

8; *see also* 75 FR 17022-23 (Interpretive Memo reconsideration).

As with PSD, we recount this regulatory history as background information, and we are not reconsidering or re-opening this interpretation of the definition of "major source" narrowly to be limited to pollutants subject to regulation under the Act.

5. Application of the "Absurd Results" Doctrine for the PSD Program

Having reviewed the factual background, legal doctrines, and the key components of the PSD and title V programs, we now turn towards interpreting the PSD and title V requirements in accordance with the *Chevron* framework, accounting for the applicable legal doctrines. We begin with the "absurd results" doctrine, and apply it first to the PSD requirements.

In this action, we finalize, with some refinements, the "absurd results" basis we proposed. Specifically, we are revising our regulations to limit PSD applicability to GHG emitting sources by revising the regulatory term, "regulated NSR pollutant," and although our revised regulations do not accord with a literal reading of the statutory provisions for PSD applicability, which are incorporated into the definition of "major emitting facility" and "major modification," we have concluded that based on the "absurd results" doctrine, a literal adherence to the terms of these definitions is not required. Even so, we believe Congress did intend that PSD apply to GHG sources as a general matter. Further, we may apply PSD to GHG sources in a phased-in manner, as we do through the tailoring approach, because either congressional intent is clear on that issue and the tailoring approach best reflects it, or congressional intent is unclear and the tailoring approach is a reasonable interpretation of the statute.

a. Congressional Purpose for the PSD Program

To reiterate, for convenience, CAA section 169(1) defines a "major emitting facility" to include "any * * * source[] [that] emit[s], or ha[s] the potential to emit, [depending on the source category], one hundred [or two hundred fifty] tons per year or more or more of any air pollutant." CAA section 169(1); and a "modification" as any physical or operational change in "a stationary source which increases the amount of any air pollutant emitted by such source," CAA section 169(2)(C), 111(a)(4). We also reiterate that, as discussed above, beginning with our initial rulemaking in 1977-1978 to implement the PSD program, we have interpreted these definitions more narrowly by reading into them the limitation that a source is subject to PSD only if the air pollutants in question are "subject to regulation under the Act." 40 CFR 51.166(b)(49)(iv). EPA is not re-opening this interpretation in this regulation in this action.

Under the current interpretation of the PSD applicability provision, EPA's recent promulgation of the LDVR will trigger the applicability of PSD for GHG sources at the 100/250 tpy threshold levels as of January 2, 2011. This is because PSD applicability hinges on the definition of "major emitting facility," which, under EPA's long-standing narrowing interpretation, but absent further tailoring, applies PSD to sources of any air pollutant subject that is subject to regulation under another provision of the CAA. EPA's promulgation of the LDVR means that GHGs will become subject to regulation on the date that the rule takes effect, which will be January 2, 2011.

But absent tailoring, the January 2, 2011 trigger date for GHG PSD applicability will subject an extraordinarily large number of sources, more than 81,000, to PSD each year, an increase of almost 300-fold. And the great majority of these new sources will be small commercial or residential sources. We believe that for many reasons, this result is contrary to congressional intent for the PSD program, and in fact would severely undermine what Congress sought to accomplish with the program. As a result, under our *Chevron* analysis, accounting for the "absurd results" doctrine, the statutory definition for "major emitting facility" (as interpreted narrowly to include "subject to regulation") should not be read to apply to all GHG sources at or above the 100/250 tpy threshold as of the January 2, 2011 date. Rather, the definitions of "major emitting facility" and "modification" should be tailored so that they apply to GHG sources on a phased-in basis, with the largest sources first, as we describe in this rule.

As explained previously, *Chevron* Step 1 calls for a determination of congressional intent, and the courts consider the best indicator of congressional intent to be the plain meaning of the statute. However, the U.S. Supreme Court has held that the literal meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls." *United States* v. *Ron Pair Enterprises,* 489 U.S. 235, 242 (1989). To determine whether "the intentions of the * * * drafters" differ from the result produced from "literal application" of the statutory provisions in question, the courts may examine the overall context of the statutory provisions, including whether there are related statutory provisions that either conflict or are consistent with that interpretation; and the legislative history to see if it exposes what the legislature meant by the terms in question. In addition, the courts may examine whether a literal application of the provisions produces a result that the courts characterize variously as absurd, futile, strange, or indeterminate, and therefore so illogical or otherwise contrary to sensible public policy as to be beyond anything Congress would reasonably have intended. In such cases, the literal language cannot be said to reflect the intention of the drafters, and ***31555** therefore does not control. *See United States* v. *Ron Pair Enterprises*, 489 U.S. 235, 242-43 (1989); *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 571 (1982).

Here, applying the definitions of "major emitting facility" and "modification" literally (as EPA has interpreted them more narrowly) at the present time—in the absence of streamlining measures or additional permitting authority resources, and without tailoring—would be contrary to congressional purpose for the PSD provisions, as found in the statutory provisions and legislative history, especially in light of the impact from applying those definitions literally. Congress established the PSD program in large measure because it was concerned that around the country, industrial development, which was confronting barriers to locating in nonattainment areas (that is, areas that do not meet the NAAQS), would attempt to locate in clean air areas (that is, attainment areas or unclassifiable areas), but that as a consequence, the clean air areas would see their air quality deteriorate to the point where they, too, would no longer meet the NAAQS. The end result would be the spread of environmental and health problems to those formerly clean air areas, as well as more barriers to further industrial development. With these concerns in mind, Congress designed the PSD program to require newly constructing or modifying sources in areas with air quality that meets the NAAQS (or that is unclassifiable) to analyze their emissions of NAAQS pollutants and to implement controls as needed to assure that those emissions do not significantly deteriorate air quality. Many of the PSD requirements, and much of the discussion in the legislative history, reflect these aspects of the PSD program. *E.g.*, CAA sections 162, 163, 164, 165(a)(3), 165(d)(2), 165(e), 166; *see generally* H. Rep. 95-294, 95th Cong., 1st Sess. (1977) 103-78.

Congress also designed the PSD program to impose controls on non-NAAQS pollutants, through the requirement under CAA section 165(a)(4) that the source be "subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility." For example, when Congress enacted the PSD provisions in 1977, sources emitting HAPs were required to implement BACT for those pollutants, although in the 1990 CAA Amendments, Congress redesigned CAA section 112, which includes the requirements for HAPs, and excluded HAPs from PSD. CAA section 112(b)(6).

Congress was keenly aware that the PSD program needed to serve two purposes: Protect the environment and promote economic growth. Congress explicitly identified these two goals in the "purposes" section of the PSD provision, CAA section 160, and various PSD requirements clearly reflect them. For example, to protect economic growth, the PSD program expedites the permit process to include a 1-year limitation on the time that the permitting authority has act on permit applications. To protect the environment, in addition to including many provisions that focus on NAAQS pollutants, the PSD program requires that the preconstruction permit impose emission limits that reflect BACT for each pollutant subject to regulation under another CAA provision. CAA section 165(a)(4). This BACT provision also makes clear, by its terms, that although Congress designed the PSD program largely with NAAQS pollutants in mind, Congress also intended that sources subject to PSD control the emissions of their other pollutants as well. The DC Circuit has recognized the twin goals of environmental protection and economic development that underlie PSD, and has upheld EPA interpretations of the PSD program that reflect a balancing of those goals. *See, e.g., New York* v. *EPA,* 413 F.3d 3, 27 (DC Cir.), *rehearing en banc den.* 431 F.3d 801 (2005).

Congress was also keenly aware that the PSD analyses and controls that it was mandating had to be implemented on a source-by-source basis, and that this process would be expensive for sources. As a result, Congress intended to limit the PSD program to large industrial sources because it was those sources that were the primary cause of the pollution problems in question and because those sources would have the resources to comply with the PSD requirements. Congress's mechanism for limiting PSD was the 100/250 tpy threshold limitations. Focused as it was primarily on NAAQS pollutants, Congress considered sources that emit NAAQS pollutants in those quantities generally to be the large industrial sources to which it intended PSD to be limited.

That Congress paid careful attention to the types and sizes of sources that would be subject to the PSD program and designed the thresholds deliberately to limit the program's scope is evident from the legislative history. Several Senate floor statements and the Committee Report made clear that PSD should not apply to small sources. As discussed later, Congress scrutinized information that EPA provided as to types and sizes of sources, found largely in the Steigerwald-Strelow memorandum. Sen. Muskie stated that the Senate bill excluded "houses, dairies, farms, highways, hospitals, schools, grocery stores, and other such sources." 123 *Cong. Rec.* 18021 (June 8, 1977) (statement of Sen. Muskie). Sen. McClure stated that PSD should be limited to "industrial plants of significant impact," and should exclude "[a] small gasoline jobber, or a heating plant at a community college, [which] could have the potential to emit 100 tons of pollution annually." 122 *Cong. Rec.* 24548-49 (July 29, 1976) (statement of Sen. McClure). The Senate Committee Report mirrored Sen. McClure's statement, and concisely articulated the cost-related basis for the line-drawing: "[The PSD] procedure * * * must include an effective review-and-permit process. Such a process is reasonable and necessary for very large sources, such as new electrical generating plants or new steel mills. But the procedure would prove costly and potentially unreasonable if imposed on construction of storage facilities for a small gasoline jobber or on the construction of a new heating plant at a junior college, each of which may have the potential to emit 100 tons of pollution annually." S. Rpt. 95-127 at 96-97.

The DC Circuit had occasion, in *Alabama Power*, to acknowledge this legislative history. "Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air." *Alabama Power*, 636 F.2d at 353. The Court added, "Though the costs of compliance with [the PSD] requirements are substantial, they can reasonably be borne by facilities that actually emit, or would actually emit when operating at full capacity, the large tonnage thresholds specified in section 169(1)." *Id.* at 354.

It is not too much to say that applying PSD requirements literally to GHG sources at the present time—in the absence of streamlining or increasing permitting authority resources and without tailoring the definition of "major emitting facility" or "modification"—would result in a program that would have been unrecognizable to the Congress that designed PSD. Congress intended that PSD be limited to a relatively small number of large industrial sources. ***31556** Without phasing in PSD and title V applicability to GHG sources so as to allow the development of streamlining methods and increases in permitting authority resources, the PSD program would expand by January 2, 2011, from the current 280 sources per year to almost 82,000 sources, virtually all of which would be smaller than the sources currently in the PSD program and most of which would be small commercial and residential sources. Until EPA could develop streamlining methods, all of the sources that would become newly subject to PSD—whether they be larger or smaller sources, whether industrial or commercial/residential sources—would have to undergo source-specific BACT determinations for their GHG emissions, as well as their emissions of conventional pollutants in amounts in excess of the significance levels. We estimate that the commercial and residential sources—the great majority of which are small business—would each incur, on average, almost $60,000 in PSD permitting expenses. This result would be contrary to Congress's careful efforts to confine PSD to large industrial sources that could afford these costs.

A closer look at the legislative history confirms the view that Congress did not expect PSD to apply to large numbers of small sources, including commercial and residential sources, and instead expected the 100/250 tpy thresholds to limit PSD's applicability to larger sources. As noted previously, Congress relied on an EPA memorandum—the Steigerwald-Strelow memorandum—that identified the range of industrial categories that EPA regulated under its program that constituted the precursor to the statutory PSD program, and listed both the estimated number of new sources constructing each year and the amount of pollution emitted by the "typical plant" in the category. The Steigerwald-Strelow memorandum makes clear that the 100 tpy cut-off for the 28 listed sources categories, and the 250 tpy cut-off for all other sources, would exclude from PSD a large number of sources. 122 *Cong. Rec.* 24548-50 (July 29, 1976). However, virtually all, if not all, of the sources in half the 28 source categories emit CO_2 in quantities that equal or exceed the 100 tpy threshold, and almost all of the sources in the remaining categories emit CO_2 in quantities that equal or exceed the 100 tpy threshold. Therefore, applying the "major emitting facility" definition to GHG sources, in the absence of streamlining methods and without tailoring, would, as a practical matter, vitiate much of the purpose of the 100 tpy cut-off for industrial sources.[39]

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[39] Specifically, of the 28 source categories under CAA section 169(1), information available to EPA indicates that all of the sources in the following categories emit at least 100 tpy of CO_2 annually: fossil-fuel fired steam electric plants of more than 250 million Btu per hour heat input, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, municipal incinerators capable of charging more than 50 tons of refuse per day, nitric acid plants, petroleum refineries, lime plants, primary lead smelters, fossil-fuel boilers of more than 250 Btus per hour heat input. In addition, all but a few kraft pulp mills and glass fiber processing plants emit at least 100 tpy CO_2annually. Our information is incomplete with respect to the remaining source categories, but with the possible exception of petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, we suspect that virtually all sources emit at least 100 tpy CO_2 annually. *See* "Technical Support Document for

Most telling, in this regard, is the small-sized boilers, which the Steigerwald-Strelow memorandum describes, in terms of size, pollutants emitted, and numbers of sources, as follows: The memorandum identified two categories of these boilers, differentiated by size. The first ranges in size from 10 to 250 x 10^6 Btu/hr, and has a "typical plant" size of 10^7 Btu/hr, with "BACT emissions from typical plant" of 53 tpy, and a total of 1,446 sources in that category. The second category ranges in size from 0.3 to 10 x 10^6 Btu/hr, and has a "typical plant" size of 1.3 x 10^6 Btu/hr, with "BACT emissions from typical plant" of 2 tpy, and a total of 11,215 sources in the category. That memorandum makes clear that EPA did not believe that sources in these two categories—and especially the smallest one—would be subject to PSD under a 100 tpy threshold, by stating, "Fortunately, most truly small boilers and typical space heating operations would not be covered." 122 *Cong. Rec.* 24549 (July 29, 1976). However, these data and conclusions were all based on emissions of NAAQS pollutants, the amounts of which placed these boilers well below the PSD threshold limitations. In general, most boilers of these small sizes are fired with natural gas, and a natural gas boiler greater than 0.5 x 10^6 Btu/hr emits at least 250 tpy CO_2. Therefore, if the CO_2–emissions of these small boilers are considered—as would occur by applying the definition of "major emitting facility" to GHG sources without tailoring—then most of them would in fact be subject to PSD. Again, this result would directly contravene Congress's intention to

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Greenhouse Gas Emissions Thresholds Evaluation"; Office of Air Quality Planning and Standards; March 29, 2010.

limit PSD to "industrial plants of significant impact." 122 *Cong. Rec.* 24548-49 (statement of Sen. McClure).

Perhaps the most compelling reason why applying the PSD program to GHG sources without tailoring, and before the development of streamlining methods, would be inconsistent with congressional intent, is that the resulting program would prove unadministrable. Although the legislative history of the PSD program does not reveal much explicit congressional focus on administrability issues, the Steigerwald-Strelow Memorandum, which identifies the source categories and numbers of sources that were before Congress as it considered PSD, suggests that the program that Congress fashioned could be expected to cover at most a few thousand sources each year. This appears to be approximately the size of the program that EPA administered before the 1977 CAA Amendments, so that it seems reasonable to assume that Congress expected the PSD program it enacted to be within EPA's and the states' administrative capacities.

Moreover, the *Alabama Power* court stressed the importance of administrability concerns: Most importantly, the Court held that EPA, in interpreting the "modification" provisions that apply PSD to physical or operational changes by major emitting facilities that "increase the amount of any air pollutant emitted," CAA section 111(a)(4), may "exempt from PSD review some emission increases on grounds of *de minimis* or administrative necessity," and went on to state that in establishing the exemption thresholds, "[t]he Agency should look at the degree of administrative burden posed by enforcement at various *de minimis* threshold levels."

636 F.2d at 400,405. In addition, the Court based its holding that potential-to-emit for purposes of the applicability thresholds should be defined as emissions at full capacity with implementation of control equipment, in part on its view that with this definition, the number of sources subject to PSD would be manageable:

> Though the costs of compliance with section 165 requirements are substantial, they can reasonably be borne by facilities that actually emit, or would actually emit when operating at full capacity, the large tonnage thresholds specified in section 169(1). The numbers of sources that meet these criteria, as we delineate them, are reasonably in line with EPA's administrative capability.

Alabama Power, 636 F.2d at 354. However, applying PSD to GHG sources before streamlining and without tailoring would increase the size of the PSD program at least an order of magnitude beyond what Congress seems ***31557** to have expected, which would have been far beyond the "administrative capability" that *Alabama Power* described EPA as having.

Beyond this disconnect with congressional expectations, what is most important is that the extraordinarily large number of permit applications would overwhelm permitting authorities and slow their ability to process permit applications to a crawl. Our best estimate at present is that permitting authorities would need to process almost 82,000 permit applications per year, compared to, at most, 800 in the current PSD program. The total additional workload, in work hours, for PSD permits would be more than 19.5 million more work hours, compared to 150,795 work hours for the current PSD program, and the total additional costs would be over $1.5 billion, compared with $12 million for the current PSD program.

At proposal, we noted that the states had estimated that the influx of permit applications that would result from applying the 250 tpy threshold at actual emissions would, without additional resources, result in permitting delays of 3 years. In fact, as we noted at proposal, a literal reading of the PSD requirements would require their application at the 250 tpy PTE level, which would result in ten times more permit applications than were assumed when the states made the 3-year estimate. Further, our current estimates of the numbers of sources that would be subject to PSD requirements are about twice what we estimated at proposal, as described elsewhere. Moreover, our estimate of the number of hours that permitting authorities would need to process a permit application from a source in the commercial or residential sector—which is, by far, the largest single sector—is three and one-half times as long as we estimated at proposal. And under a literal reading of the PSD applicability provisions as applied to GHG sources, the permitting authorities would be required to implement a program of this size beginning on January 2, 2011, less than 9 months from now. We received many comments from states and industry raising concerns about the cost to sources and administrative burdens of PSD permitting if the statutory threshold were to apply for GHG emissions. One commenter estimated a cost of over $5 billion and the dedication of over 17,000 FTEs to this effort.

We consider it difficult to overstate the impact that applying PSD requirements literally to GHG sources as of January 2, 2011—before streamlining or increasing permitting resources and without tailoring—would have on permitting authorities and on the PSD program, and we are concerned that this impact could adversely affect national economic development. The number of PSD permits that would be required from such an approach is far beyond what the PSD program has seen to date. It is clear throughout the country, PSD permit issuance would be unable to keep up with the flood of incoming applications, resulting in delays, at the outset, that would be at least a decade or longer, and that would only grow worse over time as each year, the number of new permit applications would exceed permitting authority resources for that year. Because PSD is a preconstruction program, during this time, tens of thousands of sources each year would be prevented from constructing or modifying. In fact, it is reasonable to assume that many of those sources will be forced to abandon altogether plans to construct or modify. As a result, a literal application of the PSD applicability provisions to GHG sources would slow construction nationwide for years, with all of the adverse effects that this would have on economic development.

The remedies for this scenario would be for permitting authorities to increase their PSD funding by over 100-fold, from $12 million to over $1.5 billion, or the development by EPA and the permitting authorities of streamlining techniques. But it is not possible for permitting authorities to increase their funding to those levels in the foreseeable future, partly because of the sheer magnitude of those levels and partly because of the financial challenges that states currently face. And, for the reasons discussed later, although streamlining offers genuine promise to improve the manageability of the PSD workload, streamlining cannot do so in the very near term and, in any event, the extent to which it can do so has not yet come into focus.

So clear are at least the broad outlines of this picture that EPA did not receive any substantive comments arguing that permitting authorities could in fact administer the PSD program with the applicability requirements applied literally to GHG sources beginning in the very near future.[40] Every permitting authority that addressed this issue in their comments on the proposed Tailoring Rule stated unequivocally that it could not administer the PSD program at the statutory levels. To cite a few examples (each of which considered both the PSD and title V programs together): NACAA, which represents air pollution control agencies in 53 states and territories, stated it "* * * agrees with the EPA that immediately attempting to implement the PSD and title V programs using the statutory thresholds meets the test for invoking the administrative necessity and absurd results doctrines." Similarly, the California Air Resources Board stated that it "* * * concurs with the United States, EPA that if more appropriate applicability thresholds [as opposed to the statutory thresholds] are not set for GHG it will not be administratively possible to implement these [the PSD and tile V] permitting programs." All other state and local permitting agencies that commented on the proposed tailoring provided similar comments that they would not have the adequate staff capacity or resources to be able to successfully administer their permitting programs with the addition of GHG emission sources at the statutory thresholds for PSD and title V.

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[40] EPA did receive a smaller number of comments that asserted in conclusory fashion that permitting authorities could administer the 100/250 tpy levels.

It is the many-year delays in permit issuance and the consequent chilling of economic development that provide perhaps the clearest indication that applying the PSD applicability provisions to GHG sources without tailoring produces absurd results. These effects would undermine one of Congress's central purposes in establishing the PSD program, which was to promote development in clean air areas by large industrial sources (as long as they included environmental safeguards). As discussed previously, this goal is manifest in the structure of the PSD provisions, and Congress even went so far as to make this goal explicit in the purposes section of the PSD provisions.

Moreover, at the present time, there is relatively little environmental benefit in subjecting large numbers of small GHG sources to the expensive, source-by-source PSD permitting requirements. They represent a relatively small share of the GHG inventory and the control options available to them, at present, are limited. As a result, approaches other than source-by-source permitting presently offer more promise for generating emissions reductions in an efficient manner. These approaches, which may be developed through both federal and state efforts, include requirements, incentives, and educational outreach to promote efficiency improvements to boilers and furnaces and energy efficient operations, including, for example, weatherization programs.

For all these reasons, interpreting the definition of "major emitting facility" ***31558** and "modification" literally—that is, as EPA has interpreted them more narrowly, but without tailoring and before the program requirements can be streamlined or permitting authority resources can be increased—would produce results that are not consonant with, and, in fact, would severely undermine, Congress's purpose for the PSD program. These results may fairly be characterized as the type of absurd results that support our view that the literal terms of the PSD applicability provisions do not indicate congressional intent for how those provisions should applied to GHG sources.

b. Congressional Intent for the Applicability Provisions

(1) Congressional Intent for Whether and How PSD Applies to GHG Sources

Several of the PSD provisions and statements in the legislative history are particularly important in determining whether and how the PSD program should apply to GHG sources, as discussed elsewhere:

> (1) The applicability provisions, under CAA section 165(a) and 169(1). These provisions are written broadly, and although, as we explain above, they cannot be read literally to apply to GHG sources at or above the 100/250 tpy, they nevertheless can be read to

indicate that directionally, Congress intended that PSD be applied inclusively.

(2) The various PSD provisions that identify the pollutants subject to PSD. *Compare, e.g.*, CAA sections 162, 163, 164, 165(a)(3), 165(d)(2), 165(e), and 166 (NAAQS pollutants) with CAA sections 165(a)(3)(C), 165(a)(4) (other pollutants). These provisions indicate that a major purpose of the PSD program is to control NAAQS pollutants, but that the program also covers non-NAAQS pollutants.

(3) The requirement that permitting authorities act on PSD applications within 1 year. CAA section 165(c). This provision indicates that Congress anticipated the PSD program would be of a size that would allow permitting authorities to meet this deadline.

(4) The purpose provision. CAA section 160. This provision makes clear that PSD is designed both to protect public health and welfare and to promote economic growth.

(5) In addition, we consider important the legislative history indicating the Congress intended PSD to apply to large industrial sources because they were the primary source of the air pollution problems and they have the resources to manage the demands of the PSD permitting process; and that, by the same token, Congress expected that small sources would not be subject to PSD. The legislative history does not specifically mention GHG sources.

Looking at these provisions and the legislative history together, we think Congress can be said to have intended that the PSD program apply to GHG sources as a general matter. The most important indication of congressional intent in this regard is the applicability provisions, which provide, in part, that PSD applies to (i) "any * * * source[that] emit[s], or ha[s] the potential to emit [the specified quantity] of any air pollutant," CAA section 169(1); and (ii) to any such source that undertakes a physical or operational change that "increases the amount of any air pollutant emitted." CAA section 169(2)(C), 111(a)(4). These terms are quite broad, and should be read to include GHG sources and GHGs. *See Massachusetts* v. *EPA*, 549 U.S. 497, 533 (2007) ("Because greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,' we hold that EPA has the statutory authority to regulate the emission of such gases from new motor vehicles."). Moreover, including GHG sources—under certain circumstances—is consistent with the PSD provisions that refer to other pollutants, establish the time-frame for acting on PSD applications, and establish the overall purpose of the program. In addition, including GHG sources—again, under certain circumstances—is consistent with the legislative history that PSD be limited to sources that cause a meaningful part of the air pollution problem and have the resources to manage the PSD requirements. No PSD provision explicitly imposes any limitation of PSD to large industrial sources, and Congress's reasoning for focusing on large industrial sources—which was that these sources are best suited to handle the resource -intensive analyses required by the PSD program—could extend to GHG sources under certain circumstances (that is, large sources first, and smaller sources after streamlining methods are developed). Similarly, as discussed previously, it is reasonable to read into Congress's intent that the PSD program be limited to a size that permitting authorities would be able to administer, but it is consistent with that reading to recognize that the permitting authorities could take certain steps—including adoption of streamlining measures and ramping up resources—that would allow them to handle a higher volume of permitting. Finally, we find nothing in the PSD provisions or legislative history that would indicate congressional intent to exclude GHG sources. Accordingly, we believe that Congress must be said to have intended an affirmative response for whether PSD applies to sources of GHGs as a general matter. Our previous regulatory action defining the PSD applicability provisions made this clear, and we do not reopen this issue in this rulemaking. Moreover, even if this long-established regulatory position were not justifiable based on *Chevron* Step 1—on the grounds that in fact, congressional intent on this point is not clear—then we believe that this position, that the statutory provisions to apply PSD to GHG sources in general, was justified under *Chevron* Step 2.

As to how PSD applies to GHG sources, although, for reasons discussed previously, the 100/250 tpy threshold provision, which establishes the scope of PSD applicability, should not be read as applying literally to GHG sources—and as a result, the applicability provision as a whole cannot be said to have a plain meaning as to the scope of coverage of GHG sources—we believe that the applicability provisions and legislative history nevertheless indicate a congressional intent for how PSD should apply to GHG sources. That is to apply PSD to as many sources as possible as quickly as possible, at least to a certain point. We believe that this intent can be inferred from the inclusiveness of the applicability provision, combined with the legislative history that focuses on Congress's desire to include in the PSD program sources that have the resources to comply with the requirements and, as the Court in *Alabama Power* recognized, Congress's concern about administrability. That is, at first, PSD may apply to the largest GHG sources because they may be expected to have the resources to comply with PSD's requirements and permitting authorities may be expected to accommodate those sources; and over time, with streamlining and increases in permitting authority resources, PSD may apply to more GHG sources. As discussed later, the tailoring approach is consistent with congressional intent in this regard.

We recognize the tension between the applicability provisions, which are inclusive, and the statements in the legislative history that express Congress's expectation that PSD be limited to large industrial sources. At least to a point, the applicability provisions and these statements can be reconciled by recognizing that the reason why Congress expected that PSD would be limited to large industrial sources was that Congress recognized that PSD applied on a source-by-source basis, that this would be costly to ***31559** sources, and that only the large industrial sources could afford those costs. Taking certain actions—including streamlining PSD requirements—can render PSD more affordable and thereby allow its application to smaller sources in a more cost-effective manner. In this way, PSD's inclusive applicability provisions can be reconciled with the narrower scope

Congress expected, and this is part of the reason why we characterize congressional intent as being consistent with phasing in the applicability of PSD to GHG sources through the tailoring approach.[41]

On the other hand, if Congress cannot be said to have expressed an intent as to the manner and scope of PSD applicability to GHG sources, then, under *Chevron* Step 2, EPA may apply a reasonable interpretation of the applicability provisions to determine the scope of coverage of GHG sources that is consistent with the statutory requirements. The Tailoring Rule is a reasonable interpretation under *Chevron* Step 2. It is consistent with (1) The applicability provisions, recognizing that as we have seen, those provisions cannot be applied literally under these circumstances,[42] (2) the provisions described above concerning which pollutants the PSD provisions cover and the timetable for permitting authority action on PSD applications; (3) the purpose provisions of PSD, and the accompanying legislative history, because it protects public health and welfare without inhibiting economic development; and (4) the legislative history indicating Congress intended that PSD be limited to sources that cause a meaningful part of the problem and can manage its requirements, because it will expand PSD's applicability only after streamlining methods and greater permitting authority resources will allow for such an expansion in an orderly manner.

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[41] Reconciling the applicability provisions with the statements in the legislative history in this manner is also consistent with the U.S. Supreme Court's view that the Clean Air Act has inherent flexibility, as it stated in *Massachusetts* v. *EPA*, 549 U.S. 497, 532 (2007):

> While the Congresses that drafted § 202(a)(1) might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete. The broad language of § 202(a)(1) reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence. *See Pennsylvania Dept. of Corrections* v. *Yeskey*, 524 U. S. 206, 212 (1998) ("[T]he fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth" (internal quotation marks omitted)).

(2) Criteria for Establishing Phase-in Schedule

The specific phase-in schedule under the tailoring approach will depend on several things. The first is our progress in developing streamlining methods that will render the permitting authority workload more manageable by taking some sources off the table (through regulations or guidance interpreting PTE), and by allowing for more efficient permit processing (through general permits and presumptive BACT).

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[42] For the reasons discussed above, we believe that Step 2 of the *Chevron* framework, which authorizes the exercise of agency discretion as long as the agency remains consistent with a reasonable construction of the statute, does not require a literal construction of the statute in a case such as this one, in which the "absurd results" doctrine applies so that the statutory requirements cannot be read literally.

At the same time, streamlining techniques will lower permitting costs to sources or even eliminate some sources' obligations to obtain permits altogether. The second is the time that permitting authorities need to ramp up their resources in an orderly and efficient manner to manage the additional workload. The third is information we have as to the sources' abilities to meet the requirements of the PSD program and the permitting authorities' ability to process permits in a timely fashion. That information will be based on the real-world experience the permitting authorities will accumulate as they proceed to process permit application for the larger GHG sources.

Thus, under our present approach, we will develop streamlining techniques, we expect the permitting authorities to ramp up resources in response to the additional demands placed upon them in the first two steps, and we will gather real-world information about the GHG permitting process; and based on all that, we will address expanding the PSD program in a step-by-step fashion to include more sources over time. We intend to follow this process to establish both the PSD applicability thresholds and, as we describe next, the significance levels.

(3) Criteria for Establishing Significance Levels[43]

The criteria for establishing the significance levels are the same as for establishing the "major emitting facility" thresholds. As noted previously, under the applicable CAA sections, any physical or operational change at a stationary source that "increases the amount of any air pollutant emitted by such source" or that results in the emission of a new pollutant is treated as a "modification" that is subject to PSD requirements. Although the CAA, by its terms, treats as an "increase" any amount of emissions that is greater than zero, the DC Circuit held in *Alabama Power* v. *Costle* that EPA may establish a threshold—called the significance level—on *de minimis* grounds for the amount of any particular pollutant that may be increased. 636 F.2d at 400.

Of particular importance, the Court in *Alabama Power* indicated that EPA may rely on administrative considerations to establish significance levels. *Id.* To reiterate, the Court held that "EPA does have discretion, in administering the statute's 'modification' provision, to exempt from PSD review some emission increases on grounds of *de minimis* or administrative necessity." 636 F.2d at 400. The

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[43] It should be noted that strictly speaking, we do not, in our drafting of the regulatory revisions that are part of this rulemaking, establish a significance level for GHG emissions based on CO_2e. Rather, we establish an applicability criteria for determining whether GHGs are subject to regulation with respect to the particular source. We explain our approach in more detail in the Response to Comments document. Throughout this preamble, we refer to this action, for convenience, as a significance level.

Court added a more detailed exposition of its views in a subsequent part of its opinion, where it discussed the BACT provision, under CAA section 165(a)(4), and the Court made clear that those views applied as well to the "modification" provision. There, the Court invalidated an EPA regulation that established a 100- and 250-tpy exemption from the BACT requirement. Both the BACT provision and the modification provision apply by their terms to all emissions from a source, but the Court stated that each provision must be read to incorporate an exemption based on *de minimis* or administrative considerations, and explained:

> We understand that the application of BACT requirements to the emission of all pollutants from a new facility, no matter how miniscule some may be, could impose severe administrative burdens on EPA, as well as severe economic burdens on the construction of new facilities. But the proper way to resolve this difficulty is to define a *de minimis* standard rationally designed to alleviate severe administrative burdens, not to extend the statutory 100 or 250-ton threshold to a context where Congress clearly did not apply it. Just as for the applicability of PSD to modifications, the *de minimis* exemption must be designed with the specific administrative burdens and specific regulatory context in mind. This the Agency has failed to do. We do not hold that 100 tons per year necessarily exceeds a permissible *de minimis* level; only that the Agency must follow a rational approach to

> determine what level of emission is a *de minimis* amount.
>
> A rational approach would consider the administrative burden with respect to each statutory context: what level of emission is *de minimis* for modification, what level *de minimis* for application of BACT. Concerning ***31560** the application of BACT, a rational approach would consider whether the *de minimis* threshold should vary depending on the specific pollutant and the danger posed by increases in its emission. The Agency should look at the degree of administrative burden posed by enforcement at various *de minimis* threshold levels. It is relevant that our decision requires the Agency, in its evaluation of emissions of facilities, to take into account the facility's air pollution controls. It may also be relevant, though it is certainly not controlling, that Congress made a judgment in the Act that new facilities emitting less than 100 or 250 tons per year are not sizeable enough to warrant PSD review.

Id. at 405. As just quoted, the Court acknowledged the 100 and 250 tpy thresholds for a major emitting facility, and did not indicate whether the modification exemption level could exceed those statutory levels, but nevertheless, the Court made clear that EPA may "consider the administrative burden" associated with modifications to establish an exemption level for modifications.

EPA has established significance levels for various pollutants, generally relying on a *de minimis* basis.

See, e.g., 45 FR 52676, 52705-52710 (August 7, 1980). In these actions, EPA generally established the level based on the triviality of the amount of emissions excluded. To this point, we have not attempted to determine *de minimis*—that is, trivial—levels for GHGs. Instead, in this rulemaking, EPA is establishing a phase-in schedule for significance levels based on the *Chevron* framework, accounting for the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines. It is not necessary to establish a permanent *de minimis* level in this rulemaking. For one thing, the Court in *Alabama Power* explicitly authorized an administrative basis for significance levels. Moreover, were EPA to establish a *de minimis* level, that amount could be below—perhaps even well below—the "major emitting facility" thresholds established in this rulemaking on grounds of "administrative necessity" and the other doctrines. Accordingly, at present, if we were to establish a permanent significance level on a *de minimis* basis, that level could result in too many small sources being required to submit permit applications while the phase-in is occurring. This would give rise to the same problems concerning undue costs to the sources and administrative burdens for the permitting authorities for which we are fashioning a remedy. Accordingly, the significance levels we establish with this action are the lowest levels that sources and permitting authorities can reasonably be expected to implement at the present time in light of the costs to the sources and the administrative burdens to the permitting authorities.

c. Other Possible Approaches to Reconciling a Literal Reading of PSD

Applicability Provisions and Congressional Intent

Commenters have suggested another approach to reconciling the inconsistency between the definition of "major emitting facility" and congressional intent. They urge that the "major emitting facility" definition should be applied so that only sources that emit NAAQS pollutants, for which the area is designated attainment or unclassifiable, in the requisite quantities would be subject to PSD, and sources would not be subject to PSD based solely on their emissions of non-NAAQS pollutants or a NAAQS pollutant for which an area has been designated nonattainment. Some commenters argue that this approach is mandated by several of the PSD provisions, read together or at least that the relevant statutory provisions are ambiguous and that this approach is a reasonable reading of them. Under this approach, we would not need to phase in the application of PSD by lowering the applicability threshold for GHG emitters.

Specifically, many commenters have questioned whether EPA has the authority to regulate GHGs under the PSD provisions. Although the specific lines of reasoning vary somewhat from one commenter to another, in general, they based their arguments largely on CAA sections 161 and 165(a). Under CAA section 161:

> In accordance with the policy of section 101(b)(1), each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated

> under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 107 as attainment or unclassifiable.

Commenters point out that section 107 applies only to NAAQS pollutants and directs that areas be designated as attainment, nonattainment, or unclassifiable on a pollutant-by-pollutant basis. Under CAA section 165(a), a "major emitting facility" cannot be constructed "in any area to which this part applies" unless it meets certain requirements. According to some commenters, these provisions, read together, limit PSD's applications to only NAAQS pollutants that are emitted from sources in areas that are designated attainment or unclassifiable for those pollutants. Other comments make a similar point, except to state that PSD applies more broadly to pollutants with a local, ambient impact.

Some commenters go on to take the position that NAAQS pollutants for which the area is designated attainment or unclassifiable are the only pollutants that can be regulated under any provision of the PSD requirements; while others take the position that once PSD is triggered for a source on the basis of its NAAQS pollutants, then other, non-NAAQS, pollutants may be regulated under certain PSD provisions, in particular, the BACT provision under CAA section 165(a)(4). These commenters agree, however, that emissions of GHGs, by themselves, cannot trigger PSD applicability. Finally, some commenters state that even if the PSD provisions cannot be read by their terms to preclude GHGs from triggering PSD, then they can be read to authorize

EPA to determine that GHG emissions do not trigger PSD.

We recognize, as we have said elsewhere, that a major purpose of the PSD provisions is to regulate emissions of NAAQS pollutants in an area that is designated attainment or unclassifiable for those pollutants. However, we do not read CAA sections 161 and the "in any area to which this part applies" clause in 165(a), in the context of the PSD applicability provisions, as limiting PSD applicability to those pollutants. The key PSD applicability provisions are found in sections 165(a) and 169(1). Section 165(a) states, "No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless [certain requirements are met]." A "major emitting facility" is defined, under CAA section 169(1), as "any * * * stationary source[s] which emit[s], or ha[s] the potential to emit, one hundred [or, depending on the source category, two hundred fifty] tons per year or more of any air pollutant." As discussed elsewhere, EPA has long interpreted the term "any air pollutant" to refer to "any air pollutant subject to regulation under the CAA," and for present purposes, will continue to read the "subject to regulation" phrase into that term.

Although section 165(a) makes clear that the PSD requirements apply only to sources located in areas designated attainment or unclassifiable, it does not, by its terms, state that the PSD requirements apply only to pollutants for which the area is designated attainment or unclassifiable. Rather, section 165(a) explicitly states that the PSD requirements apply more broadly to any pollutant that is subject to regulation. Moreover, another ***31561** requirement in CAA section 165(a) also applies to air pollutants broadly. Under CAA section 165(a)(3), one of the requirements for securing a preconstruction permit is to demonstrate that the source's emissions "will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area [to which the PSD requirements apply], (B) [NAAQS] in any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter." As just quoted, subparagraph (C), by its terms clearly applies to non-NAAQS pollutants. This is because it refers to (1) "any other applicable emission standard," which distinguishes it from subparagraph (B) and therefore from NAAQS pollutants; and (2) "any * * * standard of performance under this chapter," which refers to standards of performance under section 111, several of which are for non-NAAQS pollutants. *See, e.g.*, 40 CFR 60.33c(a) "municipal solid waste landfill emissions." By the same token, CAA section 110(j) specifically contemplates that a source required to hold a permit under title I of the Act, which includes a PSD permit, demonstrate that the source complies with "standards of performance," which may include requirements for pollutants other than NAAQS.

In addition, CAA section 163(a)(4) includes as a PSD requirement that "the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility." Section 163(a)(4)'s broad reference to "each pollutant subject to regulation under this chapter" clearly indicates that it applies to non-NAAQS pollutants, as long as they are regulated under other provisions of the Act.[44] The DC Circuit, in *Alabama Power* v. *Costle*, 636 F.2d 323, 361 n.90 (DC Cir. 1980) indicated that, under the law applicable at the time the Court handed down the decision in 1980, PSD applies to HAPs.[45]

In addition, PSD requirements are part of SIPs, and although SIPs generally are limited to provisions that implement the NAAQS, and therefore generally are limited to controlling NAAQS pollutants (or non-NAAQS pollutants that affect ambient air quality), *see generally* CAA section 110, Congress explicitly required SIPs to include requirements to protect visibility, under CAA section 169A-B. *See* CAA sections 110(a)(2)(D)(i)(II), 169A(b)(2)(A). Congress took much the same approach with the PSD program, which was to require that PSD requirements be included in the SIPs, but to explicitly require that PSD apply to non-NAAQS pollutants.

These provisions—sections 165(a)(3), 165(a)(4), and 110(j)—all indicate by their terms that PSD requirements apply to non-NAAQS pollutants. As such, they lend credence to our view that Congress intended the PSD applicability provisions to include GHG sources. At the very least, they demonstrate that Congress certainly knew how to specifically describe certain air pollutants—*e.g.*, "air pollution in excess of * * * any other applicable emission standard or standard of performance under this chapter," CAA section 165(a)(3)(C)—which indicates that its decision not to specifically describe air pollutants in the applicability provisions suggests an intent to cover air pollutants broadly.

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[44] We find no support for the proposition raised by some commenters that this provision is limited to "NAAQS" pollutants. To the contrary, "under this chapter" unambiguously signals an intent to cover any pollutant regulated under the Act. Had Congress intended a narrower focus, they would have specified "any NAAQS pollutant" or any pollutant subject to regulation under this Part (PSD).

[45] In the 1990 CAA Amendments, Congress added section 112(b)(6), which provides that PSD "shall not apply to pollutants listed under this section," that is, HAPs.

To return to sections 161 and the "in any area to which this part applies" phrase in 165(a), which commenters rely on as the cornerstone of their argument, commenters in effect take the position that Congress intended the geographic references in these provisions—that is, the references to areas designated as attainment or unclassifiable—to limit the scope of the permitting provisions. We think it unpersuasive that Congress would have taken such an indirect, and silently implied, route to limit the scope of the permitting provisions. As noted previously, the permitting provisions apply broadly by their terms. Had Congress intended to limit PSD permitting in the manner urged by commenters, it certainly could have done so directly, such as by limiting PSD permitting to "any pollutant for which an area is designated attainment or unclassifiable." Indeed, Congress did so in other PSD provisions, discussed previously. Similarly, in other sections of the CAA, Congress also directly limited the scope of pollutant applicability by specifying which pollutants are or are not subject to the provision. *See, e.g.*, section 111(d) (performance standards for existing sources apply only to pollutants other than NAAQS or HAPs), section 112(a)(1) (applying air toxics requirements in section 112 to sources that emit above the specified tonnage thresholds of "hazardous air pollutants").

In addition, although section 161 requires that SIPs contain emission limitations and other measures as necessary to prevent significant deterioration in areas designated as attainment or unclassifiable, it does not by its terms limit SIPs to only those measures.

Most broadly, we read the PSD provisions and their legislative history to evidence Congress's intent that PSD apply throughout the country to large sources that undertake new construction or modifications, and that Congress's overall purpose was to assure that, as the industrial stock of the nation turned over, it would become cleaner for all air pollutants emitted. Greenhouse gas sources, as a general matter, fit readily into this overall vision. At the time that Congress enacted the PSD provisions in 1977, every area of the nation was designated attainment or unclassifiable for at least one air pollutant, and that has remained the case to the present time. Accordingly, at all times, PSD has applied in every area of the country. The PSD requirements clearly cover all air pollutants emitted by the source, and provide a process for reviewing those emissions and determining BACT for them under CAA section 165(a)(4). It is true that at the time Congress adopted the PSD provisions, it was primarily concerned about the NAAQS pollutants—or, as some commenters assert, pollutants with local, ambient impact—because those pollutants represented a major component of the air pollution problems it was aware of and was addressing. But its overall purpose was broad enough to cover additional pollutants; the process it enacted for establishing BACT was broad enough to encompass additional pollutants; and the applicability provisions it established were phrased broadly enough to encompass additional pollutants, see section 169(1). As a result, we believe that the PSD applicability provisions, which, again, refer to, as we have interpreted them, "any air pollutant [subject to regulation under the CAA]," should be seen as "capacious" and therefore encompass GHG sources, in much the same manner as the U.S. Supreme Court viewed the definition of "air pollutant" to be "capacious" and therefore encompass GHGs. *Massachusetts* v. *EPA*, 549 U.S. 497, 533 (2007).

In addition, it should not be overlooked that we have applied PSD to ***31562** non-NAAQS pollutants since the inception of the program over 30 years ago. For example, prior to the 1990 CAA Amendments, PSD applied to HAPs regulated under CAA section 112; and over the years, EPA has established significance levels for fluorides, sulfuric acid mist, hydrogen sulfide, TRS, reduced sulfur compounds, municipal waste combustor organics, municipal waste combustor metals, municipal waste combustor acid gases, and municipal solid waste landfill emissions, see 40 CFR 51.166(b)(23)(i); and EPA has proposed a significance level for ozone depleting substances. *See* 61 FR 38307 (July 23, 1996). Of course, the basis for all these actions is PSD's applicability to these non-NAAQS air pollutants. We are not aware that EPA's actions in establishing significance levels for these pollutants gave rise to challenges on grounds that the PSD provisions do not apply to them. As the U.S. Supreme Court recently stated in upholding an EPA approach in another context: "While not conclusive, it surely tends to show that the EPA's current practice is a reasonable and hence legitimate exercise of its discretion * * * that the agency has been proceeding in essentially this fashion for over 30 years." *Entergy Corp.* v. *Riverkeeper, Inc.*, 129 S.Ct. 1498, 1509 (2009) (citations omitted).

Finally, we note that excluding GHG sources from PSD applicability would create inequitable results. Consider the hypothetical case of two sources that construct in the same area, each of which emits the same amount of GHGs, and that amount is large enough to trigger PSD applicability. Assume that the first one, but not the second, also emits NAAQS pollutants amounts large enough to trigger PSD applicability. If GHG sources are excluded from PSD applicability, then the first of those sources, but not the second, would be subject to PSD requirements for its GHG emissions. Similarly, consider the hypothetical case of two sources that emit identical amounts of the same NAAQS pollutant and identical amounts of GHGs, all amounts of which are large enough to trigger PSD applicability requirements. Assume that the first source constructs in an area that is an attainment or unclassifiable area for the NAAQS pollutant that it emits, and that the second source constructs in an area that is not an attainment or unclassifiable area for that NAAQS pollutant. Here again, if GHG sources are excluded from PSD applicability, then the first of those sources, but not the second, would be subject to PSD requirements for its GHG emissions. These results are inequitable and would create an uneven playing field and for this reason, too, support our view that the PSD applicability provisions apply to GHG sources.

Accordingly, we reject the argument that section 165 must be, or may reasonably be, limited in scope to pollutants for which an area has been designated as attainment or unclassifiable. Rather, the PSD applicability provision—the definition of "major emitting facility" in CAA section 169(1)—applies by its terms (as we have interpreted them narrowly through regulation) to sources emitting any air pollutant subject to regulation, and is not limited to any NAAQS air pollutant. Our research has not disclosed any explicit statements in the legislative history that Congress intended to limit PSD applicability to sources of NAAQS pollutants.

6. Application of the "Absurd Results" Doctrine for the Title V Program

Having discussed the application of the *Chevron* framework, taking account of the "absurd results" doctrine, for the PSD applicability requirements, we now turn towards applying the same approach to the title V applicability requirements. Because of the parallels between the PSD and title V applicability provisions, much of the discussion later parallels the previous discussion of PSD. As with PSD, we finalize, with some refinements, the "absurd results" basis we proposed. Specifically, we are revising our regulations to limit title V applicability to GHG emitting sources by revising the regulatory term, "major source," and although our revised regulations do not accord with a literal reading of the statutory provisions for title V applicability, which are incorporated into the statutory definition of "major source," we have concluded that based on the "absurd results" doctrine, a literal adherence to the terms of this definition is not required. Rather, we may apply title V to GHG sources in a phased-in manner, as we do through the tailoring approach, because although congressional intent is clear that title V applies to GHG sources in general, congressional intent is unclear on the question of how title V applies, and the tailoring approach is a reasonable interpretation of the statute.

To reiterate, for convenience, the title V applicability provisions provide that after the effective date of a title V program, it is unlawful for any person to operate a "major source" without a title V permit (CAA section 502(a), and define a "major source" to include "any major stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 501(2)(B) and 302(j).

Under the current interpretation of the title V applicability provisions, EPA's recent promulgation of the LDVR will trigger the applicability of title V for GHG sources at the 100 tpy threshold levels as of January 2, 2011. This is because title V applicability hinges on the definition of "major source," which, under EPA's long-standing narrowing interpretation, but absent further tailoring, applies title V to sources of any air pollutant that is subject to regulation under another provision of the CAA. EPA's promulgation of the LDVR means that GHGs will become subject to regulation on the date that the rule takes effect, which will be January 2, 2011.

But absent tailoring, the January 2, 2011 trigger date for GHG PSD applicability will see an extraordinarily large number of sources—some 6.1 million—become subject to title V, an increase of over 400-fold over the 14,700 sources that currently are subject to title V. The great majority of these will be small commercial or residential sources.

We believe that for many reasons, this result is contrary to congressional intent for the title V program, and in fact would severely undermine what Congress sought to accomplish with the program. As a result, under *Chevron*, accounting for the "absurd results" doctrine, the statutory definition for "major source" (as EPA has already narrowed it to refer to any air pollutant "subject to regulation") should not be read to apply to all GHG sources at or above the 100 tpy threshold as of the January 2, 2011 date. Rather, the definition of "major source" should be tailored so that it applies to GHG sources on a phased-in basis, with the largest sources first, as we describe in this rule.

a. Congressional Intent for the Title V Program

As we said, previously, in a similar circumstance involving the PSD program, applying title V requirements to GHG sources without tailoring the definition of "major source"—and, as discussed later, without streamlining the title V requirements or allowing for time for permitting authorities to ramp up resources—would result in a program unrecognizable to the Congress that enacted title V, and one that would be flatly unadministrable. Without tailoring, the PSD program would expand from the current 14,700 sources to some 6.1 million, with the great ***31563** majority of the sources being small commercial and residential sources that not only have never been permitted before, but that in many cases have no applicable requirements under the CAA to include in the permit. In the next several sections, we will describe some of the specific ways that this literal application of title V would not only differ from, but would undermine, congressional intent. But the big picture is readily drawn: The influx of millions of permit applications would do nothing less than overwhelm the program Congress finely crafted for thousands of sources, with its multi-step deadlines measured in days and months, its multiple mandates for expeditious permit processing, its nuanced limitations on the need for permit revisions, its efforts to save smaller sources permit fees. Regulatory gridlock, precisely what Congress strove to avoid, would result.

Most visibly, interpreting the applicability provisions literally to include GHG sources at the 100 tpy level immediately would revise the program from what Congress envisioned in three major ways, the legislative history of each of which was discussed previously:

- It would immediately expand the program to cover several-hundred-fold more sources than Congress anticipated.
- It would immediately expand the program to cover very small sources that Congress expected would not be included in the program.
- It would immediately expand the program so that a large number of sources have empty permits, that is, permits without applicable

requirement, and undermine the implementation of the program for sources with applicable requirements.

Revising the program in this way through a literal interpretation of the applicability provisions—without tailoring the applicability requirements and without streamlining the program requirements—is clearly inconsistent with Congress's conception of the program's scope, and these inconsistencies are foundational. Most importantly, the program that would result would be unduly costly to sources and impossible for permitting authorities to implement, and therefore would frustrate the purposes that Congress intended to achieve with the program that it did design.

As discussed previously, Congress was fully aware that with the title V program, it was subjecting sources and permitting authorities to additional costs and administrative burdens, and it was fully aware of concerns that absent careful design, the program could become a formula for regulatory gridlock. Determined to make the program workable, Congress crafted the provisions to be efficient and workable.

However, if title V were to apply to GHG sources at the 100 tpy level, until EPA could develop streamlining methods, all of these sources newly subject to title V would need to apply for permits. We estimate that the commercial and residential sources would incur, on average, expenses of $23,175, while an industrial source would incur expenses of $46,350, to prepare a permit application and receive a permit. The great majority of these sources would be small commercial and residential sources of the type that

Congress did not expect would be included in title V. For example, as discussed above, the legislative history of title V, including both the permit program under CAA sections 501-506 and the "small business stationary source technical and environmental compliance assistance program" under CAA section 507, indicated that Congress did not expect that "printers, furniture makers, dry cleaners, and millions of other small businesses" would become subject to title V. House Committee Report, H.R. 101-590, at 354. These sources generally do not have the potential to emit conventional pollutants at or above the 100 tpy threshold.[46] However, many do have the potential to emit GHGs above that threshold. Many printers and furniture makers use a variety of combustion equipment that has the potential to emit at least 100 tpy CO_2, and many commercial dry cleaners have gas-fired driers that have the potential to emit at least 100 tpy of CO_2. All told, there are in fact "millions of * * * small businesses" that would become subject to title V—of the 6.1 million sources that would become subject to title V, the great majority are small businesses—if the title V applicability provisions are applied literally to GHG sources.

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[46] As noted previously, the fact that some small sources are subject to title V because they are "major sources" of HAPs or certain area sources and therefore are covered under CAA sections 502(a) and 501(2)(A) does not alter the conclusion from the legislative history that Congress did not expect large numbers of small sources to become subject to title V. The fact that Congress authorized the Administrator to exempt area sources from the title V program where compliance with title V would be "impracticable, infeasible, or unnecessarily burdensome" reinforces the conclusion that Congress did not intend the program to be "impracticable, infeasible or unnecessarily burdensome" for small sources.

Moreover, the overall cost to all 6.1 million sources—before the development of streamlining methods—would be a staggering $49 billion per year over a 3 year period. Imposing burdens of this magnitude on these sources—individually and in total—would of course be contrary to Congress's efforts to minimize the expenses of title V, especially to small sources. The magnitude of the costs is, in a sense, heightened because a great many of these sources will not have applicable requirements to include in their permits; therefore, much of the costs will produce relatively little benefit.

Yet, the most important reason why applying the title V program to GHG sources without tailoring, and before the development of streamlining methods, would be inconsistent with congressional intent, is that the resulting program would prove unadministrable. Adding some 6.1 million permit applications to the 14,700 that permitting authorities now handle would completely overwhelm permitting authorities, and for all practical purposes, bring the title V permitting process to a standstill.

The costs to permitting authorities of this multi-million-source program would again be staggering. On average, and without streamlining, a permitting authority would expend 214 hours, which would cost $9,844, to issue a permit to a commercial or residential source; and 428 hours, which would cost $19,688, to issue a permit to an industrial source. In all, permitting authorities would face over $21 billion in additional permitting costs each year due to GHGs, compared to the current program cost of $62 million each year.

Beyond this disconnect with congressional expectations as to scope of the program, the extraordinarily large number of permit applications would overwhelm permitting authorities and slow their ability to process permit applications to a crawl. As described at proposal, the survey of permitting authorities conducted by NACAA found that a literal application of the title V applicability provisions to all GHG sources would result in permitting delays of some 10 years. However, as we further noted at proposal, this estimate was based on the assumption that the applicability threshold would be 100 tpy based on actual emissions; in fact, the applicability threshold would be 100 tpy based on PTE, which would sweep in many more sources. Moreover, as stated elsewhere, we currently estimate the amount of per-permit work hours for permitting authorities in processing title V permit applications to be several times higher than what we estimated at proposal. As with PSD, such a program would be beyond anything within our experience, and it is difficult to give a meaningful estimate ***31564** for how long the permitting process would take for each permit on average. But it is clear that the period would be many years longer than even the 10 years estimated by NACAA.

In addition, applying title V to all GHG sources without tailoring would be in tension with a specific CAA requirement, that of CAA section 503(c), which imposes a time limit of 18 months from the date of receipt of the completed permit application for the permitting authority to issue or deny the permit. It would be impossible for permitting authorities to meet this statutory requirement if their workload increases from some 14,700 permits to 6.1 million, and without streamlining. Instead, as just noted, permit applications would face multi-year delays in obtaining their permits.

Moreover, these delays would undermine the overall statutory design that promotes the smooth-running of the permitting process, and the underlying purpose of the title V program itself. As noted elsewhere, Congress intended through title V to facilitate sources' compliance with their CAA obligations by establishing an operating permit program that requires the source to combine all of its CAA requirements, and explain how it will assure compliance with such requirements. Congress established a comprehensive process to implement the operating permit program. Through this process, following the date that sources become subject to title V, they have 1 year to submit their permit applications. CAA section 503(c). As noted, the permitting authority then has 18 months to issue or deny the permit. CAA section 503(c). Permitting authorities must provide an opportunity for public comment and a hearing. CAA section 502(b)(6). If the permitting authority proposes to issue the permit, the permitting authority must submit the permit to EPA for review, and notify affected states. CAA section 505(a)(1). EPA then has 45 days to review the permit and, if EPA deems it appropriate, to object to the permit. CAA section 503(b)(1). If EPA does object, then the permitting authority must, within 90 days, revise it to meet the objections, or else EPA becomes required to issue or deny the permit. CAA section 503(c). If EPA does not object, then, within 60 days of the close of the 45-day review period, any person may petition EPA to object, and EPA must grant or deny the petition within 60 days. CAA section 505(b)(2). This set of applicant, permitting authority, and EPA actions and deadlines establishes the process for the prompt and efficient issuance of operating permits for the appropriate universe of sources.

But at least for an initial period, until resources could be ramped up and streamlining methods could be developed, the extraordinary numbers of these permit applicants would sweep aside this carefully constructed program, and instead, backlog the permit authorities. This initial period would last for many years. As discussed elsewhere, it would take several years to develop and apply streamlining measures—in particular, general permits—and during that time, the permit backlog would grow so large that it would take many more years for permitting authorities to catch up by raising the requisite funds and hiring and training the necessary employees.

What's more, only a fraction of these millions of sources newly covered by title V will be subject to any CAA requirements due to their GHG emissions, and we suspect that a larger number will not be subject to any CAA requirements at all. As a result, for most of these sources, although they would need to apply for and receive a permit, there would be no applicable requirements to include in the permit and thus the exercise would not improve compliance.

The picture that emerges from a literal application of title V's requirements to all GHG sources—at the 100 tpy level, beginning on January 2, 2011—shows multi-year delays in issuance of all permits, for both the sources that have applicable requirements and that Congress clearly intended the program to cover, and for the millions of sources that may not be subject to any applicable requirements. In short, this literal interpretation would apply title V to millions of sources that Congress did not expect be covered, and the ensuing administrative burdens—at least initially—would impede the issuance of permits to the thousands or perhaps tens of thousands of sources that Congress did expect be covered. This is the type of "absurd results" from a literal application of statutory provisions that the courts have held should be avoided. And even beyond all that, the sheer magnitude of the numbers involved—millions of permits requiring thousands of FTEs at a cost to the permitting authorities of billions of dollars, all this beginning immediately at the time that GHGs become subject to regulation—makes clear that this result of a literal application of the title V provisions to GHG sources cannot be what Congress intended.

b. EPA's Reconciliation of Applicability Provisions With Congressional Intent

For the reasons just described, we should not consider the literal meaning of the applicability provisions to be determinative of congressional intent as to the applicability of title V to all GHG sources; rather, we should examine other provisions of the statute and the legislative history to determine congressional intent on that question. If congressional intent is clear, we must adopt and implement an applicability approach that is as close as possible to congressional intent; and if congressional intent is not clear, then we must select an interpretation that is reasonable and consistent with the statutory requirements. This section explains EPA's view of congressional intent for the applicability of the title V program to GHG sources and the principles and approach EPA is using for tailoring. In addition, we also respond to other approaches that were suggested by commenters.

To determine congressional intent, we consider the statutory provisions and legislative history, and this analysis is similar to that for PSD. The most important title V provisions and legislative history for this purpose are the following:

> (1) The applicability provisions themselves, which, as we have interpreted them, apply title V to all sources that emit at least 100 tpy of any air pollutant subject to regulation. CAA sections 502(a), 501(2)(B), 302(j). Although we do not believe these provisions should be applied literally to GHG sources, their broad phrasing indicates, directionally, a congressional intent towards inclusiveness of sources in title V, including GHG sources.
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> (2) The provisions for general permits, CAA section 504(d); and title V fees, CAA section 502(b)(3)(A). These provisions give title V an important measure of flexibility as to its scope. The explicit authorization of general permits means that title V may be applied to more sources and more efficiently, thereby saving costs to both source and permitting authority. The requirements for permit fees provide a mechanism for permitting authorities to, over time, develop their programs to cover more sources. In this

sense, these provisions could be construed to indicate congressional intent to apply title V inclusively, to the extent that permitting authorities can accommodate additional sources through general permits and permit fees.

(3) The detailed procedural requirements—including time periods, such as the 18-month time period for action on permit applications—for title V permit processing. CAA sections 503, 505. Although these requirements are consistent with applying title V to GHG sources—in the sense that at least in ***31565** theory, there is nothing intrinsic to GHG sources that would mean that permitting authorities could not comply with these requirements—these requirements cast doubt on whether Congress can be said to have intended that title V cover the many small GHG sources (at least immediately) in light of the risk that including all those sources in title V would strain the process.

(4) The provisions and legislative history concerning applicable requirements, which indicate that a purpose of title V is to include sources' applicable requirements in their permits. CAA sections 503(b)(2), 504(a). These provisions, and the accompanying legislative history, discussed previously, suggest an intent to include within title V GHG sources that have applicable requirements, but may also suggest that Congress would not have intended to include in title V the large numbers of GHG sources

> that have "empty permits," at least where their inclusion would undermine implementation of the program for sources with applicable requirements.
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> (5) The small-business-assistance provisions of section 507 and the legislative history of title V—both the permitting program and the small-business-assistance program—concerning the scope of the permitting program and small businesses. These indicate that Congress intended title V to cover some tens of thousands of sources, and did not intend that title V apply to small businesses. These provisions and legislative history suggest that Congress did not intend for title V to apply to include large numbers of small GHG sources.

Finally, the legislative history of title V does not explicitly mention GHG sources, which could suggest that Congress did not have occasion to focus on whether and how title V would apply to GHG sources.

With all this, we believe that Congress had a clear intent on the question of whether title V generally applies to GHG sources, and that was that it does. As with PSD, the most important indication of congressional intent in this regard is the applicability provisions, which provide, in part, that title V applies to "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, [the requisite quantity] of any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). This term is quite broad, and should be read to include GHG sources. *See Massachusetts* v. *EPA*, 549 U.S. 497, 533 (2007) ("Because greenhouse gases fit well within the Clean

Air Act's capacious definition of 'air pollutant,' we hold that EPA has the statutory authority to regulate the emission of such gases from new motor vehicles."). Moreover, including GHG sources—under certain circumstances—is consistent with the various statutory provisions and statements in the legislative history described previously.

In the alternative, if it is concluded that Congress did not express a clear intent on that question, then, under *Chevron* Step 2, EPA exercises its discretion to conclude that title V applies to GHG sources as a general matter. This is a reasonable policy because applying the title V program to at least the larger GHG sources will assure promote accountability and enforceability for those sources, which is a key goal of the title V program, and will not impose obligations that are beyond the resources of those sources or insurmountable burdens on the permitting authorities. This policy is a reasonable interpretation of the statutory provisions for the same reasons just discussed.

As to the question of how title V applies to GHG sources, we believe that Congress cannot be said to have expressed a clear intent. A central aspect of how title V is to apply to GHG sources concerns "empty permits," and on this aspect, some of the above-described provisions and statements in the legislative history point in different directions. This is particularly true of, on the one hand the title V applicability provisions, which apply by their terms inclusively and, on the other hand, the requirement that sources include applicable CAA requirements in their permits, and the statements in the legislative history indicating that Congress intended title V to cover sources subject to other CAA requirements.

Because Congress cannot be said to have expressed an intent as to the manner and scope of title V applicability to GHG sources, then, under *Chevron* Step 2, EPA may apply a reasonable interpretation of the applicability provision to determine the scope of coverage of GHG sources that is consistent with the statutory requirements. The Tailoring Rule qualifies as such an interpretation. The Tailoring Rule in effect reads the applicability provisions not to apply title V to GHG sources at or above the 100 tpy level, but instead to apply title V to as many of the GHG sources at or above that level as possible and as quickly as possible, starting with the largest sources first, that is consistent with both the permitting authorities' ability to administer the program and with a sensible imposition of costs to sources. This tailoring approach is consistent with the inclusive direction of the applicability provision, the flexibility in title V's scope that is inherent in the provisions authorizing general permits and requiring permit fees, the detailed process requirements, and the legislative history that focuses on Congress's concern about costs to sources and administrability. With the tailoring approach, over time, more sources may be included in title V, consistent with those provisions and legislative history. This reconciles the inclusiveness of the applicability provisions with Congress's expectations of a more limited scope for the title V program.[47] However, as part of the tailoring approach, we recognize that we may at some point determine that it is appropriate to exclude certain sources, such as the smallest of the GHG sources. In addition, we intend to address the issue of sources with "empty permits" in a later rulemaking, as discussed previously.

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[47] As with PSD, this way of reconciling the PSD applicability provisions with Congress's expectations for a narrower PSD program is consistent with the U.S. Supreme Court's view that the CAA should be read to include "regulatory

The specific phase-in schedule will depend on the following: We will gather information about the permitting authorities' ability to process permits, and we will develop streamlining techniques. Based on that information, we will address expanding the title V program in a step-by-step fashion to include more sources over time. Each step will be based on our assessment of the permitting authorities' and sources' ability to comply with their respective obligations under the title V program.

We recognize that the availability of permit fees to support title V permit actions creates a potentially important source of resources, and that this has implications for the permitting authorities' ability to implement the title V program for sources of GHGs. At least in theory, permitting authorities could assess and collect sufficient fees to support hiring and training sufficient personnel so that they could expand their programs to match the expansion in the number of sources covered by the program.

Even so, title V fees cannot be considered a panacea that will resolve all resource problems that permitting authorities will have, for several reasons.

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flexibility, [without which] changing circumstances and scientific developments would soon render the Clean Air Act obsolete." *Massachusetts* v. *EPA*, 549 U.S. 532.

Permitting authorities will likely be constrained as to the rate in which they can increase fees in light of ***31566** the costs to sources. As indicated elsewhere, at least at the outset of the program before streamlining techniques have been developed, a literal application of the title V applicability provisions to GHG sources would, on average, cost each industrial source $46,400 and each commercial or residential source $23,200 to complete the permit application and take other associated actions; and it would cost each permitting authority, on average, $19,688 to process the industrial source permit and $9,844 to process the commercial or residential source permit. Particularly in light of the high costs to sources of applying for a permit, it is not likely that permitting authorities would be able to pass on to the sources in the form of fees, the entirety of the permitting authorities' own high costs for processing those permits, at least not right away. Even to the extent it would be possible to raise permit fees, permitting authorities would have to undergo a process to assess, impose, and collect those fees, and then hire and train personnel. The survey from the state and local agencies described previously forecast a 2-year period for hiring and training, without counting time for the fee process. For these reasons, we do not believe that the authorization for fees will allow the permitting authorities either to accelerate Steps 1 or 2 of the tailoring schedule or to permit a larger number of sources at those steps. Step 1 will take effect on January 2, 2011, Step 2 will take effect on July 1, 2011, and the process for determining and collecting fees, and then hiring and training personnel will take at least several years after July 1, 2011.

Moreover, we do not believe that the authorization for fees means that permitting authorities can reasonably be expected to permit title V sources at levels below 50,000 tpy CO_2e before 2016. The next level below 50,000 tpy CO_2e for which we have data is 25,000 tpy CO_2e, and the costs to permitting authorities to run their programs at that level ($126 million) is more than double their current costs ($62 million). We do not consider it reasonable to expect permitting authorities to more than double their program within the first 6 years of title V applicability to GHG sources. That it is not reasonable to expect that is made even clearer when the permitting authorities' burdens in implementing their PSD programs are considered. The ability of permitting authorities to impose fees may have more important implications for subsequent steps, and as we address those subsequent steps in future rulemakings, we will consider the fees. EPA's approach to fees in this rulemaking is discussed elsewhere.

c. Other Possible Approaches to Reconciling Literal Reading of Title V Applicability Provisions and Congressional Intent

Having described how the *Chevron* framework, accounting for the "absurd results" doctrine, applies to title V requirements in this case and why it supports this Tailoring Rule—under which we expect to apply title V to more sources, in a step-by-step fashion, over time—we turn to the last part of our discussion of this doctrine. Here, we address another possible approach suggested by comments, which is that EPA should apply the title V program only to sources that are subject to applicable requirements, so that sources should not be required to hold "empty permits" (*e.g.*, permits issued to a source that is not subject to any applicable requirement for any pollutant). To the extent that commenters argue that the statute requires EPA to adopt a "no-empty-permits" theory, we disagree. We believe that although various provisions of title V indicate that one of title V's purposes is to gather a source's applicable requirements into a single permitting mechanism, *see* CAA sections 503(b)(1), 504(a), we do not read those provisions as expressly limiting, as a matter of *Chevron* Step 1, title V to sources with applicable requirements. The applicability provisions, by their terms, include sources based on amount of emissions, and do not include any explicit limits to applicability based on whether the sources has applicable requirements. As described previously, we believe that Congress, although clearly expressing an intent that title V apply to GHG sources generally, did not express a clear intent as to how title V applies to GHG sources. The tension between these two sets of provisions, which we identified in the proposal and commenters further discussed, provides further support for that conclusion. Accordingly, we have discretion under *Chevron* Step 2 to determine a reasonable approach, consistent with the statutory requirements, concerning the application of title V to GHG sources with empty permits.

We note that to date, we have issued permits to sources without applicable requirements, albeit on rare occasions. We have little reason to believe that the "empty-permits" issue will arise in Steps 1 and 2 of our tailoring approach because we believe there will be no "empty permits" in Step 1 or Step 2 or, if there are, that they will be very few in number. As stated elsewhere, we believe that the tailoring approach we adopt in this rulemaking for Steps 1 and 2 is a reasonable approach that is consistent with statutory requirements.

We need to gather more information concerning the potential number and utility of "empty permits" for GHG sources, in light of the fact that the need for requirements in title V permits will vary based on the requirements of each SIP, and the fact that some SIPs contain broadly applicable requirements. As stated elsewhere, we intend to consider the issue of the applicability of title V to GHG sources with "empty permits" in Step 3 of our tailoring approach. When we do so, we will further assess the potential for the approach of excluding empty permits from title V to relieve burden consistent with statutory requirements.

7. Additional Rulemaking for the PSD and Title V Programs

The previous sections 5 and 6 discussed our application of the *Chevron* framework, accounting for the "absurd results" doctrine, to the PSD and title V applicability requirements, respectively. As another point in this regard, which is relevant for both PSD and title V purposes, we also commit to subsequent rulemakings in which we may further address the "absurd results" doctrine.

Specifically, we will propose or solicit comment on establishing a further phase-in, that is, a Step 3, that would apply PSD and title V to additional sources, effective July 1, 2013, and on which we commit to take final action, as supported by the record, by no later than July 1, 2012. We further commit to completing another round of rulemaking addressing smaller sources by April 30, 2016. Our action in that rulemaking would take into account the severity of the remaining problems associated with permitting authority burden and source costs.

While committing to future action, we do not decide in this rule when the phase-in process will ultimately end, or at what threshold level, because all that depends on uncertain variables such as our progress in developing streamlining approaches and on permitting authorities' progress in developing permitting expertise and acquiring more resources. We may continue the phase-in process with further rulemaking(s) after 2016. Alternatively, we may make a final determination through future rulemaking that, under the "absurd results" doctrine, PSD and/or title V do not apply to GHG sources that, while small and relatively inconsequential in terms of GHG contribution, are above ***31567** the statutory tonnage thresholds for these programs, and thereby end the phase-in process. In addition, we may consider whether to limit title V applicability to GHG sources in order to minimize the number of GHG sources with "empty" permits.

8. Rationale for the Phase-In Schedule for Applying PSD and Title V to GHG Sources

Having discussed in sections V.B.5, V.B.6, and V.B.7 the reasons for tailoring the PSD and title V programs, we now describe our rationale for selecting the specific phase-in schedule in this rule for applying PSD and title V to GHG-emitting sources. To reiterate for convenience, under Step 1 of this schedule, which begins on January 2, 2011, (1) PSD applies to the GHG emissions of "anyway" PSD sources, that is, sources that are subject to PSD anyway due to their emissions of conventional pollutants and that undertake a modification that results in an increase of at least 75,000 tpy CO_2e; and (2) title V applies to "anyway" title V sources, that is, sources that are subject to title V anyway due to their emissions of conventional pollutants. Under Step 2, which begins on July 1, 2011, (1) sources will be subject to PSD on account of their GHG emissions if they newly construct and emit at least 100,000 tpy CO_2e, or if they are existing sources that emit at least 100,000 tpy CO_2e of GHGs and make a modification that results in the emission of at least 75,000 tpy CO_2e; and (2) existing and new sources will be subject to title V on account of their GHG emissions if they emit 100,000 tpy CO_2e in GHG emissions. In addition, EPA intends to begin another round of rulemaking—Step 3—in 2011 and commits to complete it by July 1, 2012. In that rulemaking, we will propose or solicit comment on a further phase-in of GHG sources for PSD and title V applicability, and we may propose or solicit comment on another application of the "absurd results" doctrine that excludes categories of sources from PSD or title V. However, under this rule, in no event will EPA apply PSD or title V to sources below the 50,000 tpy CO_2e levels in Step 3, or any other step we might promulgate prior to April 2016. In addition, EPA commits to conduct a study, to be concluded by April 30, 2015, evaluating the status of PSD and title V applicability to GHG sources, and, based on the study, complete a rulemaking by April 30, 2016 that addresses another round of a phase-in.

a. Rationale for Step 1

In Step 1 of our tailoring approach, which begins on January 2, 2011, PSD and title V requirements will apply to only those sources that are subject to PSD or title V requirements anyway due to their conventional pollutants ("anyway" sources) and that, in the case of PSD, make modifications that result in an increase in GHG emissions of at least 75,000 tpy CO_2e. No sources would become major for PSD or title V under this step based on their GHG emissions alone. This section describes our proposal, comments on the proposal and our response to those comments, and our rationale for Step 1.

(1) Proposal

In our proposal, we proposed (1) the application of PSD and title V requirements to sources that emit at least 25,000 tpy CO_2e, (2) a PSD significance level of between 10,000 and 25,000 tpy CO_2e, and (3) a commitment to undertake a study to be followed by further rulemaking after 6 years. In addition, we solicited comment on the alternative of limiting PSD and title V applicability to "anyway" sources for at least the first 6 years. Under this approach, PSD and title V applicability would be determined based on non-GHG pollutants, and without regard to GHGs, but those sources subject to PSD would also be subject to BACT requirements for GHGs if their GHG emissions exceeded the significance level established in the final rule, and those sources subject to title V would be required to include any applicable requirements for GHGs in their permits.

(2) Comments

Many commenters supported this "anyway"-source approach, and offered a variety of reasons: According to the commenters, (1) This approach is a better reading of Congress's intent in the Act and is consistent with *Alabama Power* v. *Costle*, 636 F.2d 323 (DC Cir. 1980); (2) this approach would reduce the permitting workload on sources currently considered minor and focus PSD and title V requirements on large sources of non-GHG pollutants, as intended by Congress; (3) it is appropriate to base PSD and title V applicability on non-GHG emissions until data on GHG emissions are available from the mandatory GHG reporting rule; (4) in the initial phase, this approach would be more straightforward to administer, would provide a more predictable permitting workload, and would prevent a flood of newly regulated sources from overburdening state agencies; (5) this approach would provide permitting agencies time to develop experience handling GHG sources and requirements under the PSD and title V programs; (6) this approach would provide EPA and the permitting agencies the time needed to develop streamlining techniques; (7) this approach is consistent with the "absurd results" and "administrative necessity" doctrines because the scope of the permitting programs would remain consistent with both congressional intent and current administrative practice, but EPA and state agencies would still be allowed to begin regulating GHG emissions from existing PSD and title V sources; and (8) sources already required to obtain PSD permits are best equipped to work through BACT issues with permitting authorities.

Commenters added that if BACT is applied for GHGs due to permit actions involving non-GHG pollutants, EPA would need to set a significance threshold for the application of BACT, without which BACT could apply to very small (*e.g.*, 1 ton) GHG increases associated with projects that otherwise triggered PSD for increases of non-GHG.

(3) Determination as to Step 1, PSD and Title V Applicability and PSD Significance Level

After considering the administrative burdens from increased permitting actions and the need for permitting authorities to have sufficient time to develop necessary expertise and staffing resources to address that burden, we have decided in this final action to establish the "anyway" source approach as Step 1. Beginning on January 2, 2011, sources subject to PSD requirements for their conventional pollutants anyway will be required to apply BACT to their GHG emissions if they construct or modify and in so doing, emit at least 75,000 tpy CO_2e in GHGs. Similarly, sources subject to title V requirements anyway due to their conventional pollutants will be required to meet certain requirements for their GHGs, as described elsewhere. These requirements at Step 1 for PSD and title V will not expire. On July 1, 2011, a further phase-in of PSD and title V applicability—Step 2—will kick in.

At Step 1, by definition, all of the covered sources are already subject to PSD and title V permitting requirements, and will simply be adding a GHG component to what would be an otherwise occurring permitting action for conventional pollutants. These sources include fossil fuel-fired power plants, petroleum refineries, cement plants, iron and steel plants, pulp and paper plants, petroleum refineries, large ***31568** landfills, and other large industrial sources. These sources will need to perform some additional analysis that is unique to GHG emission units, particularly related to the BACT review and selection process, but they will likely be able to utilize information developed as part of other permitting requirements for conventional pollutants, such as equipment fuel usage and operational parameters. Also, because these facilities are familiar with the case-by-case permitting processes, including all the steps from the application to the final review process, they will not confront a high PSD or title V learning curve.

The "anyway" source approach has particular appeal during the first step of the phase-in approach because it begins to apply key PSD and title V program requirements as soon as January 2, 2011 to large sources of emissions, but because it applies only to sources that are already subject to PSD for other pollutants, it can be implemented efficiently and with an administrative burden that is manageable in the next 8 months. We expect that under this approach, the sources and permitting authorities will still face substantial additional work to address the GHG emissions. In addition to the activities discussed elsewhere, there will be significant and complex policy questions about how BACT will be implemented for GHGs that must be resolved. These issues will include how to determine BACT for GHGs, how to do netting, and other similar issues. Even with EPA guidance, many case-specific policy issues will arise and will have to be resolved by the permitting authority in the context of a specific permit application. Nevertheless, with the "anyway" source approach, this work will be manageable because the associated permitting burden will be limited to adding a GHG component to each existing permit action for which it will be required, and will avoid the significantly greater burdens associated with large numbers of new permit actions that would be required for sources and modifications that would be subject to PSD for the first time. Instead, this "anyway" source approach allows permitting authorities sufficient time to develop necessary expertise and staffing resources to address GHG BACT.

We agree with commenters that the establishment of a significance level—which, in effect, is a BACT threshold—is appropriate, and we have decided to establish this level at 75,000 tpy CO_2e because, for reasons discussed later, that is the level that will apply during Step 2. At this level, the administrative burdens, described later, will be manageable. Importantly, we believe a consistent significance level between Steps 1 and 2, as opposed to a lower significance level in Step 1, will provide for a smoother transition and avoid the problems that would arise if PSD applied to modifications during Step 1 that PSD would not apply to in Step 2. Otherwise, we would create a perverse incentive for companies to delay such projects until Step 2 to avoid BACT.

We estimate that Step 1 will result in a 23 percent increase in permitting authority work hours and a $3 million increase—which amounts to a 25 percent increase from the current program cost of $12 million—in their annual costs for running PSD programs. This is primarily due to the GHG BACT review requirements. For title V programs, we estimate a 2 percent increase in permitting authority work hours and a $1 million increase in the title V annual program costs for permitting authorities under Step 1 as compared to the current program cost of $62 million. These work hours and costs will be needed primarily to review GHG emissions information, add any GHG-related requirements to title V revisions and renewal actions that would otherwise be occurring, respond to comments and petitions from the public, as well as develop fee requirements and make fee determinations associated with issuing new or revised title V permits that add GHG-related information. For both the PSD and title V programs on a combined basis, the additional costs for Step 1 will be $4 million, which amounts to a 5 percent increase in the current combined program cost of $74 million.

In addition to these workload and monetary costs, permitting authorities will confront additional burdens before and during Step 1, which we have not attempted to quantify. One of the most significant of these is training staff in the PSD-related areas of GHG emissions calculations and BACT evaluations. In addition, permitting staff will need to build staff expertise and capacity for addressing GHG requirements in preparation for Step 2, which will begin only 6 months after Step 1; and in communicating and providing outreach to sources addressing GHG emissions for the first time. Based on comments we received on the proposal from permitting authorities, we believe these additional training and outreach requirements—for both the PSD and title V programs—will add significantly to the permitting authorities' burden during the initial 6-month period under Step 1.

We believe that these administrative burdens are substantial but manageable. Following this action, permitting authorities will have only 8 months to prepare for Step 1, when they will need to increase their resources by 5 percent for both the PSD and title V programs combined, and be able to implement BACT requirements for GHG sources. During Step 1, they will need to prepare for Step 2, when, as discussed later, they will need to process over 900 additional PSD permits each year and begin to process over 1,100 additional title V permit actions.

We have decided to limit Step 1 to the "anyway" source approach, and not apply PSD or title V to sources based on their GHG emissions, for several reasons. First, we believe that the administrative burdens described previously are the most that the permitting authorities can reasonably be expected to manage before and during Step 1. Tighter PSD and title V applicability requirements would mean greater administrative burdens.

Second, we believe that the costs of GHG permitting to the sources, as described previously, are substantial and as a result, necessitate that we wait for the permitting authorities to develop the PSD and title V programs for GHG sources during the first 6 months of 2011 before subjecting sources to

PSD and title V requirements on account of their GHG emissions. By July 1, 2011, when Step 2 takes effect, the PSD and title V programs will be better developed. For example, the permitting authorities will have more experience making BACT determinations. In addition, by that time, sources will have had more time to prepare for the permitting processes. In addition, as suggested by one commenter, the additional time will allow sources and permitting authorities to address the current uncertainty surrounding how to measure high-GWP gases.

Third, we estimate that "anyway" sources account for approximately 65 percent of total national stationary source GHG emissions. As a result, limiting Step 1 to these sources will still capture a large portion of the GHG inventory.

A large number of commenters urged us to leave this "anyway" source approach in place until such time as we complete an assessment and conduct further rulemaking, which we proposed would be 6 years from now. We are not taking this action; rather, for the reasons discussed next, we believe it is reasonable to use GHG thresholds to begin to phase in PSD and title V applicability to additional sources in Step 2.

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b. Rationale for Step 2

(1) Proposal

We proposed to establish the applicability level for PSD and title V to GHG sources at 25,000 tpy CO_2e, and we proposed a PSD significance level in the range of 10,000 to 25,000 tpy CO_2e. Our burden estimates at proposal led us to conclude that at those threshold levels, for the PSD program, "approximately 400 additional new or modified facilities would be subject to PSD review in a given year. These include approximately 130 new facilities and approximately 270 modifications * * *." 74 FR 55331, col. 1. We estimated that processing these numbers of additional permits, along with doing the additional work associated with GHG emissions from sources subject to PSD anyway due to their conventional emissions, would increase permitting authority burdens by "approximately 112,000 staff hours at an additional cost of approximately $8 million. This workload amount represents an increase of about 1.3 times, or 32 percent, in the current burden for permitting authorities on a nationwide basis." *Id.* col. 3. We concluded that "this additional burden is manageable," but that "any threshold lower than 25,000 tpy CO_2e, would create undue administrative burdens." *Id.*

For the title V program, we estimated that at a 25,000-tpy CO_2e permitting threshold, "about 13,600 existing facilities" would become subject to title V, and that to manage the additional workload associated with permitting those sources and with the other permit revisions and modifications that would result from the 25,000 tpy CO_2e threshold, permitting authorities would require an additional 492 FTEs, which would be an estimated 50 percent increase over current title V staffing levels. 74 FR 55335, cols. 1-2.

(2) Comments

We received a significant number of comments from both permitting authorities and industry representatives that our proposed GHG threshold of 25,000 tpy CO_2e for major source applicability was too low and would result in an unmanageable amount of permitting actions in the near term. Many offered evidence that we severely underestimated both the number of permitting actions and the per-permit administrative burden, for both PSD and title V programs.

Commenters also asserted that the proposed 25,000 tpy threshold is too low because it will subject small sources (including many small businesses) to PSD and title V, which is not in keeping with Congress's intent to limit PSD and title V to large sources when Congress set the 100/250 tpy thresholds for the permitting programs. EPA, in collaboration with the SBA, conducted an outreach meeting designed to exchange information with small entities that may be interested in these regulations. The EPA took this small business outreach effort into account when finalizing this rule. Many commenters from this outreach effort said that there were many more small businesses that would become subject to PSD and title V due to the proposed permitting thresholds than EPA estimated at proposal.

Many commenters recommended specific major source thresholds for PSD and title V, including levels of 25,000 (as proposed), 40,000, 50,000, 100,000, 150,000, 250,000, and 1,000,000 tpy CO_2e. A majority of the commenters—including both industry and state agency commenters—

recommended major source thresholds of 100,000 tpy CO_2e. However, several state agency commenters recommended thresholds of 50,000 tpy CO_2e. Other commenters recommended sector-specific thresholds. For example, solid waste industry commenters suggested thresholds of 820,000 tpy CO_2e for PSD [which they calculate to be equivalent to the existing PSD threshold for "municipal solid waste landfill emissions," *i.e.*, 250 tpy nonmethane organic compounds (NMOC)] and 320,000 tpy CO_2e for title V (calculated to be equivalent to the existing major source applicability threshold of 100 tpy NMOC). Other commenters urged EPA to set the GHG thresholds at levels that correspond to emissions of conventional pollutants at the 100/250 tpy level.

Many of the commenters that recommended increasing the thresholds cited EPA's estimates that a particular threshold would significantly reduce the number of sources subject to the rule while causing only a slight reduction in the percentage of GHGs captured. Several of these commenters noted that Table VIII-2 in the proposal preamble indicates that shifting the major source threshold for PSD from 25,000 to 100,000 tpy CO_2e would reduce the number of major sources from 13,661 to 4,850 while reducing the coverage of U.S. stationary source GHG emissions by only about 4 percent. Other commenters referred to the regulatory impact analysis (RIA) for the mandatory GHG reporting rule to conclude that raising the threshold from 25,000 to 100,000 tpy CO_2e would exclude thousands of entities that, on a combined basis, emit only one percent of the nation's GHG emissions. *See* the RTC document for this final rulemaking for more detailed description of comments received on our proposed burden assessment.

Many commenters also recommended specific PSD GHG significance thresholds, including levels of 10,000 (as proposed), 15,000 (within the proposed range), 25,000 (also as proposed), 40,000, 50,000, and 100,000, and 150,000 tpy CO_2e, as well as suggesting sector-specific thresholds. These recommendations were based on the view that we had underestimated the number of modifications and that the burden of permitting at the proposed levels would therefore be much worse than we projected. A number of the commenters argued that the significance threshold should be no less than the major source threshold, at whatever level that is set. The largest number of commenters recommended a PSD significance threshold of 100,000 tpy CO_2e, although significant numbers also support 25,000 and 50,000 tpy CO_2e.

(3) Rationale for Step 2

Based on these comments, we reassessed our original burden estimates from our proposal. This reassessment is discussed at the beginning of this section. We decided that, once this adjustment is taken into account, the burdens at the proposed 25,000 threshold and the proposed 10,000-25,000 significance levels would be unmanageable. We therefore evaluated higher thresholds ranging from a 25,000 tpy CO_2e major source applicability level for PSD and title V to a 50,000, 75,000, or 100,000 tpy CO_2e level, with associated PSD GHG significance levels of equal or lesser magnitude; and we selected the 100,000/75,000 tpy CO_2e level. Central to our decision to promulgate higher thresholds than what we proposed is our recognition, based on comments and further analysis, that applying PSD to GHG sources at the statutory or any other threshold level or significance level that we have considered would result in (1) a greater number of sources, and significantly greater number of modifications than we first estimated becoming subject to those programs; and (2) a greater per-permit cost than we first estimated to the permitting authority of processing those permit actions. We discussed our revised estimates and reasoning at the beginning of this section.

We now estimate that the 25,000/25,000 tpy level would result in 250 additional PSD permit actions for new construction (either for GHG-only sources or additions to otherwise occurring permits) and an additional 9,200 PSD permits for modifications ***31570** each year (compared to our estimate at proposal of 130 for new construction and 270 for modifications). This level of permitting would require an additional 2,815,927 work hours, or 1,400 FTEs (compared to our estimate at proposal of 112,000 additional work hours, or 57 FTEs); and would cost an additional $217 million each year (compared to our estimate at proposal of an additional $8 million). *See* 74 FR 55331 (proposal). This $217 million amount represents approximately a 1,800 percent increase over current permitting authority annual cost of $12 million for the major NSR programs.

For title V, under our final burden analysis at a 25,000 tpy CO_2e threshold, we estimate a $64 million annual increase in program costs to permitting authorities to add GHG emission sources, which reflects a greater than 100 percent increase over current program costs of $62 million. We estimate that this increased burden would result in the need for almost 700 new FTEs nationwide at permitting authorities (compared to our estimate at proposal of 492 additional FTEs, or about a 50 percent increase in existing program size). This increase in burden is due to an estimated annual increase of 2,500 new title V permits, over 9,500 permit revisions, and over 2,600 permit renewal actions due to GHG emission sources. These additional title V actions compare to current annual program actions of approximately 50 new title V permits, 1,394 significant revisions, and 3,267 permit renewals.

Based on this information, we have decided not to finalize our proposal to apply a 25,000 tpy $CO_{2}e$ applicability threshold to GHG sources at the time that PSD and title V take effect. At that level, too many sources—many more than we thought at proposal—would be subject to high permitting costs. In addition, permitting at that level and at that time would not be administratively feasible. The resulting increase in the number of PSD and title V permitting actions and workload would create insurmountable resource demands for permitting agencies in the near term, which would jeopardize the functioning of these permitting programs. We are mindful that not only would the permitting programs have to bear the costs that our estimates are able to monetize, but they would also incur burdens associated with hiring and training staff to make and implement GHG BACT determinations, GHG emissions evaluations, and other evaluations required under the PSD program for a wide variety of formerly unpermitted sources, including significant numbers and types of small manufacturing and commercial or residential establishments. They would also incur burdens associated with reviewing applications, citizen comment and petitions, and the need to communicate and provide outreach to new categories of sources, including, again, significant numbers and types of small manufacturing and commercial or residential sources. Thus, the increased administrative burdens at the 25,000/25,000 tpy CO_2e levels are so great that we have concluded that they would not be consistent with the goals of avoiding absurd results that contravene congressional intent, including avoiding a permitting burden that would overwhelm the capacity of permitting authorities to effectively implement their programs.

Based on our revised burden analysis, in this final action, we have decided to establish a multi-step, phase-in approach that contains a significantly higher initial threshold level. We have determined that a 100,000 tpy CO_2e major source threshold level for PSD and title V purposes, and a 75,000 tpy CO_2e significance level, produce a level of permitting activity that would certainly be an increase over current workload, but that would be administratively feasible by July 1, 2011. As a result, we have decided to finalize these thresholds as Step 2.

In reaching this conclusion, we needed to consider both the sources' abilities to manage the permitting process and the permitting authorities' capacity to address newly-major sources as expeditiously as possible. As to the former, sources subject to Step 2 will, for the most part, continue to include the "anyway" sources subject to Step 1. In addition, we estimate that Step 2 will include about 500 additional sources that are not already subject to permitting.

Most of them will become subject to PSD and title V because of fuel burning. In order to meet the 100,000/75,000 threshold, they will have to burn a significant quantity of fuel, and that means they will be a significant size. In general, these sources include municipal or commercial landfills that are large, but not large enough to be covered by the NSPS, pulp and paper facilities, electronics manufacturing plants, chemical production plants, and beverage producers. Although these sources have not been subject to PSD permitting before, some of them have already been subject to minor source permitting, and so will have some familiarity with the permitting process. In addition, in general, these sources are in source categories that have larger sources that are already subject to PSD and title V. As a result, they are in industries that have experience in the permitting process. Because of their relatively large size and access to knowledge about the permitting processes, we believe these sources will be able to manage the permitting requirements.

As to the permitting authorities' capacity to handle the Step 2 workload, we note first that our Step 1 approach does not cover newly-major sources. As a result, the Step 2 threshold and timing has to be established in a way that takes into account permitting authority challenges in addressing many sources and categories that would be subject to major source permitting for the first time.

We considered the various PSD and title V threshold applicability and significance level options in our final burden analysis, summarized in Table VI-1, including levels at 50,000 CO_2e and 100,000

CO_2e. As Table VI-1 indicates, we estimate that a 100,000 tpy CO_2e major source applicability threshold would result in approximately 550 sources becoming newly classified as major sources for PSD based on their GHG emissions, while a 50,000 tpy CO_2e threshold would result in 3,500 newly classified major sources.

We then considered the impact on both PSD and title V programs of different PSD significance level options for GHGs. The choice of a PSD significance level has a direct impact on title V burdens because PSD permit requirements resulting from modification activities will result in required title V permit revisions. We developed PSD and title V burden estimates based on significance levels of 50,000 tpy, 75,000 tpy and 100,000 tpy CO_2e, combined with a major source applicability level of 100,000 tpy CO_2e.

At a 50,000 tpy CO_2e significance level, we estimated an annual increase of approximately 1,800 PSD permitting actions and almost 2,000 additional title V permitting actions, as compared to Step 1. At a 75,000 tpy CO_2e significance level, we estimated an annual increase of approximately 900 PSD permitting actions and just over 1,000 additional title V permitting actions as compared to Step 1. At a 100,000 tpy CO_2e significance level we estimated an annual increase of approximately 25 PSD permitting actions and 210 additional title V permitting actions as compared to Step 1. For title V, under these different scenarios, the major source applicability level of 100,000 tpy CO_2e results in approximately 200 new permits annually, but, as noted, the choice of significance levels affects the number of required permit revisions.

***31571** Based on this information, we have decided to set our final Step 2 thresholds at 100,000 tpy CO_2e for major source applicability under PSD and title V and at a 75,000 tpy CO_2e significance level for PSD. Overall, we estimate that the almost 900 additional PSD permitting actions (virtually all of which would be modifications) per year at these levels will result in an approximately $21 million increase (from Step 1) in states' annual costs for running PSD programs. In addition, we estimate that the 1,000 additional title V permit actions will cause the total title V burden for permitting authorities to increase by $6 million annually from Step 1. This total increase in permit program burdens of $27 million represents a 34 percent increase over the $78 million in total cost of PSD and title V programs at Step 1. We consider this a substantial increase particularly because Step 2's start date of July 1, 2011, is only 6 months after Step 1's start date of January 2, 2011. What's more, Step 1 will entail a substantial increase in permitting authority obligations, so that adding the costs of Step 1 and Step 2 together—$31 million—means that permitting authorities will be required to increase their permitting resources by approximately 42 percent between now and Step 2. In addition to the administrative burdens we have been able to monetize, we must be mindful that permitting authorities will incur other burdens, including the significant support and outreach activities by permitting staff for the many newly permitted sources. We believe that any lower thresholds in this timeframe, whether in the PSD and title V applicability levels or in the significance level, would give rise to administrative burdens that are not manageable by the permitting authorities.

Although the burdens at the 100,000 tpy CO_2e /75,000 tpy CO_2e levels are steep, we consider them manageable. Step 2 permitting for GHGs will mostly involve source categories in which some sources have traditionally been subject to permitting, which should render applying even the new GHG requirements more manageable. These source categories include fossil fuel-fired power plants, petroleum refineries, cement plants, iron and steel plants, and petroleum refineries, in addition to other large industrial type source categories. A full description of the type of sources that we expect will have GHG emissions that exceed the 100,000 tpy CO_2e threshold is provided in the "Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation" located in the public docket for this rulemaking. In addition, because Step 2 does not begin until July 1, 2011, permitting authorities have about 14 months to prepare for it.

In addition, we believe that the sources that will become subject to PSD and title V requirements at the 100,000/75,000 tpy CO_2e levels will be able to accommodate the additional costs of permitting. For the most part, these sources will be of a comparable size and activity level as those sources that are already subject to those requirements.

Because the administrative burdens at the 100,000/75,000 tpy CO_2e level are as heavy as the permitting authorities can reasonably be expected to carry, adopting these threshold levels is consistent with our legal basis under the "absurd results" doctrine. Under this basis, we are reconciling the statutory levels with congressional intent by requiring that the PSD and title V requirements be applied to GHG sources at levels as close as possible to the statutory thresholds, and as quickly as possible, in light of costs to sources and administrative burdens.

Because the administrative burdens at the 100,000/75,000 tpy CO_2e level are manageable, we do not believe that higher threshold levels are justifiable for Step 2. Specifically, at the 100,000/100,000 level—which would entail a 100,000 tpy CO_2e significance level, rather than a 75,000 tpy CO_2e level—permitting sources would need to handle only 20 additional modifications beyond current levels, and thus would not incur substantial additional costs. By the same token, we disagree with commenters who suggested that we needed to set permanent GHG permitting thresholds for major sources at a rate equivalent to the amount of GHGs that would be emitted by conventional pollutants at the 100 and 250 tpy level in order to meet the legal bases of the "absurd results" and "administrative necessity" doctrines. These levels would likely be well above 300,000 tpy CO_2e, depending on fuel types and assumptions regarding the relative emissions of GHGs compared to the conventional pollutants. Our data show that none of the levels above 100,000/75,000 tpy CO_2e would result in significant increases in administrative burdens. As a result, establishing these levels would not apply PSD or title V requirements to GHG sources as quickly as possible, and thus would not be consistent with our approach in the Tailoring Rule.

We estimate that facilities meeting the Step 2 major source applicability thresholds account for approximately 67 percent of total national stationary source GHG emissions. Many commenters felt that this should be an important basis for our selection of a threshold, stating that there is no significant loss in GHG emissions coverage of source categories at the 100,000 tpy CO_2e threshold, and in some cases arguing that as a result, we should set the level even higher. We agree that it is important that the coverage in Step 2 represents 86 percent of the coverage at full implementation of the statutory 100/250 thresholds.

c. Rationale for EPA's Plan Beyond Step 2

EPA commits that after Step 2, EPA will begin another rulemaking in 2011 and complete it by July 1, 2012, and in that rule-making take comment on a further phase-in of GHG sources for PSD and title V applicability (Step 3). However, under this rule, in no event will EPA apply PSD or title V to sources below the 50,000 tpy CO_2e levels prior to 2016. In addition, EPA commits to conduct a study, to be concluded by April 30, 2015, evaluating the status of PSD and title V applicability to GHG sources, and, based on the study, complete a rulemaking by April 30, 2016, that addresses another round of a phase-in.

(1) Proposal

In our proposal, we noted that following implementation of the first phase of PSD and title V applicability to GHG sources, generally at the 25,000 tpy CO_2e threshold, additional action would be required over time to assure full compliance with the statute. We did not establish more steps in the schedule, but we did commit to conduct a study, to be completed by 5 years after promulgation, evaluating the status of PSD and title V applicability to GHG sources, and, based on the study, complete a rulemaking by 6 years after promulgation that addressed an additional step of the phase-in.

(2) Comments

A number of commenters supported the proposal's overall approach to phase in the permitting of GHGs, mainly because this approach will allow permitting of the largest sources of GHGs immediately while collecting more information about smaller sources and more fully considering streamlining options for subsequent phases. Many of these commenters made clear that they do not support implementation of the statutory 100/250 tpy thresholds, even through a phase-in approach. On the other hand, one commenter asserted that EPA has failed to demonstrate that ***31572** it needs 6 years to study and implement NSR and title V for sources emitting less than 25,000 tpy. The commenter contends that EPA has not analyzed, among other things, what combined effect the full implementation of its streamlining proposals in the 15 months before the due-date for title V permit applications would be to reduce the cost, complexity, and number of title V permit applications that would have to be submitted.

(3) Rationale for Further Steps

We agree with commenters who support a phased-in approach to the Tailoring Rule. Our final action reflects a multi-step process that we believe will facilitate a manageable expansion of PSD and title V applicability, as appropriate, to GHG-emitting sources. In our final action, we have established the initial two steps of a multi-step phase-in of lower threshold applicability with a commitment to take further regulatory activity to consider adopting lower thresholds. We believe this process will provide substantial opportunity for permitting authorities and sources to establish enough experience and information, and to provide significant real-world feedback to EPA, so as to better inform decisions on future phase-in steps.

With this overall phase-in approach in mind, in this final rule, EPA includes an enforceable commitment to undertake a notice-and-comment rulemaking that would begin with an SNPR that we expect to be issued in 2011 and that we commit will be finalized in 2012. The notice will propose or solicit comment on further reductions in the applicability levels. This rulemaking will take effect by July 1, 2013, and therefore, in effect, constitute Step 3. In this action, we are committing to a rulemaking for Step 3, but are not promulgating Step 3, because it is important to allow EPA and the permitting authorities to gain experience permitting sources under Steps 1 and 2, and to allow time to develop streamlining methods, before attempting to determine what would be the next phase-in levels for PSD and title V applicability. While committing to future action, we do not decide in this rule when the phase-in process will ultimately end, or at what threshold level, because all that depends on uncertain variables such as our progress in developing streamlining approaches and on permitting authorities' progress in developing permitting expertise and acquiring more resources. We may continue the phase-in process with further rulemaking(s) after 2016. Alternatively, we may make a final determination through future rulemaking that, under a *Chevron* analysis, accounting for the "absurd results" doctrine, PSD and/or title V do not apply to GHG sources that, while small and relatively inconsequential in terms of GHG contribution, are above the statutory tonnage thresholds for these programs, and thereby end the phase-in process.

In addition, in this action, we are determining that in no event—whether through Step 3 or a subsequent step—will we apply PSD or title V to sources at the 50,000/50,000 tpy CO_2e level or lower prior to May 1, 2016. We have several reasons for making this determination at this time. Most importantly, our examination of the expected burdens to the permitting authorities of applying PSD and title V to GHG sources convinces us that extending the permitting programs to sources at or below the 50,000/50,000 tpy CO_2e level within 6 years of promulgation would result in prohibitively heavy burdens. This threshold option would result in close to 2,000 additional annual PSD permitting actions per year over the current program and more than 1,000 over Step 2, including both new construction and modifications. For title V, we estimated an increase of over 1,000 new title V permits (all newly permitted sources because of GHG emissions) over 2,000 permit revisions per year over the current program, and about 980 new title V permits and 900 permit revisions more than the Step 2 amounts.

These increases, which could occur between 2013 and 2016 under our approach depending on the outcome of the Step 3 rulemaking, represent very substantial additions to the permitting program. In terms of cost, we estimate that these additional actions would result in a $73 million per year increase in joint PSD and title V program costs over the current programs—which is almost a doubling of costs—and $42 million annual cost increase over Step 2 for the current programs. We believe that it would take permitting authorities some time to adjust to this workload. This is particularly true because at the 50,000/50,000 tpy CO_2e level, smaller sources—including ones not previously subject to permitting requirements—will become subject to PSD and title V. It will take some time for both the permitting authorities and the sources to absorb these new obligations.

Importantly, the next lower cut-off—below 50,000 tpy CO_2e for the major threshold level—is the 25,000/25,000 tpy CO_2e level. For the reasons discussed previously, this level is clearly not manageable within the first 6 years after this action. This applicability level would bring in over 7,000 sources that would be newly subject to title V permitting and result in close to 10,000 new PSD permitting actions. This would result in a 380 percent increase over current program costs for PSD and title V to run these programs. Based on comments we received from state and local permitting agencies on our proposed Tailoring Rule, these levels of permitting activities would far exceed the administrative capabilities of the permitting agencies for at least the near future. Thus, the 6-year exclusion is necessary to provide these agencies and their permittees certainty that this will not occur.

We recognize that at present, we do not have data that would allow us to compile administrative burden estimates for specific levels between the 50,000/50,000 and 25,000/25,000 tpy CO_2e levels we assessed. However, it is clear that the burdens begin to rise sharply below the 50,000/50,000 tpy CO_2e level. To reiterate, the combined PSD and title V administrative burdens at the 50,000/50,000 tpy CO_2e level cost almost twice as much as the current programs, but the burdens at the 25,000/25,000 tpy CO_2e level cost almost four times as much as the current programs. As a result, we conclude that dropping the level below 50,000/50,000 tpy CO_2e too soon would quickly expose the permitting authorities to unacceptably high burdens.

As a further reason for concluding that we will not reduce thresholds beyond 50,000/50,000 tpy CO_2e during the first 6 years, we recognize that the PSD permitting process in particular carries important ramifications for the permitting authorities and the affected sources. If we have underestimated the permitting burden or the ability of states to respond to their additional work-load, then permitting backlogs will result, and PSD permit issuance will be delayed, and sources seeking a PSD permit will not be able to construct or modify. If this were to happen on a large enough scale, it could have potentially serious consequences for the national economy.

Moreover, we need to be mindful that the best information we currently have as to permitting authority burdens represents a national average, as described previously. Our information at the individual state and local level, where permitting occurs, is not as robust. Accordingly, we recognize that a particular state may encounter permitting costs that are higher than average, and this may result in permitting backlogs in that state, with ***31573** the consequence that sources in that state will face long delays in constructing or modifying. Similarly, even if a particular state's costs are in line with the national average, that state may not be able to find the additional resources to cover those costs as readily as other states. For this reason, too, sources in that state could face long delays in constructing or modifying.

Beyond the administrative burdens to permitting authorities, we recognize that the costs of PSD and title V permitting to sources may be high, and we are not inclined to allow their imposition at this time on sources smaller than the 50,000/50,000 tpy CO_2e threshold. At that level, the permitting programs will apply to a significant number of newly permitted sources, including a variety of small manufacturing, commercial and residential categories. The next level that we have analyzed is the 25,000/25,000 tpy CO_2e threshold. At that level, more than 7,000 more sources would become subject to PSD each year—almost all due to modifications—and another 4,000 sources would become subject to title V each year. These sources would be even smaller than those that already will have become subject to PSD and title V due to their GHG emissions. We do not think it reasonable to subject more of those types of sources, and smaller ones, to permitting costs within the next 6 years.

Finally, we note that moving from a 50,000 tpy CO_2e threshold to 25,000 tpy CO_2e will increase the emissions coverage of GHG stationary sources from

70 percent to 75 percent nationwide, which we consider to be a relatively small amount.

We recognize that our progress in developing streamlining methods will be a key determinant to the ability of permitting authorities to administer, and sources to comply with, PSD and title V at GHG emission levels below 50,000/50,000 tpy CO_2e. Although we commit to pursue streamlining, we cannot predict our progress. This uncertainty may be problematic for stake-holders, primarily permitting authorities and industry. That is, permitting authorities will face uncertainty in planning the scope of their programs over the next few years, and industry will face uncertainty as to what new construction projects and modifications will be subject to PSD for GHGs. By determining now that for the next 6 years we will not impose PSD requirements below a floor at the 50,000/50,000 tpy CO_2e level, we add a measure of needed certainty.

We also recognize that selecting a level that is too high or keeping a level for too long means that some sources may construct or modify without implementing BACT level controls, and this could result in additional emissions of GHGs. We need to be vigilant and to protect against this outcome. Even so, all things considered, we believe that our determination not to apply the PSD or title V permitting requirements to sources below the 50,000/50,000 tpy CO_2e level for the first 6 years also represents a reasonable balancing of protection of the environment with promotion of economic development. This type of balancing is consistent with our authority under the PSD provisions.

We also raised the issue of "hollow" or "empty" permits in discussing our rationale for why it may make sense to delay title V permitting under our proposal. We were concerned that many title V permits for GHG sources would contain no applicable requirements, and their issuance would therefore be of little value and would not be the best use of scarce resources. Several commenters agreed that implementing title V for GHGs will, at least initially, require "empty permits" to be issued to GHG sources because such sources will not be subject to "substantive" requirements, and that this would not be the best use of scarce resources.

We believe that the amount of resources that would be spent on, and the limited value that would result from, "empty permits" does warrant consideration under the *Chevron* analysis, taking account of the "absurd results" doctrine. Therefore, we intend to consider the role of "empty permits" when we undertake future rulemaking. However, we believe the issue of "empty permits" has limited or no relevance to the first two steps of the phase-in that we are promulgating in this rule. During Step 1, permitting for GHGs is only required if the source is otherwise subject to permitting for its emissions of non-GHGs. Those sources very likely will be subject to existing substantive applicable requirements for non-GHGs (*e.g.*, NSPS, Maximum Achievable Control Technology (MACT), and SIP requirements, including PSD). Thus, there should be no, or at least no additional, "empty permits" during Step 1. For Step 2, it is possible that sources that become subject to title V requirements for GHG emissions may not be subject to other requirements, but our assessment suggests that this is very unlikely. We estimate that virtually all of the 550 newly-major sources in Step 2 will be subject to applicable requirements under the CAA because they are from categories that have been traditionally subject to regulations, such as smaller industrial sources from already regulated categories, large landfills, and oil/gas/coal production. Even the approximately 50 newly-subject commercial sources in Step 2, which we estimate to be comprised of very large hospitals, are likely to be covered by standards for medical waste incinerators. In addition, we expect these sources may well be subject to SIP requirements. Thus, we do not expect any, or at most very few "empty permits" during Step 2.

In later stages of implementation (*e.g.*, prospective Step 3) or in the event that we permit smaller, non-traditional sources of GHGs that have never otherwise been subject to major source permitting, there would be a greater potential for "empty permits" to be issued under title V. Cognizant of this, we intend to further explore in the rulemaking for Step 3 "empty permit" theories under the "absurd results" rationale that may serve to permanently narrow the scope of title V to exclude sources that would potentially be required to obtain an "empty permit" due to GHG emissions.

In this action, EPA is also finalizing its proposal to commit to conduct an assessment of the threshold levels—to be completed in 2015, 5 years after this action—that will examine the permitting authorities' progress in implementing the PSD and title V programs for GHG sources as well as EPA's and the permitting authorities' progress in developing streamlining methods. We further commit to undertake another round of rulemaking—beginning after the assessment is done, and to be completed by April 30, 2016—to address smaller sources.

We disagree with the commenter who asserted that we do not need 6 years to study and implement PSD and title V for smaller sources. As we discussed in the proposal, and reiterate in this final action, we do not have sufficient information at this time to determine the applicability and effectiveness of the various permitting streamlining techniques. For reasons discussed in more detail in section V.E.1 regarding streamlining, we are not now able to determine how such techniques will be implemented or whether they will prove viable or effective. We agree with the commenter that these measures may reduce the scope, cost, and complexity of these programs, but there is considerable uncertainty as to the extent of this effect. We do commit in this action to fully investigate, propose, and evaluate permit streamlining techniques to determine where they may have applications, how they would be applied, and whether they can withstand legal challenge. Even for ***31574** those techniques that may ultimately be deemed viable, there is a significant time period necessary for rulemaking and state adoption, all of which could take up to 3 years or more. We also note that we will be required to complete our study of the effectiveness of these techniques within 5 years, meaning that, in order to complete it in time, we will essentially need to begin the study as soon as relevant data are starting to become available. Finally, the sixth year, in which EPA must complete rulemaking, requires proposal and promulgation of a rule within 1 year, which is an ambitious schedule. Therefore we believe that 6 years is appropriate for this type of effort. We also have received a substantial number of comments from permitting authorities that agreed with our 5-year timeframe, or a greater timeframe, to get more prepared for permitting smaller sources.

d. Other Comments on "Absurd Results" Doctrine

We received other comments on our application of the "absurd results" doctrine, which we respond to in the RTC document. One comment was overarching, and so we respond to it here: Commenters have asserted that under the "absurd results" doctrine, EPA does not have authority to, or at least should not, promulgate the endangerment/cause or contribute findings (which we will sometimes refer to as the "findings") or the LDVR because doing so would trigger the PSD and title V requirements, which in turn would give rise to "absurd results". According to commenters, under the "absurd results" case law, EPA is obliged to avoid taking any action that would trigger absurd results and in this case that means foregoing the endangerment/cause or contribute findings and/or the LDVR, or at least deferring finalizing them until EPA has time to streamline PSD and title V requirements so as to avoid "absurd results". Commenters made the related comment that if we promulgate the LDVR, and thereby trigger PSD, we cannot rely on the "absurd results" doctrine because it is our own actions—the promulgation of the LDVR—that will have given rise to the "absurd results," and under those circumstances, the doctrine is not available.

The comments that EPA had no authority to promulgate, or should not have promulgated, the endangerment/cause or contribute findings or the LDVR at the times that EPA did are not relevant to this rule, the Tailoring Rule. EPA has already promulgated the findings and the LDVR, and the LDVR triggers PSD and title V applicability, as we have seen. These comments would have been relevant only to the proposed findings and LDVR, and we are not, in this rulemaking, revisiting or reopening the findings or the LDVR.[48]

Commenters claim that if EPA promulgates the LDVR, the "absurd results" doctrine will no longer apply to the Tailoring Rule because it will have been EPA's own action—promulgation of the LDVR—that gives rise to the "absurd results". We disagree for several reasons. For one thing, commenters have not cited case law, and our research has disclosed none, in which a court specifically addressed a similar situation and issued a holding along the lines of what commenters urge. Moreover, commenters' approach would be punitive because the absurd results would occur absent this rule going final. Such an outcome would be counter to the purpose of the doctrine. That is, it would mean that PSD and title V would apply to GHG sources by their terms—at the statutory levels, as of January 2, 2011—with all the adverse consequences described elsewhere.

In any event, and although we are not obligated to respond to these comments on the merits, they are incorrect on the merits, for the reasons that follow.

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[48] EPA does have pending before it ten petitions to reconsider the endangerment and cause or contribute findings. EPA is carefully evaluating those petitions and expects to issue its decision(s) on or about July 30, 2010.

This discussion should not be viewed as reopening the endangerment/cause or contribute findings or the LDVR because, as stated previously, we are not reconsidering or reopening those two actions in this rule.

In determining and implementing congressional intent, it is important that the statutory provisions at issue be considered together—(1) The obligation to make a determination on endangerment and contribution under CAA section 202(a); (2) if affirmative endangerment/cause or contribute findings are made, the obligation to promulgate standards applicable to the emission of any air pollutant from new motor vehicles or new motor vehicle engines under CAA section 202(a); and (3) the PSD and title V applicability provisions. The most appropriate reading, and certainly a reasonable reading, is that we are required to take the action we have taken, and are taking with this rule, and that is to issue the findings, promulgate the LDVR, and promulgate the Tailoring Rule. Our approach gives effect to as much of Congress's intent for each of these provisions, and the CAA as a whole, as possible.

With respect to the endangerment/cause or contribute findings under CAA section 202(a), congressional intent is clear that, as we stated in making the findings and the Supreme Court held in *Massachusetts* v. *EPA*, we are precluded from considering factors other than the science based factors relevant to determining the health and welfare effects of the air pollution in question. Accordingly, EPA determined that under *Massachusetts* v. *EPA*, 549 U.S. 497 (2007) we were precluded from deferring or foregoing the findings due to concern over impacts on stationary sources affected by PSD or title V requirements. *See* 74 FR at 66496, 66500-01 ("Taken as a whole, the Supreme Court's decision clearly indicates that policy reasons do not justify the Administrator avoiding taking further action on the questions here."); *see also Massachusetts* v. *EPA*, 549 U.S. at 533; *see also* 74 FR at 66515-16 (December 9, 2009). (The Administrator "must base her decision about endangerment on the science, and not on the policy considerations about the repercussions or impact of such a finding).[49] Moreover, as EPA also noted, "EPA has the ability to fashion a reasonable and common-sense approach to address greenhouse gas emissions and climate change." 74 FR at 66516.

Regarding the timing of the LDVR, Congress's intent was that endangerment/cause or contribute findings under section 202(a) would in fact lead to control of the air pollutants from new motor vehicles and new motor vehicle engines contributing to the harm. The primary goal of section 202(a) is to achieve such reductions by requiring that EPA adopt emissions standards, and as a result, proceeding with the LDVR is consistent with that goal. In contrast, deferring the LDVR and thereby delaying achievement of the public health and welfare benefits Congress expected and required under section 202(a) would run directly counter to what Congress intended under section 202(a)—EPA issuing emissions standards to address the public health and welfare problems that were identified, not EPA refusing to do so.

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[49] Note, that at least one petition for reconsideration on the endangerment/contribution findings raises the same arguments related to the timing of decisions and absurd results. As noted before, EPA is carefully evaluating all the pending petitions for reconsideration.

Moreover, we have compelling reasons to proceed with the LDVR, in the manner that we d*id*. As we stated in the LDVR, in response to similar comments that we were not obligated to ***31575** conduct that rulemaking, or to conduct it at the time that we did:

> Some of the comments relating to the stationary source permitting issues suggested that EPA should defer setting GHG standards for new motor vehicles to avoid * * * [adverse] stationary source permitting impacts. EPA is issuing these final GHG standards for light-duty vehicles as part of its efforts to expeditiously respond to the Supreme Court's nearly three year old ruling in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007). In that case, the Court held that greenhouse gases fit within the definition of air pollutant in the Clean Air Act, and that EPA is therefore compelled to respond to the rulemaking petition under section 202(a) by determining whether or not emissions from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. The Court further ruled that, in making these decisions, the EPA Administrator is required to follow the language of section 202(a) of the CAA. The Court stated that under section 202(a), "[i]f EPA makes [the endangerment

and cause or contribute findings], the Clean Air Act requires the agency to regulate emissions of the deleterious pollutant." 549 U.S. at 534. As discussed above, EPA has made the two findings on contribution and endangerment. 74 FR 66496 (December 15, 2009). Thus, EPA is required to issue standards applicable to emissions of this air pollutant from new motor vehicles.

The Court properly noted that EPA retained "significant latitude" as to the "timing * * * and coordination of its regulations with those of other agencies" (*id.*). However it has now been nearly three years since the Court issued its opinion, and the time for delay has passed. In the absence of these final standards, there would be three separate federal and state regimes independently regulating light-duty vehicles to increase fuel economy and reduce GHG emissions: NHTSA's CAFE standards, EPA's GHG standards, and the GHG standards applicable in California and other states adopting the California standards. This joint EPA-NHTSA program will allow automakers to meet all of these requirements with a single national fleet because California has indicated that it will accept compliance with EPA's GHG standards as compliance with California's GHG standards. 74 FR at 49460. California has not indicated that it would accept NHTSA's CAFE standards by themselves. Without EPA's vehicle GHG standards, the states will not offer the federal program as an alternative compliance option to automakers and the benefits of a harmonized national program will be lost. California and several other states have expressed strong concern that, without comparable federal vehicle GHG standards, the states will not offer the federal program as an alternative compliance option to automakers. Letter dated February 23, 2010 from Commissioners of California, Maine, New Mexico, Oregon and Washington to Senators Harry Reid and Mitch McConnell (Docket EPA-HQ-OAR-2009-0472-11400). The automobile industry also strongly supports issuance of these rules to allow implementation of the national program and avoid "a myriad of problems for the auto industry in terms of product planning, vehicle distribution, adverse economic impacts and, most importantly, adverse consequences for their dealers and customers." Letter dated March 17, 2010 from Alliance of Automobile Manufacturers to Senators Harry Reid and Mitch McConnell, and Representatives Nancy Pelosi and John Boehner (Docket EPA-HQ-OAR-2009-0472-11368). Thus, without EPA's GHG standards as part of a federal harmonized program, important GHG reductions as well as benefits to the automakers and to consumers would be lost.165 In addition, delaying the rule would impose significant burdens and uncertainty on automakers, who are already well into planning for production of MY 2012 vehicles, relying on the ability to produce a single

> national fleet. Delaying the issuance of this final rule would very seriously disrupt the industry's plans.
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> Instead of delaying the LDV rule and losing the benefits of this rule and the harmonized national program, EPA is directly addressing concerns about stationary source permitting in other actions that EPA is taking with regard to such permitting. That is the proper approach to address the issue of stationary source permitting, as compared to delaying the issuance of this rule for some undefined, indefinite time period.

75 FR 25,402 cols. 1-3 (May 7, 2010) (footnote omitted).

With respect to both the endangerment/cause or contribute findings and the LDVR, it would require speculation and conjecture to defer—or, certainly, to forego altogether—the findings or LDVR until EPA completed streamlining the PSD and title V requirements on grounds that doing so would allow full compliance in the future with all PSD and title V statutory provisions. That is the gist of commenters' argument—that EPA should defer or forego issuance of the findings and the LDVR to avoid causing an absurd result from implementation of the separate PSD and title V programs. Underlying this claim is the assumption that this would allow EPA to avoid the "absurd results". As we discuss elsewhere in this rulemaking, there is no basis at this point to determine that streamlining will ultimately allow full compliance with the PSD and title V requirements. Rather, it is possible that EPA may conclude that none of the available streamlining techniques will allow all GHG sources at the statutory thresholds to comply with PSD and title V requirements in a manner that does not impose undue costs on the sources or undue administrative burdens on the permitting authorities. Under these circumstances, EPA may then permanently exclude GHG source categories from PSD or title V applicability under the absurd results doctrine. Moreover, it may well take many years before EPA is in a position to come to a conclusion about the extent to which streamlining will be effective and therefore be able to come to a conclusion as to whether any source categories should be permanently excluded from PSD or title V applicability. In our rulemaking today, we describe what actions we expect to take in the first 6 years after PSD and title V are triggered for GHG sources, and we may well be in a situation in which we continue to evaluate streamlining measures and PSD and title V applicability to GHG sources after this 6-year period.

Accordingly, deferring the endangerment/cause or contribute findings and LDVR until such time that PSD and title V streamlining would allow full implementation of these programs at the statutory limits would serve only to delay the benefits of the LDVR, as well as the benefits that come from phasing in implementation of the PSD program to cover larger sources first. It would rely on an assumption that is unfounded at this point, that is, that such full compliance will be required at some point in the future. Delaying the emissions benefits of the LDVR and the related emissions benefits from partial implementation of the PSD program fails to implement Congress' intent that the endangerment/cause or contribute findings "shall" lead to emissions standards for new motor vehicles contributing to the endangerment, and related emissions controls for the same air pollutant under the PSD program. EPA need not determine at this time what approach would be appropriate if there was a determination that full compliance with PSD and title V would in fact occur at some point in the future. In this case, absent such a determination, it would be improper to rely on speculation of such a future possibility as a basis under section 202(a) to defer or forego issuance of the LDVR on the grounds that EPA should defer or forego the LDVR to avoid causing an absurd result. Likewise there is no basis to defer proceeding at this time with the streamlining of the PSD and title V programs.

With respect to the PSD and title V applicability requirements, as we discuss elsewhere, we believe that Congress expressed a clear intent to apply PSD and title V to GHG sources and that the phase-in approach incorporated in the Tailoring Rule is fully appropriate. Proceeding now with the endangerment/contribution findings and LDVR, even if phasing-in of the PSD and title V programs is required, is ***31576** consistent with our interpretation of the PSD and title V applicability requirements. Delaying the endangerment/contribution findings or LDVR, and thereby delaying the triggering of PSD and title V requirements for GHG sources, would lead to the loss of a practicable opportunity to implement the PSD and title V requirements in important part, and thereby lead to the loss of important benefits. As discussed elsewhere, promulgating the LDVR and applying the PSD and title V requirements to the largest GHG sources, as we do in this Tailoring Rule, is practicable because the sources that would be affected by the initial implementation steps we promulgate in this rule are able to bear the costs and the permitting authorities are able to bear the associated administrative burdens. Promulgating the LDVR now provides important advantages because the sources that would be affected by the initial steps are responsible for most of the GHG emissions from stationary sources.

It should also be noted that as discussed elsewhere in this rulemaking, our ability to develop appropriate streamlining techniques for PSD and title V requirements is best done within the context of actual implementation of the permitting programs, and not in isolation of them. That is, because the great majority of GHG sources have not been subject to PSD and title V requirements, we will need to rely on the early experience in implementing the permitting requirements for the very large sources that initially will be subject to those requirements in order to develop streamlining techniques for smaller sources. It is the real world experience gained from this initial phase that will allow EPA to develop any further modifications that might be necessary. This would not and could not occur if the LDVR were delayed indefinitely or permanently, so that PSD and title V requirements were not triggered. It is unrealistic to expect that delaying action until a future tailoring rule could resolve all of the problems identified in this rulemaking, absent any real world implementation experience.

At its core, commenters' argument is that EPA should delay (if not forego altogether) doing *anything* to address GHG emissions and the problems they cause until it can do so in a way that does not cause any implementation challenges, even if that delay results in continued endangerment to public health and welfare. EPA does not take such a myopic view of its duties and responsibilities under the CAA. Congress wrote the CAA to, among other things, promote the public health and welfare and the productive capacity of the population. CAA § 101(b)(1). EPA's path forward does just this. Thus, proceeding with the endangerment/cause or contribute findings, the LDVR, and with PSD and title V through the phase-in approach of the Tailoring Rule maximizes the ability of EPA to achieve the Congressional goals underlying sections 202(a) and the PSD and title V provisions, and the overarching CAA goal of protecting public health and welfare. Congress called for EPA (1) To determine whether emissions from new motor vehicles contribute to air pollution that endangers, (2) if that the determination is affirmative, to issue emissions standards for new motor vehicles to address the endangerment, and (3) to implement the PSD and Title V program to address similar emissions in their permitting program as another tool to address the air pollutant at issue. Delaying both the LDVR and PSD/title V implementation, as commenters have called for, would run directly counter to these Congressional expectations. Commenters' calls for deferral or foregoing of the findings or LDVR are generally phrased in a conclusory fashion, and do not demonstrate how EPA could take the required CAA actions concerning GHGs while remaining within the requirements of each of the various CAA provisions, and achieving the overall goals of the CAA. As such the comments do not provide a valid basis for the deferral of agency action they suggest.

9. "Administrative Necessity" Basis for PSD and Title V Requirements in Tailoring Rule

EPA believes that the "administrative necessity" doctrine, within the *Chevron* framework, also justifies this rulemaking. Applying the applicability requirements of the PSD and title V programs according to a literal reading of their terms (as EPA has narrowed them in the past through interpretation) to GHG sources beginning on the January 2, 2011 date that regulation of GHGs takes effect would sweep so many sources into those programs as to render the programs impossible for the permitting authorities to administer. Although streamlining the PSD and title V programs offers some promise to improve the administrability of the programs, given the time needed to implement such streamlining, the step-by-step expansion of PSD and title V requirements to GHG sources that we are promulgating is the most that the permitting authorities can reasonably be expected to administer.

This section discusses the application of the "administrative necessity" doctrine. Our views concerning this doctrine remain similar to what we said at proposal, except that in this rulemaking we place the doctrine more clearly in the *Chevron* analytical framework, we revise our assessment of the administrative burdens due to new analysis we have conducted and information we have received since proposal, and we make certain revisions to the tailoring approach.[50] This analysis and information, as well as the revisions to the tailoring approach, have already been presented previously, in the discussion of the "absurd results" basis. In addition, it is not necessary to reiterate the lengthy discussion of the "administrative necessity" doctrine that we included in the proposal or the factual data presented previously; as a result, this section briefly highlights the conclusions we have reached about the application of this doctrine.

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[50] In addition, we base our reliance on the "administrative necessity" doctrine on the administrative burdens to the permitting authorities of permitting smaller GHG sources, but not on the relatively small amount of GHG emissions

As noted previously, under the PSD and title V applicability provision—read literally, as we have long interpreted them—EPA's recent promulgation of the LDVR will trigger the applicability of PSD and title V for GHG sources at the 100/250 tpy and 100 tpy threshold levels, respectively, as of January 2, 2011. This is because PSD applicability hinges on the definition of "major emitting facility" and title V applicability hinges on the definition of "major sources," and those terms, read literally, and under EPA's long-standing narrowing interpretation, apply PSD and title V, respectively, to sources of any air pollutant that is subject to regulation under another provision of the CAA. EPA's promulgation of the LDVR means that GHGs will become subject to regulation on the date that the rule takes effect, which will be January 2, 2011.

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associated with the smaller sources. *See Alabama Power* v. *Costle*, 636 F.2d 323, 357 (DC Cir. 1980) (establishing the "administrative necessity" doctrine as "inherent in the administrative process" and presumptively available under the statutory scheme, absent clear congressional intent to the contrary; but adding that in contrast, "there exists no general administrative power to create exemptions to statutory requirements based upon the agency's perceptions of costs and benefits").

Absent tailoring, the January 2, 2011 trigger date for GHG PSD applicability will give rise to an extraordinarily large number of PSD permitting actions—we estimate more than 81,000 per year—representing an increase of almost 300-fold over the current 280 PSD permitting actions each year. In addition, over 6 million sources will become subject to title V, an increase of ***31577** more than 400-fold over the 14,700 sources that currently are subject to title V. The permitting authorities will find it impossible to administer programs of these sizes as of that date.

All this results from a literal application of the PSD and title V applicability provisions to GHG sources. However, under *Chevron*, we must interpret and apply statutory requirements on the basis of congressional intent. Although the literal meaning of the statutory provisions is the first and generally the best indicator of congressional intent, there are cases in which that is not so. As discussed previously, we believe that as a general matter, statutory directives should be considered to incorporate Congress's intent that they be administrable, and we believe that this proposition is implicit in the "administrative necessity" doctrine that the DC Circuit has established and that we believe applies here. *See Alabama Power* v. *Costle*, 636 F.2d 323, 356-57 (DC Cir. 1980). This doctrine authorizes EPA to undertake a process for rendering the PSD and title V requirements administrable. Indeed, the Court in *Alabama Power* established this doctrine specifically in the context of the PSD provisions, including, in particular, the modification provision. As noted elsewhere, the Court held that EPA may "consider the administrative burden" associated with applying PSD for emissions increases, and establish significance levels designed to avoid "severe administrative burdens on EPA, as well as severe economic burdens" on sources. *Id.* at 405.

As we said in the proposal, we read the case law to establish a three-step approach for implementing the "administrative necessity" doctrine: An agency is not required to adhere to literal statutory requirements if the agency, as the first step, makes every effort to adjust the requirements within the statutory constraints, but concludes with justification—at the second step—that it would be impossible to comply with the literal reading of the statute. Under those circumstances, the agency may—at the third step—develop what is in effect a compliance schedule with the statutory requirements, under which the agency will implement the statute as much as administratively possible and as quickly as administratively possible. *See* 74 FR 55315—55316.

a. First Step of the "Administrative Necessity" Analysis: Streamlining

In the proposed rulemaking, EPA discussed at length the prospect of streamlining both PSD and title V. EPA described "several potentially useful tools available in the streamlining toolbox for the PSD permitting threshold level, the PSD significance level, and the title V permitting threshold," specifically:

> For the PSD permitting threshold level and significance level, there are at least three such tools: The first is interpreting the definition of "potential to emit" so that the amount of a source's emissions that counts in

determining whether it qualifies as a major source and therefore is above the permitting threshold requirements is closer to the amount of its emissions when it is in actual operation, rather than the amount of emissions that the source would emit if it were operating continuously. Narrowing the definition of PTE is a potentially extremely important tool in this context because identifying the amount of a source's emissions as closer to its actual emissions in this manner would mean that very large numbers of residential and commercial sources would have significantly lower emissions and would fall below the statutory threshold requirements for triggering PSD. Second, EPA believes it may be able to develop programs involving general permits, under which large numbers of similarly situated sources would each be covered by essentially the same permit established through a regulatory action by the permitting authority. This approach could achieve economies of scale and thereby reduce administrative burden. Third, EPA believes it may be able to streamline the single most time-consuming element of the PSD permit program, which is the determination of BACT as required under CAA § 165(a)(4), by establishing presumptive BACT levels for certain source categories that comprise large numbers of sources. As for title V, as discussed below in detail, EPA believes that defining "potential to emit" to reflect more closely a source's actual operation and developing a program of

> general permits could streamline the administration of title V permits.

74 FR 55315 col. 2-3.

At proposal we stated that we would, and we still commit to, vigorously pursue development of these streamlining measures, and, as indicated in our discussion of streamlining methods in section V.E.1 and in response to comments, we have already begun developing those measures. For example, as described elsewhere, we have done much work—both with stakeholders and in-house—to begin to develop recommendations for what controls would qualify as BACT for various industries. This work is important as a foundation for developing presumptive BACT, which is a potentially efficient streamlining measure.

However, it is not possible for us or the state and local permitting authorities to develop and implement streamlining techniques by the time that PSD and title V are triggered for sources emitting GHGs—January 2, 2011—or shortly thereafter. Developing streamlining methods would entail acquiring more information about the affected industry, may entail rulemaking, and would likely entail some type of public review of proposals for streamlining even if not done through rulemaking. As discussed in section V.E, we do not expect that we could complete all those steps for meaningful streamlining measures within 2 years.

b. Second Step of the "Administrative Necessity" Analysis: Demonstration of Administrative Impossibility

With no streamlining measures available at the time that PSD and title V would apply to sources of GHGs or shortly thereafter, under the second step of the "administrative necessity" analysis, we must determine whether implementation of the statutory requirements at that time would be administratively impossible for the permitting authorities. We are mindful that the DC Circuit has cautioned that this showing is a high hurdle. *See* 74 FR 55317.

Even so, we believe there is no question that a literal application of the PSD and title V programs to GHG sources as of January 2, 2011 would be flatly impossible for the state and local permitting authorities to administer for at least an initial period of time.[51] The key facts have been recounted previously, and no more than a brief recitation is necessary here. On the PSD side, annual permit applications would increase by over 300-fold, from 280 to almost 82,000; costs to the permitting authorities would increase more than 100-fold, from $12 million to $1.5 billion; and the permitting authorities would need to hire, train, and manage 9,772 FTEs. For title V, total permit applications would increase by over 400-fold, from 14,700 to 6.1 million; costs to the permitting authorities would increase from $62 million to $21 billion; and the permitting authorities would need to hire, train, and manage 229,118 FTEs.

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[51] We recognize that in a few states, we are the permitting authority. We do not think that this changes the calculation of administrative burdens. We do not believe that we could reasonably be expected to adjust our budget to accommodate the large new permitting burdens, and even if we could, the administrative burdens would remain in most of the rest of the nation where it is the state or local agencies that bear permitting responsibility.

We have elaborated upon these burdens elsewhere in this notice. They bespeak an impossible administrative task. It is not hyperbole to say that if these administrative responsibilities are not considered impossible within the ***31578** meaning of the "administrative necessity" doctrine, then it is difficult to imagine what would be considered impossible.

c. Third Step of the "Administrative Necessity" Analysis: Tailoring

Under the third step of the "administrative necessity" analysis, we must demonstrate that the steps we intend to take towards implementation of the statutory requirements are the most that can be done during the indicated time frames, in light of administrative resources. In this manner, we adhere most closely to the statutory requirements. *See* 74 FR 55318. This amounts to establishing a schedule for phasing in PSD and title V applicability to GHG sources. Because this step is based on the administrative resources of the permitting authorities, our analysis is similar, and leads to the same conclusions, as we described previously concerning the "absurd results" basis. That is, we believe that our tailoring approach—including Step 1, to be implemented as of January 2, 2011; Step 2, to be implemented as of July 1, 2011; the additional rulemaking that we commit to finalize by

July 1, 2012, and that will address further threshold reductions as a Step 3; the study and subsequent rulemaking to address smaller sources by April 30, 2016; and the determination not to lower the threshold below 50,000/50,000 tpy CO_2e before April 30, 2016 at the earliest—is the most that we can do to expand the PSD and title V programs, based on administrative resources and the information we currently have about the prospects for streamlining and increasing permitting resources.

As noted previously, at some point in the process of additional rulemaking, we may conclude under the "absurd results" doctrine that we will not apply PSD or title V to GHG sources below a certain size level. The same conclusion may be supportable under the "administrative necessity" doctrine if we decide, based on the information available to us, that even with all of the streamlining that we are able to accomplish and even with a significant expansion of permitting resources, it may not be administratively feasible to implement PSD or title V to sources below that level. *See Alabama Power* v. *Costle*, 636 F.2d at 358 (acknowledging, in discussing the "administrative necessity" doctrine, that "[c]ategorical exemptions from the clear commands of a regulatory statute [are] sometimes permitted," although emphasizing that such exemptions "are not favored").

In addition, as noted above, in a subsequent rulemaking, we may conclude that title V should not apply to GHG sources with "empty permits," under the "absurd results" doctrine. The basis for this conclusion could be a determination that (1) although the applicability provisions apply by their terms to sources on the basis of their emissions, and without regard to whether the sources would hold "empty permits," those provisions cannot be read literally under the "absurd results" doctrine; and (2) it is not clear whether Congress intended that title V apply to such sources, and EPA has reasonably determined, under *Chevron* Step 2, that title V does not. If we come to that conclusion, then, at that point in time, the "administrative necessity" doctrine would remain relevant for title V purposes only if it is necessary, for administrative reasons, to phase in the application of title V to GHG sources that have applicable requirements, and that therefore do not have "empty permits." This is because the "administrative necessity" doctrine is relevant only when a statutory directive, read literally, imposes impossible administrative obligations, and Congress may be presumed to have intended that the directive be administrable. The "administrative necessity" doctrine would not come into play if it is concluded either that under the "absurd results" doctrine Congress did not intend the statutory directive or that, under that doctrine, Congress's intent was not clear and EPA reasonably decided that the directive does not apply.

10. "One-Step-at-a-Time" Basis for Tailoring Rule

In addition to the "absurd results" and "administrative necessity" doctrines, the "one-step-at-a-time" judicial doctrine, within the *Chevron* framework, supports EPA's Tailoring Rule. The case law under this doctrine, described previously, indicates that the doctrine justifies an agency's step-by-step approach under the following circumstances or conditions: (1) The agency's ability to comply with a statutory directive depends on facts, policies or future events that are uncertain; (2) the agency [illegible] estimated the extent of its remaining obligation; (3) the agency's incremental actions are structured in a manner that is reasonable in light of the uncertainties; and (4) the agency is on track to full compliance with the statutory requirements. EPA's Tailoring Rule fulfills each of those four.

First, as the DC Circuit stated in *National Association of Broadcaster* v. *FCC*, 740 F.2d 1190, 1210 (DC Cir. 1984) ("*National Association of Broadcasters*"), incremental agency action is most readily justifiable "against a shifting background in which facts, predictions, and policies are in flux and in which an agency would be paralyzed if all the necessary answers had to be in before any action at all could be taken." Those circumstances are present here, and so is that fact that the task at hand is extraordinarily demanding. As discussed previously, EPA and the permitting authorities' progress in implementing the PSD and title V programs for GHG sources will depend in large measure on the development of streamlining measures and increases in permitting authorities' resources, and those things carry some uncertainty and in any event, under the best of circumstances, cannot have much impact for at least several years. It will take EPA that long to develop streamlining measures, and it will take permitting authorities that long to begin to raise money and hire and train FTEs.

Second, as the Court stated in *National Association of Broadcasters*, "the agency [should] ma[k]e some estimation, based upon evolving economic and technological conditions, as to the nature and magnitude of the problem it will have to confront when it comes to [undertake the remaining steps]" and that estimation must be "plausible and flow from the factual record compiled." *Id.* at 1210. Here, EPA has done this by estimating the number of PSD and title V permits and the costs of issuing them, and has provided as much information as possible about the development of streamlining methods and permitting authority resources.

Third, again as the Court stated in *National Association of Broadcasters*, it must be "reasonable, in the context of the decisions made in the proceeding under review, for the agency to have deferred the issue to the future. With respect to that question, postponement will be most easily justified when an agency acts against a background of rapid technical and social change and when the agency's initial decision as a practical matter is reversible should the future proceedings yield drastically unexpected results." *Id.* at 1211. Here, our tailoring approach is reasonable in light of changes in permitting authority capacity that may occur with the development of streamlining methods and increased resources. In addition, the first two steps that EPA promulgates today are reasonable initial steps that we expect to build on by lowering thresholds, as appropriate, in the future. We have no reason to suspect that we may need to reverse either of the first ***31579** two steps. Having received and analyzed extensive comment on the number of permitting actions to expect and on permitting authority resources, we consider it unlikely that we would need to establish a higher threshold level than what we have established in Steps 1 and 2. In addition, if we were to adopt an "empty permits" approach for title V, we would not need to reverse either of Steps 1 and 2, as explained above.

Finally, as the DC Circuit stated in *Grand Canyon Air Tour Coalition* v. *F.A.A.*, 154 F.3d 455, 477-78 (DC Cir. 1998), the Courts will accept an initial step towards full compliance with a statutory mandate, as long as the agency is headed towards full compliance, and we believe that the doctrine is applicable here. EPA intends to require full compliance with the CAA applicability provisions of the PSD and title V programs, but we believe that in the case of GHG-emitting sources, by application of the "absurd results" doctrine or the "administrative necessity" doctrine, full compliance with the applicability provisions does not necessarily mean full compliance with the literal terms of those provisions.[52] Rather, as we have explained elsewhere, in the case of GHG sources, full compliance may mean compliance with higher levels that are consistent with congressional intent, under the "absurd results" doctrine, or that are within the reach of permitting authorities in light of their administrative constraints, under the "administrative necessity" doctrine. This rulemaking constitutes a package of initial steps towards that full compliance, and, seen in that light, is supported by the "one-step-at-a-time" doctrine.

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[52] For reasons explained elsewhere, our reference to the literal terms of the applicability provisions means the literal terms of the definition of "major emitting facility" for PSD and "major source" for title V, as EPA has narrowed those definitions to refer to "any pollutant" that is subject to regulation under the CAA.

Even if the doctrine were found to apply only when an agency is committed to fully implementing statutory requirements according to their literal terms, we believe that the steps we promulgate in this notice would be considered valid under the one-step-at-a-time doctrine. This is because even if we are incorrect about the applicability of the "absurd results" and "administrative necessity" doctrines, so that GHG sources are required to comply with the literal terms of the PSD and title V applicability provisions, the "one-step-at-a-time" doctrine would allow PSD and title V applicability to be phased in, and the first two steps we promulgate in this notice would be upheld as reasonable initial steps toward full compliance with the literal terms of the CAA. As we have described elsewhere, there is little question but that sources and permitting authorities cannot reasonably be expected to comply with or implement PSD and title V applicability requirements in the near term—by January 2, 2011 and July 1, 2011—except to the limited extent described under Steps 1 and 2. Nor is applicability of the PSD and title V requirements at levels below 50,000 tpy CO_2e reasonable before 6 years from promulgation of this rule, as discussed elsewhere. If further steps resulting in full compliance with the literal terms of the applicability provisions of PSD and title V were required, it would be reasonable for those steps to occur in the future, as part of the rulemaking to be completed by the sixth year after promulgation, to which EPA commits itself as part of this action, or as part of subsequent actions. *See Grand Canyon Air Tour*, 891 F.2d at 476-77 (upholding agency action as a step towards full compliance with statutory mandate when the agency expected full compliance to occur some 20 years after the deadline in the statute).

C. Mechanisms for Implementing and Adopting the Tailoring Approach

In this section, we discuss three issues related to adoption of the tailoring approach within our regulations and by permitting agencies. The first is the regulatory mechanism for implementing the tailoring approach—that is, the specific way we are revising the PSD and title V applicability provisions to incorporate the tailoring approach—and our rationale. The second is the process by which state or local permitting authorities may incorporate the tailoring approach into their PSD SIP and title V permit programs. Finally, we discuss our reasons for delaying action on our proposal to limit approval of both SIP-approved PSD programs and title V programs, and we request certain information from states on both of their programs and their actions in response to this rule.

In brief, we proposed to exempt sources emitting GHGs below certain threshold levels from the definition of the regulatory terms "major stationary source" and "major modification" in PSD programs and the definition of the regulatory term "major source" in title V programs. We further proposed to effectuate this change in SIP-approved PSD programs (as included in SIPs) and EPA-approved part 70 title V programs by limiting our prior approval of those programs to the revised applicability thresholds for GHGs.[53] These changes would have the effect of putting the higher thresholds adopted under the Tailoring Rule in place in states PSD and title V programs as a matter of federal law. However, state commenters expressed concern that they would not be able to adopt the Tailoring Rule under state laws on an expeditious basis. To address this, our final action differs from our proposed rule in the way we incorporate the limitations promulgated in this Tailoring Rule into the "major stationary source," "major modification" and "major source" definitions. This approach relies on further defining the term "subject to regulation" and although this approach is not substantively different in effect from the proposed rule, it will facilitate more rapid adoption and implementation of the Tailoring Rule by states through interpretation of language in existing state regulations. We believe these differences are a logical outgrowth of our proposed rule. We are also delaying action on our proposed limited approval of EPA-approved PSD programs and part 70 title programs to determine how each state will implement the final rules.

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[53] In the alternative, we also proposed to use our section 110(k)(6) error correction authority to revise SIP-approved PSD program. We are also delaying action on this proposal.

1. PSD Approach: Background and Proposal

Under CAA section 165(a), no "major emitting facility" may construct or modify unless it receives a preconstruction permit that meets the requirements of the PSD program. CAA section 169(1) defines a major emitting facility as "any * * * source[]" in one of 28 specified source categories that "emit[s], or ha[s] the potential to emit, one hundred tons per year or more of any air pollutant;" or "any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant." EPA's regulations replace the term "major emitting facility" with the term "major stationary source" and define the term as "[a]ny of * * * [28 types of] stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant" or "any stationary source which emits, or has the potential to emit 250 tons per year or more of a regulated NSR pollutant." 40 CFR 51.166(b)(1)(i)(a)-(b). The term "regulated NSR pollutant" is defined to include, among other things, ***31580** "any * * * air pollutant that otherwise is subject to regulation under the Clean Air Act." 40 CFR 51.166(b)(50). Note that the regulatory definition in effect interprets the statutory definition more narrowly to read "one hundred [or two hundred and fifty] tons per year or more of any air pollutant *subject to regulation under the Clean Air Act*" (emphasis added).

Similarly, under the statute, a modification occurs if there is a physical change or change in the method of operation "which increases the amount of any air pollutant emitted * * *." CAA section 165(a), 169(2)(c), and 111(a)(4). As with the major stationary source definition, we have limited coverage of the modification provision to physical changes or changes in the method of operation that result a significant net emissions increase in emissions of a "regulated NSR pollutant." 40 CFR 51.166(b)(2)(i).

Our proposed rule revised the definition of "major stationary source to (1) exempt GHG from the regulated NSR pollutants that, if emitted by a source in the 100 or 250 tpy quantities, would cause the source to qualify as a "major stationary source," and (2) add a specific threshold at which a source that emits a specified quantity of GHGs (at proposal, that quantity was 25,000 tpy CO_2e) would qualify as a "major stationary source." 74 FR 55351, proposed 40 CFR 51.166(b)(1)(i)(a), (b), and (d). We also proposed a significance threshold, which is the amount of an increase needed to trigger PSD for a modification or to require BACT for a new source, at a level between 10,000 and 25,000 tpy CO_2e. 74 FR 55351; 40 CFR 51.166(b)(23)(i).

Additionally, we recognized that it may take some time before states could change their SIP-approved PSD programs and that as a result, absent additional action on our part, GHG-emitting sources would remain subject to the 100 or 250 tpy thresholds, and subject to a zero significance threshold for major modifications as a matter of federal law. To address this issue, we proposed to narrow our previous approval of those SIPs. The effect of our proposal would be that EPA would have approved the SIP PSD programs only to the extent they apply PSD and requirements to GHG sources at or above the thresholds established in the Tailoring Rule (which, generally, were 25,000 tpy CO_2e), and EPA would have taken no action on the SIP PSD programs to the extent they apply PSD requirements to GHG sources below that threshold. We relied on the authority of the APA and the general authority of CAA section 301 and, in the alternative, on the error correction mechanism under CAA section 110(k)(6). Our limited approval would revise existing EPA-approved SIP PSD programs to authorize permitting under the CAA only for GHG sources at the appropriate levels.

In response to our proposed approach, we received numerous comments from state and local permitting agencies expressing significant concern. They observed that our proposed approach could meet its objectives to avoid applying PSD requirements to small sources under federal law, but would not succeed in avoiding the application of PSD requirements to those small sources under *state* law. The commenters explained that, although EPA was changing federal PSD applicability thresholds; for GHG-emitting sources to incorporate the tailoring approach, and limiting the scope EPA approval of SIPs consistent with these thresholds, the state rules containing the originally-approved SIP thresholds would continue to apply as a matter of state law. As commenters explained, for the most part, the laws and regulations states adopt to implement federal PSD programs mirror EPA's regulations, so that the state laws, apply PSD to sources that emit air pollutants subject to regulation at the 100/250 tpy threshold. Commenters reasoned that, until the states can change their state laws, the 100/250 tpy thresholds will continue to apply as a matter of state law, even though the higher thresholds apply as a matter of federal law.

Importantly, these commenters emphasized, their state process requires that they promulgate a rulemaking, or in some cases, a legislative change, to incorporate the higher thresholds for GHG sources in their SIPs. These processes would require many months and in some cases as long as 2 years. As a result, sources that emit GHGs below the federally established levels in the final rule, but at above the 100/250 tpy levels in state laws and rules, would still be required to obtain PSD permits under state law. As a result, states, in attempting to implement state permitting requirements, would be faced with the same administrative difficulties that EPA recognized in the proposed rule as impossible. Commenters emphasized that this situation was untenable.

In addition to the state comments just described, we received comments that took issue with our view that we were in effect revising the numerical thresholds for PSD applicability as the legal mechanism for the tailoring approach. They asserted that in fact, our mechanism consisted of interpreting the term "any source" to exclude small GHG-emitting sources. Other commenters objected to our proposed mechanism of narrowing our previous SIP approval, arguing that this mechanism was without legal basis.

2. Rationale for Our Final Approach To Implementing PSD

In response to these concerns, we are adding another mechanism to implement the tailoring approach for PSD, and that is to adopt a definition, within our PSD regulations, the phrase "subject to regulation," as found within the phrase "any regulated NSR pollutant," which, in turn, is part of the definitions of "major stationary source" and "major modification." To implement this mechanism, we are defining the phrase "subject to regulation" so that the GHGs emitted by sources that fall below the thresholds or scope established in Steps 1 and 2 are not treated as "subject to regulation," and therefore do not trigger PSD for the sources that emit them. As discussed in section V.B.3., the term "subject to regulation" is one of four terms that should be considered not to apply literally in the case of GHG sources.

To understand this approach, it is useful to return to the definition of "major stationary source," which, again, is central to PSD applicability. The definition, quoted previously, employs the term "regulated NSR pollutant," which is a defined term. The definition incorporates many other elements as well (*e.g.*, the 100/250 threshold requirements), but for convenience, we quote it as follows: A "major stationary source" is "[a]ny * * * source[-] of air pollutants, which emits, or has the potential to emit, [depending on the source category, either] 100 [or 250] tons per year or more of any air pollutant that is subject to regulation under the Clean Air Act." 40 CFR 51.166(b)(1)(i)(a)-(b). Applying our definition of "subject to regulation" to exclude GHG sources that emit below specified thresholds, the definition may now be paraphrased as follows: A "major stationary source" is any source of air pollutants, which emits, or has the potential to emit, depending on the source category, either 100 or 250 tpy or more of any air pollutant subject to regulation under the CAA, except that the source's GHGs are considered to be subject to regulation under the CAA only the extent indicated under Steps 1 and 2 of the Tailoring Rule, *e.g.*, for Step 2, only if the source's GHG emissions exceed the threshold established in Step 2. We adopt the same approach for the ***31581** definition of the regulatory term "major modification."

Although EPA is revising its regulations to apply the phrase subject to regulation in this manner, we have been advised that states may be able to adopt our approach without having to undertake a rulemaking action to revise their state regulations or without requiring an act of the state legislature. Instead, it is our understanding that states may adopt our approach by interpreting the term "subject to regulation" reflected in their regulations to have the same meaning that we are assigning to that term in our regulations in this rulemaking. This is particularly—although not exclusively—the case in a state that has taken the position, or determines now, that the state's definition of "subject to regulation," or, more broadly, "regulated NSR pollutant" or "major stationary source" or "major modification," is intended to be interpreted in a way that tracks the meanings that EPA has assigned to these phrases. Such states can adopt the meaning of "subject to regulation" that we establish in this rule by January 2, 2011, and thereby avoid the situation in which, as a matter of state law, GHG-emitting sources above the 100 or 250 tpy thresholds become subject to PSD by that date. The following explains our basis for concluding that states may apply EPA's approach under existing regulations that use the term "subject to regulation." On December 18, 2008, EPA issued the Interpretive Memo, establishing EPA's interpretation of the definition "regulated NSR pollutant" found at 40 CFR 52.21(b)(50). EPA intended this memorandum to resolve ambiguity in subparagraph (iv) of this definition, which includes "any pollutant that otherwise is subject to regulation under the Act." Specifically, the memorandum stated that EPA will interpret the definition of "regulated NSR pollutant" to exclude pollutants for which EPA regulations only require monitoring or reporting but to include pollutants subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant.

After reconsidering this interpretation through a formal notice-and-comment process, EPA refined its interpretation to establish that the PSD permitting requirements will not apply to a newly regulated pollutant until a regulatory requirement to control emissions of that pollutant "takes effect." 75 FR 17704. Importantly, as stated previously, because the term "regulated NSR pollutant" is embedded within the definition of "major stationary source," this interpretation effectively defines which major stationary sources are subject to PSD permitting. As a result, for example, EPA explained that PSD and title V permitting requirements for GHGs will not apply to GHGs until at least January 2, 2011, following the anticipated promulgation of EPA regulations requiring control of GHG emissions under title II of the CAA. *Id.*

In the RTC document for EPA's reconsideration of the PSD interpretative memorandum, we stated that,

> Absent a unique requirement of state law, EPA believes that state laws that use the same language that is contained in EPA's PSD program regulations at 52.21(b)(50) and 51.166(b)(50) are sufficiently open-ended to incorporate greenhouse gases as a regulated NSR pollutant at the appropriate time consistent with EPA's interpretation of these regulations (emphasis added). (Docket ID No. EPA-HQ-OAR-2009-0597-0128).

Because the state regulations that include EPA's definition of the term "subject to regulation" in the reconsideration of the Interpretive Memo are "sufficiently open-ended to incorporate greenhouse gases as a regulated pollutant," those state regulations are also sufficiently open-ended to incorporate the further refinement to the meaning of the phrase "subject to regulation" that we make in this rulemaking.

By the same token, EPA has historically interpreted certain state SIP-approved programs as sufficiently open-ended such that the rules provide for the "automatic assumption for the responsibility for review" of new pollutants before the general deadline for states to revise their PSD programs. *See, e.g.*, 52 FR 24682. Conversely, we have also read federal rules and state rules approved in SIPs to provide for the automatic removal of a pollutant when such pollutant is no longer "subject to regulation." For example, the 1990 CAA Amendments exempted HAPs listed in section 112(b)(1) from the PSD requirements. *See* CAA section 112(b)(6). Following passage of the amendments, EPA issued "New Source Review (NSR) Program Transitional Guidance," a memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards to Regional Air Division Directors on March 11, 1991. In that guidance, EPA interpreted its PSD regulations to automatically cease to apply to listed HAPs (with some noted exceptions), and implicitly stated that a state with an open-ended SIP-approved PSD rule could also take the position that its SIP-approved rule automatically ceased to regulate HAPs.

After reviewing these past practices in the PSD permitting program, and EPA's prior statements regarding pollutants subject to the PSD program, we conclude that states with SIP-approved rules that contain the same language as used in 40 CFR

52.21(b)(50) or 40 CFR 51.166(b)(49), or that otherwise have sufficiently open-ended PSD regulations, would be able to implement our Tailoring Rule approach to permitting by interpreting their regulations, and without needing to promulgate a regulation or seek state legislative action. This is particularly—although not exclusively—the case for states that take the position that they intend their rules to apply in the same manner as EPA's counterpart rules. If states adopt this reading of their regulations, GHG sources falling below the specified cutoffs would not be emitting pollutants "subject to regulation" within the definition of "regulated NSR pollutant" and therefore would not be subject to PSD permitting as a major stationary source or for making a major modification.

During our consideration of this action, we participated in teleconferences with one local and six state agency permitting authorities to discuss this issue of whether they could implement the proposed rule without the need for state law or regulation changes or a revision of the provisions of state law that are a part of the SIP. We specifically discussed whether defining the phrase "subject to regulation" would better facilitate state incorporation of the limitations in this final rule. The state and local agencies participating in the calls generally agreed that defining the phrase "subject to regulation" would, compared to our proposed approach, better facilitate state incorporation of the limitations in the final rule in states with regulations that mirror the existing federal rules, or in states whose rules are otherwise sufficiently open-ended to incorporate the limitations in the final rule by interpretation. Participants from each agency also indicated that their rules contain the term "subject to regulation" and that term has not been previously interpreted in ways that would preclude application of the meaning assigned to the term by EPA. We therefore concluded it is likely the state rules are sufficiently open-ended to apply EPA's approach by interpretation (although some states indicated they may elect to pursue rulemaking in addition to or instead of interpretation). Accordingly, we selected the "subject to regulation" regulatory approach as the mechanism for implementing the final rule.

*31582Other Mechanisms

As just described, we selected the "subject to regulation" mechanism because it most readily accommodated the needs of states to expeditiously revise—through interpretation or otherwise—their state rules. Even so, it is important to recognize that this mechanism has the same substantive effect as the mechanism we considered in the proposed rule, which was revising numerical thresholds in the definitions of major stationary source and major modification. Most importantly, although we are codifying the "subject to regulation" mechanism, that approach is driven by the needs of the states, and our action in this rulemaking should be interpreted to rely on any of several legal mechanisms to accomplish this result. Thus, our action in this rule should be understood as revising the meaning of several terms in these definitions, including: (1) The numerical thresholds, as we proposed; (2) the term, "any source," which some commenters identified as the most relevant term for purposes of our proposal; (3) the term, "any air pollutant; or (4) the term, "subject to regulation." The specific choice of which of these constitutes the nominal mechanism does not have a substantive legal effect because each mechanism involves one or another of the components of the terms "major stationary source"—which embodies the statutory term, "major emitting facility"—and "major modification," which embodies the statutory term, "modification," and it is those statutory and regulatory terms that we are defining to exclude the indicated GHG-emitting sources.[54]

3. Codification of Interpretive Memo

As noted previously, we recently affirmed and refined our interpretation of the term "subject to regulation" as it applies broadly to the PSD program through a formal notice and comment process. "Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs," 75 FR 17004. In the proposal associated with that action, we requested comment on whether we should codify our interpretation in the regulatory text. 74 FR 51535, 51547 (October 7, 2009). We elected not to codify our interpretation in the final action on reconsideration of the Interpretive Memo because we concluded such an action was not necessary and that it was important to apply the refined interpretation immediately. 75 FR 17015. However, in the RTC document for that action, we indicated that we had not ruled out the option of codifying our interpretation at a later time. Since we are otherwise adopting a definition of "subject to regulation" in this rule as the mechanism for implementing the phase-in, it makes sense in this final rule to codify the interpretation reflected in the Interpretive Memo and the final action on reconsideration at the same time to bring clarity to our rules. Specifically, the definitions of the term "subject to regulation" contain a paragraph that reflects our existing interpretation of that term (*i.e.*, prior to adopting the provisions that implement the phase-in). Codification of the Interpretive Memo in this action makes sense to ensure the regulations reflect a complete picture of the meaning of "subject to regulation" applied by EPA. We also are moving existing exceptions (*e.g.*, section 112 HAPs) to a new paragraph within the definition of "subject to regulation." This minor reorganization of these regulations is not intended to effect any change in how they are to be implemented, but merely simplifies and clarifies the regulations by clearly delineating different terms and concepts.

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[54] We also think that this approach better clarifies our long standing practice of interpreting open-ended SIP regulations to automatically adjust for changes in the regulatory status of an air pollutant, because it appropriately assures that the Tailoring Rule applies to both the definition of "major stationary source" and "regulated NSR pollutant."

This codification of this interpretation of "subject to regulation" from the reconsideration for the Interpretive Memo is not necessary to assure the effectiveness of the interpretation, and it does not disturb states' existing authority to adopt the definition through interpretation of their existing rules. Codifying our existing interpretation in this action will ensure that parties reading the regulations have a full understanding of how EPA applies the PSD program requirements. Since the interpretation described in the Interpretive Memo and the April 2, 2010 final action are otherwise applicable at this time, the particular time sensitivity discussed in the latter action is not the same for this final action tailoring the PSD requirements.

4. Delaying Limited Approvals and Request for Submission of Information From States Implementing a SIP-Approved PSD Program

Because we now anticipate that many states will be able to implement our tailoring approach through interpretation of the term "subject to regulation," and without the need to revise their SIPs, we are delaying further action on our proposal to limit our approval of SIPs until we better understand how permitting authorities will, in fact, implement our tailoring approach. For this purpose, we ask each state to submit a letter to the appropriate EPA Regional Administrator no later than August 2, 2010. In that letter, the state should explain whether it will apply EPA's meaning of the term "subject to regulation" and if so, whether the state intends to incorporate that meaning of the term through interpretation, and without undertaking a regulatory or legislative process. If a state must undertake a regulatory or legislative process, then the letter should provide an estimate of the time needed to adopt the final rules. If a state chooses not to adopt EPA's meaning by interpretation, the letter should address whether the state has alternative authority to implement either our tailoring approach or some other approach that is at least as stringent, whether the state intends to use that authority. If the state does not intend to interpret or revise its SIP to adopt the tailoring approach or such other approach, then the letter should address the expected shortfalls in personnel and funding that will arise if the state attempts to carry out PSD permitting for GHG sources under the existing SIP and interpretation.

For any state that is unable or unwilling to adopt the tailoring approach by January 2, 2011, and that otherwise is unable to demonstrate adequate personnel and funding, we will move forward with finalizing our proposal to limit our approval of the existing SIP. Although we received comments questioning our authority to limit approval as proposed, using our general rulemaking and CAA section 110(k)(6) authorities, we are not responding to those comments at this time. We will address these comments in any final action we take to implement a limited approval.

In our proposed rule, we also noted that a handful of EPA-approved SIPs fail to include provisions that would apply PSD to GHG sources at the appropriate time. This is generally because these SIPs specifically list the pollutants subject to the SIP PSD program requirements, and do not include GHGs in that list, rather than include a definition of NSR regulated pollutant that mirrors the federal rule, or because the state otherwise interprets its regulations to limit which pollutants the state may regulate. At proposal, we indicated that we intended to take separate action to identify these SIPs, and to take regulatory action to correct this SIP deficiency.

We ask any state or local permitting agency that does not believe its existing ***31583** SIP provides authority to issue PSD permits to GHG sources to notify the EPA Regional Administrator by letter, and to do so no later than August 2, 2010. This letter should indicate whether the state intends to undertake rulemaking to revise its rules to apply PSD to the GHG sources that will be covered under the applicability thresholds in this rulemaking, or alternatively, whether the state believes it has adequate authority through other means to issue federally-enforceable PSD permits to GHG sources consistent with this final rule. For any state that lacks the ability to issue PSD permits for GHG sources consistent with this final rule, we intend to undertake a separate action to issue a SIP call, under CAA section 110(k)(5). As appropriate, we may also impose a FIP through 40 CFR 52.21 to ensure that GHG sources will be permitted consistent with this final rule.

5. Title V Programs

Our final action also differs from the proposal in the specific regulatory mechanism by which we tailor the definition of "major source" for title V permit programs, but is a logical outgrowth of our proposed rule. EPA proposed to implement tailoring for GHGs under title V by excluding sources of GHGs from the general definition of "major source" under 40 CFR 70.2 and 71.2, and adding a separate definition of "major source" with tailored thresholds for sources of GHGs. In response to comments, particularly from states concerned with implementation of the proposed approach under state law, EPA is adopting an approach in the final rule that (1) amends the definition of "major source" by codifying EPA's longstanding interpretation that applicability for a "major stationary source" under CAA sections 501(2)(B) and 302(j) and 40 CFR 70.2 and 71.2 is triggered by sources of pollutants "subject to regulation," and (2) adds a definition of "subject to regulation." Further, we are delaying our action to move forward with limiting our previous approval of existing state part 70 programs.

We are finalizing this alternative approach to address concerns similar to those we received with respect to state implementation of SIP-approved PSD programs. Specifically, we received comments that the mechanism we proposed would not address the significant administrative and programmatic considerations associated with permitting GHGs under title V, because the 100 tpy threshold would continue to apply as a matter of state law. Commenters stated that states would need to undertake a regulatory and/or legislative process to change the threshold in their state laws which they could not complete before the laws would otherwise require issuance of operating permits to GHG sources.

After considering the commenters' concerns, we are finalizing an approach designed to address the state law concerns for states. As a result, it is unnecessary to move forward at this time with our proposed approach to limit approval of existing part 70 programs in many states.

EPA's approach involves the interrelationship of terms within the part 70 definition of "major source" in title V and EPA's implementing regulations, and EPA's historical practice of interpreting the term "any air pollutant" in the "major stationary source" component of that definition. EPA believes the approach in the final rule will allow many states to adopt the final rule through interpretation of existing state laws. Specifically, paragraph (3) within the definition of "major source" found in 40 CFR 70.2 and 71.2 defines a major source as "a major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant * * *." The EPA previously articulated the Agency's interpretation that the regulatory and statutory definitions of "major source" under title V, including the term "any air pollutant," applies to pollutants "subject to regulation." Memorandum. EPA recently reaffirmed this position in EPA's Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs. 75 FR 17704, 17022-23 (April 2, 2010) (Interpretive Memo reconsideration final action).

Accordingly, under our long-established policy, states historically have interpreted the term "any air pollutant" under the title V definition of "major source" to mean any pollutant "subject to regulation" under the Act. Thus, as a matter of established interpretation, EPA and states effectively read the definition of "major source" under title V to include a source "* * * that directly emits or has the potential to emit, 100 tpy or more of any air pollutant *subject to regulation under the Act*" (emphasis added). By amending our regulations to expressly include and define "subject to regulation" to implement our tailoring for GHGs under title V, we are seeking to enable states to adopt and implement this approach through a continued interpretation of the phrase "any air pollutant" within the "major source" definition, without the need for changes to state regulations or statutes. States may be able to track EPA's approach to tailoring for GHG permitting without regulatory or statutory changes, for example, where a state has taken the position, or determines now, that the state's interpretation of "major source," "subject to regulation" and/or "any air pollutant" is intended to track EPA's interpretation.

Thus, EPA is adding the phrase "subject to regulation" to the definition of "major source" under 40 CFR 70.2 and 71.2. EPA is also adding to these regulations a definition of "subject to regulation." Under the part 70 and part 71 regulatory changes adopted, the term "subject to regulation," for purposes of the definition of "major source," has two components. The first component codifies the general approach EPA recently articulated in the "Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting." 75 FR 17704. Under this first component, a pollutant "subject to regulation" is defined to mean a pollutant subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant and that has taken effect under the CAA. *See id.* at 17022-23; Wegman Memorandum at 4-5. To address tailoring for GHGs, EPA includes a second component of the definition of "subject to regulation," specifying that GHGs are not subject to regulation for purposes of defining a major source, unless as of July 1, 2011, the emissions of GHGs are from a source emitting or having the potential to emit 100,000 tpy of GHGs on a CO_2e basis.

As explained previously, we find no substantive difference between the alternative mechanisms for implementing GHG tailoring in the final rule. Whether we add GHG thresholds directly to the definition of "major source" (as we proposed), or alternatively, expressly add and define the term "subject to regulation," both approaches revise the definition of "major source" to implement the Tailoring Rule. Accordingly, we adopt the later approach to facilitate state implementation of the final rule through an interpretation of existing state part 70 programs. Similar to our explanation previously for PSD, while we adopt the "subject to regulation" mechanism for implementing GHG tailoring in the final rule, the thrust of our rulemaking is to apply the title V definition of "major source"—which includes the statutory term, "major stationary source"—to GHG sources by treating only GHG sources ***31584** that emit at levels above the Steps 1 and 2 thresholds as meeting that definition. Further, we believe that our action may reasonably be construed to revise any of several terms in that definition, including (1) The numerical thresholds, as we proposed; (2) the term "any air pollutant," (3) the term "a major stationary source," (4) the term "subject to regulation," which, as discussed previously, our regulations graft into the definition of "major source." We believe that the specific choice of which term constitutes the legal mechanism does not have a substantive legal effect because each mechanism involves one of the components of the regulatory term "major source"—which embodies the meaning of the statutory term, "major source"—and it is that term that we are interpreting to tailor title V applicability for GHG-emitting sources. Thus, while the "subject to regulation" mechanism facilitates expeditious implementation by states, and we are therefore revising our regulations to adopt this approach, we otherwise find no substantive difference between the alternative mechanisms we may use to finalize the proposed rule.

Further, similar to our revised approach for addressing state SIP-approved PSD programs, we are delaying our action to limit our previous approvals for state part 70 operating permit programs. In our proposed rule, we explained our concern that states lack adequate personnel and resources to carry out part 70 operating permit programs for GHG sources that emit or have the potential to emit 100 tpy of GHGs. Accordingly, we proposed to use our general rulemaking authority under section 301(a) of the CAA and APA section 553 to limit our prior approval of state operating permit programs. This limited approval action would have had the effect of applying CAA permitting requirements only to sources that exceed the permitting thresholds established in this rule for the phase-in, because only those sources would be covered by the federally approved part 70 programs. 74 FR 55345. As discussed previously, we are proceeding with a slightly revised approach to address concerns similar to those raised with our proposed approach for addressing SIP-approved PSD permit programs. Because we now recognize that, like the PSD program, many states will be able to implement the final rules without the need to revise their existing part 70 operating permit programs, we are delaying further action on our proposal to limit approval of existing part 70 programs until we better understand how permitting authorities will implement our final rule.

In addition to the information requested previously on SIP-approved PSD permit programs, we ask each state to submit a letter to the appropriate EPA

Regional Administrator no later than August 2, 2010 detailing the state's plan for permitting of GHG sources under the state's part 70 program. In that letter, states should explain whether they will adopt an interpretation of the terms "major source" or any of its component terms—"a major stationary source," "any air pollutant," or "subject to regulation," or the numerical thresholds—that is consistent with EPA's regulatory interpretation of these terms as codified at 40 CFR 70.2, and whether the state intends to adopt the interpretation without undertaking a regulatory or legislative process. This approach may be available, for example, where a state has taken the position, or determines now, that the state's interpretation of these terms is intended to track EPA's interpretation, resulting in title V permitting for sources of GHGs as described in EPA's regulations adopted in this rule. If a state must revise its title V regulations or statutes to implement the interpretation, we ask that it provides an estimate of the time to adopt final rules or statutes in its letter to the Regional Administrator. If a state chooses not to (or cannot) adopt our interpretation, the letter should address whether the state has alternative authority to implement the GHG tailoring approach or some other approach that is at least as stringent, but which also addresses the expected shortfalls in personnel and funding and delays in permitting that would exist if the state carried out permitting under part 70 program thresholds lower than those adopted by EPA in this final rule. For any state that is unable or unwilling to adopt the permitting thresholds in the final rules, and otherwise is unable to demonstrate adequate personnel and funding, EPA will move forward with finalizing a narrowed limited approval of the state's existing part 70 program. If we do so, then we will respond in that action to comments on our proposal.

In our proposed rule, we also noted that a handful of part 70 operating permit programs may include provisions that would not require operating permits for any source of GHG emissions because, for example, the programs may apply only to pollutants specifically identified in the program provisions, and the provisions do not specifically identify GHGs. In these cases, states may be unable to interpret their regulatory provisions to interpret the term "any pollutant" to include pollutants "subject to regulation." We indicated that we intended to take separate action to identify these programs, and to take regulatory action to correct this deficiency. Accordingly, we ask any state or local permitting agency that does not believe its existing part 70 regulations convey authority to issue title V permits to GHG sources consistent with the final rule to notify the EPA Regional Administrator by letter as to whether the state intends to undertake rulemaking to revise its rules consistent with these applicability thresholds. This notification should be done no later than the previously described letter regarding adoption of the Tailoring Rule, and could be combined with similar notifications we request regarding the PSD program. We intend to undertake a separate regulatory action to address part 70 programs that lack the ability to issue operating permits for GHG sources consistent with the final rule. We also intend to use our federal title V authority to ensure that GHG sources will be permitted consistent with the final rule.

D. Rationale for Treatment of GHGs for Title V Permit Fees

The title V program requires permitting authorities to collect fees "sufficient to cover all reasonable (direct and indirect) costs required to develop and administer [title V] programs."[55] To meet this requirement, permitting authorities either collect an amount not less than a minimum amount specified in our rules (known as the "presumptive minimum"), or may collect a different amount (usually less than the presumptive minimum). We did not propose to change the title V fee regulations in our notice of proposed rulemaking for this action, nor did we propose to require new fee demonstrations when title V programs begin to address GHGs. However, we did recommend that each state, local or tribal program review its resource needs for GHGs and determine if the existing fee approaches will be adequate. If those approaches will not be adequate, we suggested that states should be proactive in raising fees to cover the direct and indirect costs of the program or develop other alternative approaches to meet the shortfall. We are retaining this proposed approach, and are not changing our fee regulations as part of this final action establishing Steps 1 and 2 of the phase-in. However, we are offering some additional clarification of our fee ***31585** approach during these steps in response to comments we received on this issue. Additional discussion of fees will be included as part of subsequent actions establishing Step 3 and beyond.

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[55] The fee provisions are set forth in CAA section 502(b)(3) and in our regulations at 40 CFR 70.9 and 71.9.

A few state commenters suggested that EPA should modify part 70 to adopt a presumptive minimum fee (or range for such fee) for GHGs, some of whom suggested that current fees may be insufficient to cover the costs of their program. It is important to clarify that altering the presumptive minimum would only affect those states that chose to charge the presumptive minimum fee to sources. Most states—including some of the commenters asking EPA to raise the presumptive minimum—collect a lower amount that is not based on the presumptive minimum, but rather, relies on another fee schedule that it developed and EPA approved as adequate to cover costs. Therefore, it is useful to first discuss our approach to programs that have fee schedules resulting in a different amount before discussing our approach to the presumptive minimum.

Because of the added GHG title V permitting workload described elsewhere in this notice, any state that will not, under its current fee structure, collect fees adequate to fund the permitting of GHG sources must alter its fee structure in order to meet the requirement that fees be adequate to cover costs. Changes may not be required in every instance; circumstances will vary from state to state. For example, a state may see increases in revenue from newly-covered sources (based on emissions of pollutants already subject to fees) that fully cover the state's increased costs, or a state may be over-collecting fees now and could use the surplus to offset the increased costs. Nonetheless, in many cases, we think states will need to adjust their fee structures to cover the costs of GHG permitting in order to meet the requirements of the Act and our regulations.

For this reason, although we are not calling for new fee demonstrations at this time, we plan to closely monitor state title V programs during the first two steps of the Tailoring Rule to ensure that the added workload from incorporating GHGs into the permit program does not result in fee shortfalls that imperil operating permit program implementation and enforcement, whatever the basis of the states' fee schedule. As described in the proposal, such fee oversight by EPA may involve fee audits under the authority of 40 CFR 70.9(b)(5) to ensure that adequate fees are collected in the aggregate to cover program costs, with emphasis on whether the additional GHG workload is being appropriately funded. Also, EPA retains the ability to initiate a program revision under 40 CFR 70.4(i)(3) or issue a notice of deficiency under the process described in 40 CFR 70.10(b) to address fee adequacy issues, which may be uncovered during a fee audit. By relying on existing oversight measures, we are ensuring that the fee requirements are met with a minimum of disruption to existing programs at a time when they will already be facing significant challenges related to GHG permitting.

Turning to the minority of states that do use the presumptive minimum, we did not propose to change the presumptive minimum calculation method to account for GHGs. Currently under the statute and our rules, the presumptive minimum is based on a subset of air pollutants (*i.e.*, VOCs, NAAQS pollutants except for CO, and pollutants regulated under the NSPS and MACT standards promulgated under sections 111 and 112 of the Act, respectively) that does not include GHGs. The amount is specified on a perton basis and changes with inflation (it is currently set at $43.75/ton), but does not apply to emissions over 4,000 tpy of a given pollutant from a given source. We noted several difficulties in applying the presumptive minimum to GHG, including the large amounts of GHG emissions relative to other pollutants and the need for better data to establish a GHG-specific amount. Noting that GHGs are not currently included in the Act's list of pollutants to which the presumptive fee applies, we also invited comment on whether we should raise the fee for listed pollutants to cover the added cost of GHG permitting.

A few state commenters asked us to set a presumptive fee for GHGs, which we take to mean we should add GHGs to the list of pollutants to which a presumptive fee would apply. However, many commenters noted that the current presumptive minimum fee is unreasonable for GHGs because GHGs are emitted in greater quantities than the pollutants currently subject to presumptive fees, which would result in excessive fees. These commenters believe that EPA needs to limit the fees that states can charge for GHGs. Moreover, one commenter read the statute to prohibit us from listing GHGs in the presumptive fee calculation in the first place. Several commenters disagreed with the idea of increasing the presumptive fee for other pollutants to cover the cost of regulating GHGs, some of whom believed that this would unfairly punish existing sources or would bring in no new revenue from sources triggering title V for the first time.

After considering these comments, we remain disinclined, as we were at proposal, to change the presumptive fee calculation regulations. While there is some support for changing the regulations, the comments confirm the challenges in doing so. While we expressly rejected charging the full presumptive cost per ton amount for GHG, we also did not propose language to establish a different amount just for GHG, to establish whether a different tpy cap would apply, or to assess whether GHGs could even be added to the list. Thus, many commenters were very concerned about whether the full $43.75 or the 4000 tpy cap would apply to GHG if we listed it as a regulated pollutant for fee purposes. Furthermore, we noted at proposal, and commenters did not disagree, that more data would be needed to establish the appropriate basis for the GHG presumptive minimum. We are not taking a final position in this notice on whether the statute is amenable to including GHG in the presumptive fee calculation currently, but these comments illustrate some of the difficulties of such an approach.

At the same time, we are not increasing the presumptive minimum for other pollutants already included in the fee calculation. We disagree with the commenter who said such an approach would bring in no new revenue from newly-subject sources. Many of the newly-subject sources would emit already-included pollutants. If new revenue from these pollutants were insufficient, and because the Act does not specify how the shortfall must be addressed, the amount of any projected shortfall could be made up by increasing fees on these pollutants. In fact, the projected shortfall could be addressed without having to inventory GHG emissions from title V sources, since the emissions of already-included pollutants are well-known. We also note that, although some commenters are concerned that failing to assess fees for GHGs directly would be unfair, the statute does not provide that the presumptive fee be proportional to each type of pollutant or be proportionally allocated to all sources. Rather, the presumptive fee approach provides a backstop for states that do not wish to adopt a more tailored approach. Nonetheless, we have decided not to increase the presumptive fee amounts for other pollutants because we lack information about the extent to which shortfalls exist due to GHG permitting, and which mix of sources and fees is appropriate for addressing any such ***31586** shortfall in a state. This decision also provides greater flexibility to states and minimizes disruption to existing programs.

We note that, contrary to the statements of some commenters, the CAA provisions allowing for a presumptive fee calculation do not override the basic requirement that fees be adequate to cover costs. As noted previously, we expect states to see a revenue increase from emissions of listed pollutants at newly-major sources for GHGs, and it is also possible that the presumptive minimum may currently be resulting in over-collection of fees in a state. Thus, a state continuing to use the presumptive minimum may not have a shortfall. However, if states using the presumptive minimum approach do have a revenue shortfall due to GHG permitting, the statute requires the shortfall to be addressed. The EPA has had, and will continue to have, the ability to require states that use the presumptive minimum to increase their fees if the presumptive minimum results in a revenue shortfall that imperils operating permit program implementation and enforcement. Thus, although we are not changing the presumptive minimum in our regulations, we plan to follow the same oversight approach for states using the presumptive minimum as for those collecting less based on a resource demonstration. As described previously, this approach may involve fee audits with emphasis on whether the additional GHG workload is being appropriately funded, and other appropriate follow-up.

Consistent with our proposal, EPA is not modifying its own part 71 fee structure (which closely mirrors the presumptive minimum) in order to charge an additional fee for GHGs. EPA must revise its fee schedule if the schedule does not reflect the costs of program administration. We have not determined that the existing fee structure will be inadequate to fund the part 71 programs costs during the first two phases of permitting GHGs as set forth in this action. However, we are required to review the fee schedule every 2 years, and make changes to the fee schedule as necessary to reflect permit program costs. 40 CFR 71.9(n)(2). Thus we will continue to examine the increases in part 71 burden due to GHG permitting, the current revenue collection, and the increases in revenue from newly-subject part 71 sources, and will adjust the part 71 fee approach accordingly.

Finally, several state and industry commenters asked EPA to provide guidance and recommendations for an appropriate GHG fee structure. We note that title V grants permitting authorities considerable discretion in charging fees to sources for title V purposes and does not require or prohibit fees specifically for GHGs, provided the states collect fees in the aggregate that are sufficient to cover all the direct and indirect program costs. In responding to requests for guidance, we do not wish to limit state discretion. For example, some commenters suggest that EPA prohibit emissions-based fees for GHGs or cap the amount that can be collected, while others suggest we provide a range of acceptable fees. We are concerned that, given the wide variety of fee approaches that states now take, providing specific guidance may be disruptive, rather than helpful, to states.

On the other hand, we recognize that it will initially be difficult for states to establish an appropriate emissions fee for GHGs. As noted previously, there are currently limited data available for establishing such a fee, and, due to the large quantities of GHG emissions, such a fee may only amount to a few cents per ton. At the same time, as noted in the proposal, a number similar to that used for other pollutants (*e.g.*, the presumptive minimum of approximately $45/ton of GHG) would be inappropriate because it would likely result in huge over-collection. Because of this challenge, we note that 40 CFR 70.9(b)(3) allows the state to charge fees to individual sources on any basis (*e.g.*, emission fee, application fee, service-based fees, or others, in any combination). While most states use emissions-based fees, there is merit to considering all the available fee bases to address increased GHG workload, including approaches that do not require a GHG emissions inventory for fee purposes. For example, where it is possible to estimate a revenue shortfall as a percentage of fee revenue, it may be appropriate to simply attach a percentage-based surcharge to each source's fee to match that shortfall. Similarly, where the shortfall could be estimated as a total dollar amount, a flat surcharge could be added to each source's fee to address the shortfall.

These suggestions should not be read to indicate that EPA prefers any particular approach, or that EPA rejects a cost per ton approach. Rather, they illustrate that it is possible to address a revenue shortfall without establishing a GHG perton fee. While the EPA is declining to recommend specific approaches in this preamble, we are committed to assisting states in implementing the fee requirements for GHG. Therefore, we will work with any state that requests assistance from EPA in developing a workable fee approach.

E. Other Actions and Issues

1. Permit Streamlining Techniques

In our proposal, we stated that while we were phasing-in permitting requirements, we would make a concerted effort to assess and implement streamlining options, tools, and guidance to reduce the costs to sources and permitting authorities of GHG permitting. We recognized that the development and implementation of these techniques should be an integral part of our strategy during the phase-in period, and we stated that we would undertake as many streamlining actions as possible, as quickly as possible. We discussed several streamlining techniques in particular, including: (1) Defining PTE for various source categories, (2) establishing emission limits for various source categories that constitute presumptive BACT, (3) establishing procedures for use of general permits and permits-by-rule, (4) establishing procedures for electronic permitting, and (5) establishing "lean" techniques for permit process improvements. The first three of these approaches have the potential to have the greatest impact in reducing the numbers of sources subject to PSD or title V (the definition of PTE) or of reducing permitting costs (presumptive BACT and general permits or permits-by-rule).

In our proposal, we also described the timing for development and implementation of these streamlining techniques. We explained that each of the first three techniques would generally take 3-4 years to develop and implement, and therefore would be of limited use in the near-term. This time frame is necessary because EPA will first need to collect and analyze small source data that we do not currently have—because these are sources that EPA has not traditionally regulated—in order to assess which of these techniques are viable or effective for such sources. In general, EPA will then need to conduct notice-and-comment rulemaking to establish the approaches, and that rulemaking will need to address various legal and policy aspects of these approaches. After that, the permitting authorities will need some time to adopt the streamlining techniques as part of their permitting programs.

We received several comments on streamlining techniques. In general, the comments indicate widespread support for our pursuit of streamlining approaches, but some commenters were ***31587** concerned that one or more of EPA's identified streamlining options were complex, vague, ineffective, and questionable legally. Noting our proposal to phase in permitting, in part to allow more time to develop streamlining options for smaller sources, some commenters suggested that we should delay permitting for larger sources for the same reasons. We disagree. Such a delay is not justified under our legal basis for this rule. While implementation of Steps 1 and 2—which will cover larger sources—will pose implementation challenges, and some of the streamlining tools could assist with meeting these challenges, we have assessed the burdens associated with GHG permitting and have established a phase-in schedule that represents a manageable workload, even in the absence of streamlining techniques. On the other hand, we do agree with these commenters that, absent streamlining, applying PSD and title V requirements to the much larger number of small sources would lead to absurd results and administrative impossibility. The sources for whom the phase-in delays applicability are precisely the sources that have the greatest need for streamlining measures, and thus the greatest need for a deferral while we develop and implement streamlining options.

In addition, commenters generally echoed many of our concerns about why it will take time to put these measures in place, and no commenter presented any information to suggest that our 3-4 year estimate for the PTE, presumptive BACT, and general permit measures was inval*id*.

For these three techniques, we continue to believe that as we noted at proposal, we will require collection of significant category-specific data for source and emission unit types that have heretofore generally not been regulated by the CAA (*e.g.*, furnaces, water heaters, etc.), which could take up to 1 year. Moreover, commenters had differences of opinion as to whether and how we should move forward on these approaches, and some raised policy and legal issues that we would likely want to explore through a notice and comment process in order to assess which of these measures are viable to pursue further.[56] Even if a rulemaking were done expeditiously, it would likely require 1 year. Finally, unlike lean and electronic permitting, these approaches, once finalized by EPA, will likely require additional time of up to 2 years for states to adopt. Thus, it is clear that these approaches will not be in place in time to ease any burden prior to the planned rulemaking for Step 3.

Some commenters did observe that the fourth and fifth techniques, lean and electronic permitting, could, at least theoretically, become available sooner. However, these commenters also noted that successful design and implementation of these approaches will require implementation experience with GHG permitting that is not now available. We expect that for the lean and electronic permitting techniques, at least 1 year of implementation experience (of the type that we will gain starting in 2011) would be required, plus at least an additional year to extrapolate that experience to small sources and put these approaches into effect for small source permitting. Thus, we do not think the lean and electronic permitting would be in place before the beginning of 2013. Moreover, a handful of commenters questioned whether lean and/or electronic permitting would alleviate significant burden. Thus we are not able, at this time, to presume that these approaches will ease any burden prior to the planned rulemaking for Step 3.

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[56] We do not attempt to address or resolve the various opinions about what legal or policy direction we must take regarding any of these streamlining options. The proper forum for doing that will be in the action(s) where we apply a given option. Nonetheless, our RTC document provides additional detail about the options we described and what commenters said about our proposed options. In addition, the comments themselves can be accessed in the docket for this action.

It is also important to note that, as a practical matter, while these efforts to streamline the program for small sources are underway, EPA and states will also be devoting a significant amount of their permitting resources and expertise to implementing the PSD and title V programs for the GHG-emitting sources covered under Steps 1 and 2. We have established these steps in a manner that they will be feasible for EPA and state/local/tribal authorities, but even so, they will not only consume current permitting authority resources, but they will also require substantial additional resources. As a result, the efforts to develop and implement streamlining techniques will have to compete with the work necessary to administer existing programs. For example, during the remainder of 2010, as described elsewhere in this notice, EPA permitting program resources will, in addition to continuing to administer programs for non-GHG pollutants, be used to conduct *at least* the following GHG-related activities in addition to streamlining: (1) Develop BACT and other information and guidance for implementing programs for sources covered by Step 1, followed by additional guidance and information for sources covered by Step 2; (2) review and act on information we receive regarding state adoption of GHG permitting requirements, which may entail narrowing of previous SIP approvals or processing of other programmatic revisions; and (3) propose and finalize measures to address programs with deficiencies in GHG coverage. As the beginning of Step 2 nears, we will also begin to receive and process the first applications for permits that will incorporate GHG requirements (*i.e.*, those that will be issued after January 2, 2011). States seeking to implement streamlining approaches will face similar competition for permitting resources.

These time frames and resource considerations for streamlining confirm the approach to phase-in that we are taking in this rule. First and foremost, they make clear that it will not be possible to have streamlining measures in place in time for either Step 1 or Step 2. Therefore our selection of threshold for those steps is not built on assumptions that streamlining will remove some or all of the burden during those steps.

Second, they make clear that, while no significant streamlining can be in place by the time we must begin to develop the Step 3 rule (*i.e.*, latter half of 2011, to promulgate by July 2012, effective July 2013), it is likely that by that time EPA and states will have had an opportunity to gain implementation experience that could serve as the basis for beginning to implement stream-lining techniques that do not require rulemaking or state adoption (*e.g.*, lean and electronic permitting). It is also likely that we will have had an opportunity to gather technical information—which we have already begun to gather—for certain source and emissions unit categories that would be necessary to support proposal of PTE or presumptive BACT approaches for those categories. We expect that the Step 3 rulemaking will provide an opportunity for us to use that experience and data to begin to propose streamlining approaches that need notice and comment rulemaking. We can also begin to take into account any burden reductions from possible early streamlining efforts—that is, through lean and electronic permitting—in the establishment of Step 3.

Third, it is clear that the potential availability of streamlining measures does not call into question our decision that in no event will we broaden PSD and title V applicability to cover GHG-emitting sources below the 50,000 tpy CO_2e level prior to July 2016, as discussed elsewhere. EPA cannot now ***31588** predict the resources that will be required to implement PSD and title V programs for GHG-emitting sources once various streamlining techniques are ultimately completed. This is uncertain not only because we need data and implementation experience with GHG permitting during Steps 1, 2, and 3 that we can apply to estimates for small sources, but also because, as comments indicate, there is a broad range of legal and policy issues to consider in crafting the streamlining approaches we ultimately adopt. We have presented an initial assessment of options and obtained views of commenters both supporting and opposing them, and it is the result of these future actions, whose outcomes are uncertain at this time, that will ultimately determine the extent to which streamlining approaches will allow for the administration of PSD and title V programs for numerous small sources. Thus, while we are optimistic that we can craft workable, common-sense solutions, we nonetheless, believe it is important to preserve our small source exclusion until we have not only had time to put the streamlining approaches in place, but also have had time to assess the burdens that remain, before we bring in additional sources below the 50,000 tpy CO_2e levels. We believe that the 6-year timeframe will require a sustained intensive effort by EPA and states to develop, adopt, and implement streamlining techniques, and will require EPA to then evaluate those techniques and complete a rulemaking concerning PSD and title V applicability to small-sources based on that evaluation. In this manner, the 6-year period will give us the necessary time to make the best decisions about the actions we should take beyond Step 3.

While comments make clear that there are issues to be addressed, nothing in the comments has persuaded us that we should abandon our streamlining efforts. To the contrary, the strong support for these efforts shown by many commenters reinforces our intention, as stated at proposal, to move forward with these approaches as an integral part of our phase-in approach. Moreover, notwithstanding the competition for GHG permitting resources and expertise, we believe it is critical that we move forward expeditiously. As noted previously, we are already taking a first step by initiating permitting for larger sources, beginning January 2011, that will begin to provide valuable implementation experience. This experience can be useful in allowing states to begin implementing early streamlining measures, like lean and electronic permitting, which do not require EPA action. We have also already begun, and will continue, developing data necessary to support possible rulemakings addressing approaches such as PTE, presumptive BACT, and/or general permits. We expect to be able to use these data to support possible rulemakings on these topics, as appropriate, at about the same time as our Step 3 rulemaking. There may also be available streamlining options that were not described in our proposal that warrant further consideration. Because of the uncertainty surrounding such approaches, we are not committing to finalize rules on any particular approach, but we do plan to explore all streamlining options as expeditiously as possible, beginning immediately and proceeding throughout the phase-in period, and we encourage permitting authorities to do the same. We commit to consider a wide array of possible streamlining measures, and we commit to propose and take comment on, in the Step 3 rulemaking, a set of those measures that we determine are viable to pursue further.

2. Guidance for BACT Determinations

The CAA requires that a PSD permit contain, among other things, emissions limits based on the BACT for each pollutant subject to regulation under the Act emitted from the source that triggers PSD. 42 U.S.C. 7475(a)(4); 42 U.S.C. 7479(3). BACT is defined as follows:

> (3) The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental,

> and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to enactment of the Clean Air Act Amendments of 1990.

42 U.S.C. 7479(3).

Thus, the BACT process is designed to determine the most effective control strategies achievable in each instance, considering energy, environmental, and economic impacts. However, the case-by-case nature of BACT, together with the range of factors and technologies that must be considered, presents a challenge in determining BACT for newly regulated pollutants. When a new pollutant is regulated, the first permit applicants and permitting authorities that are faced with determining BACT for a new pollutant will likely need to invest more time and resources in gathering and analyzing information necessary to make an assessment of BACT under the statutory criteria. Once the PSD permitting program matures with respect to the new pollutant, successive BACT analyses will establish precedents that can inform subsequent BACT determinations. While the BACT provisions clearly contemplate that the permitting authority evaluate control strategies on a case-by-case basis, EPA recognizes the need to develop and share policy guidance and technical information for sources and permitting authorities as they begin to permit sources of newly regulated pollutants, such as GHGs. When applied in a practical manner, this additional EPA guidance and technical information should reduce time and resource needs when evaluating BACT for newly regulated pollutants.

As described in the proposed Tailoring Rule, EPA intends to compile and make available technical and background information on GHG emission factors, control technologies and measures, and measurement and monitoring methodologies for key GHG source categories. We expressed our intent to work closely with stakeholders in developing this supporting information and to ensure this information is available in sufficient time to assist permitting agencies in their BACT determinations. The proposal took comment on what other types of support or assistance EPA can provide to initially help air pollution control agencies with the permitting of GHGs.

Commenters on the proposed Tailoring Rule generally supported EPA providing technical information and policy guidance for sources of GHGs. Several commenters specifically requested guidance to clarify GHG-related issues, such as how to compute CO_2e emissions, how to evaluate emissions of CO_2 from biomass fuel, and whether an air quality analysis will be required for GHGs. Additionally, commenters requested that EPA issue "white papers" and other tools that would provide information on a range of control technologies and measures for major stationary source categories, such as power plants, cement kilns, glass ***31589** furnaces, and other sources. Many of these commenters further requested that EPA provide an opportunity for stakeholder input on the guidance, and a few commenters insisted that permitting for sources of GHGs should not begin prior to issuing final guidance.

Consistent with our commitment at proposal to involve all stakeholders in our guidance development, EPA called upon the CAAAC in September 2009, to provide assistance and recommendations for what types of guidance and technical information would be helpful.[57] Specifically, our charge to the CAAAC was "* * * to discuss and identify the major issues and potential barriers to implementing the PSD Program under the CAA for greenhouse gases * * * [and] focus initially on the BACT requirement, including information and guidance that would be useful for EPA to provide concerning the technical, economic, and environmental performance characteristics of potential BACT options." This charge also requested the CAAAC to "identify and discuss approaches to enable state and local permitting authorities to apply the BACT criteria in a consistent, practical and efficient manner."

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[57] The CAAAC is a senior-level policy committee established in 1990 to advise the U.S. EPA on issues related to implementing the CAA Amendments of 1990. The committee is chartered under the Federal Advisory Committee Act and has been renewed every 2 years since its creation. The membership is approximately 40 members and experts representing state and local government, environmental and public interest groups, academic institutions, unions, trade associations, utilities, industry, and other experts. The CAAAC meets three times a year, normally in Washington, DC. It provides advice and counsel to EPA on a variety of important air quality policy issues. The committee has formed several subcommittees to provide more detailed discussion and advice on many technical issues.

At its October 6, 2009 meeting, the CAAAC established a Climate Change Work Group, made up of 35 representatives from a variety of industries, state and local governments, and environmental and public health non-profit organizations, organized under CAAAC's Permits, New Source Review and Toxics Subcommittee. The Work Group initially focused its attention on the procedure for evaluating BACT and decided that the process and criteria for determining BACT for criteria pollutants represented a workable and acceptable framework for GHGs. The Work Group also recommended a second phase, in which the Work Group would consider member proposals regarding possible alternative or supplementary approaches to applying the PSD program to GHG sources.

In February 2010, the CAAAC completed work on the first phase of its effort and sent EPA a list of recommendations that highlighted areas of the BACT determination process that are in need of technical and policy guidance. For more information, see the Interim Phase I Report on Issues related to BACT for GHGs, February 3, 2010 that is located in the public docket for this rulemaking and at *http://www.epa.gov/air/caaac/climate/2010—02—InterimPhaseIReport.pdf*. In response, we are working on a number of fronts to develop technical information, guidance, and training to assist states in permitting large stationary sources of GHGs, including identifying GHG control measures for different industries. EPA is currently working with states on technical information and data needs related to BACT determinations for GHGs. This includes developing the EPA Office of Research and Development GHG Mitigation Strategies Database, enhancing the RACT/BACT/LAER Clearinghouse to include GHG-specific fields, and preparing technical information on sector-based GHG control measures. Also, EPA is actively developing BACT policy guidance for GHGs that will undergo notice and comment and will culminate in training courses for state, local, and tribal permitting authorities. The results of all of these efforts will roll out over the remainder of 2010. EPA currently awaits the Work Group's recommendations from its second phase of deliberations, which is underway as of the date of this notice.

EPA does not agree with some commenters' suggestion that EPA should delay permitting of any sources until final BACT guidance is issued. As discussed in the final action on reconsideration of the Interpretive Memo, delaying the application of BACT to enable the development of guidance or control strategies is not consistent with the BACT requirements. 63 FR 17008. Furthermore, as just described, EPA expects such a delay to be unnecessary because EPA will soon begin providing technical information to inform BACT decisions, and will continue to provide additional guidance prior to the date that GHG permitting begins. However, even in the absence of such guidance, a delay would not be justified under the legal doctrines of "absurd results" and "administrative necessity." While implementation of the BACT requirement during Steps 1 and 2 will pose implementation challenges, EPA has assessed the burden associated with GHG permitting with consideration given to these challenges, and has established a phase-in schedule that represents a manageable workload.

Thus, while BACT will remain a case-by-case assessment, as it always has been under the PSD program, EPA is confident that this guidance development effort will help support a smooth transition to permitting emissions of GHGs. Furthermore, EPA will continue to work to provide the most updated information and support tools to allow permitting authorities to share and access the most updated information on GHG BACT determinations as they are made once permitting of GHGs begins. EPA remains committed to involving stakeholders in the upcoming efforts to develop guidance to help permitting authorities in making BACT determinations for sources of GHGs.

3. Requests for Higher Category-Specific Thresholds or Exemptions From Applicability

Although we did not propose any categorical exemptions, many commenters requested exemptions from major source and major modification applicability determinations under title V and PSD for certain types of GHG-emitting sources or certain types of GHG emissions as follows:

Source Categories. Many commenters requested various exemptions or exclusions from source applicability for GHGs under both PSD and title V permitting, either during the phase-in period or permanently, citing anticipated burdens, societal costs, and differences in emission characteristics. Commenters representing non-traditional sources or source categories (sources that have not historically been required to get permits) requested exemptions from permitting based on GHG emissions, including agricultural sources, residential sources, and small businesses. In general, these commenters sometimes, but not always, cited "absurd results" and "administrative necessity" arguments in their exemption requests.

Several commenters from sectors that consume a great deal of energy in their industrial processes and that are subject to international competitiveness, such as aluminum, steel, cement, glass, pulp and paper, and other manufacturers, requested that they be exempt from permitting under this final rule. These commenters state that we have not carefully considered the environmental and economic consequences of this action because if we had, we would have exempted them for several reasons, including (1) other countries typically exempt similar sources from GHG cap ***31590** and trade programs because the industries are making significant energy efficiency improvements even in the absence of GHG regulation, and (2) permitting such sources may cause many facilities to move to countries that have less regulation or no regulation for GHGs.

Other industry groups cited unique characteristics of their emissions, or the quantities in which they are emitted, that they argued should justify exclusion or unique thresholds. Semiconductor production facilities asked for exemptions, arguing that combustion-related GHG emissions are different from their GHG emissions, which result from the use of high-GWP industrial gases, such as PFCs, with higher GWP values that are more likely to trigger permitting requirements at relatively low tpy values. One lime production commenter stated that EPA could encourage energy efficiency projects at its plants by excluding calcination and other process emissions, arguing that these emissions are a relatively small portion of the national inventory that will have no material effect on air quality and global warming. Another commenter requested that EPA exclude emissions from poultry production (natural bird respiration) from permitting consideration because the IPCC excludes them from its GHG emission estimates. Representatives of the landfill industry pointed to the relationship between current statutory thresholds that apply to their regulated emissions, primarily NMOC, and the equivalent amount of GHG emissions this corresponds to. They argued for a source-category specific threshold that is at least equivalent to their current NMOC threshold, or roughly 750,000 tpy CO_2e according to their estimate.

Although the proposal for the Tailoring Rule generally addressed how the statutory requirements for major source applicability (100/250 tpy thresholds) could be phased in in ways that would offer relief to traditional and non-traditional sources, such as residences, farms, small business, and semiconductor manufacturers, it did so by establishing relatively high CO_2e thresholds during the early implementation period and lowering the thresholds over time as streamlining mechanisms become available to reduce administrative burdens. We did not propose any permanent exemptions of any kind or temporary exemptions based on source category. Also, note that the proposal discussed energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes in the context of short-term, low-cost means of achieving GHG emission reductions for small-scale stationary sources, but not in the context of exemptions.

As discussed previously, we are still considering whether permanent exemptions from the statute are justified for GHG permitting based on the "absurd results" legal doctrine. We do not have a sufficient basis to take final action at this time to promulgate any of the suggested exclusions on the grounds, described previously, suggested by the commenters. We note, however, that nothing in this rule forecloses the opportunities we may have to explore such options in the future. Therefore, we are taking no action in this rule on these various commenters' requests for exclusions.

Some commenters also recommended that we create exclusions for their particular source categories for the specific purpose of avoiding overwhelming permitting burdens. We did solicit comment on alternative approaches to burden relief in the proposal. Some commenters suggested that the "administrative necessity" or "absurd results" rationale, each of which would be based on extraordinary administrative burdens, could be used to create at least temporary exclusions that would allow more sources to escape permitting than what we proposed. However, commenters have not, to date, provided specific information about the costs and administrative burdens associated with permitting their source categories.

Regarding the specific concerns about the need for a small business exclusion, we note that the Office of Advocacy of the SBA made several recommendations on the proposal to address concerns about large numbers of small businesses becoming subject to the permit programs. For example they recommended that EPA adopt major source thresholds of 100,000 tpy and major modification thresholds of 50,000 tpy CO_2e. They also recommended that we adopt an interpretation of the effective date of the LDVR to provide additional time to prepare. We took action consistent with the latter recommendation in the Interpretive Memo, and we are taking action consistent with the former recommendation in this rule (although the threshold for modifications we are adopting is higher, for reasons explained previously). We are finalizing Steps 1 and 2 using the threshold-based approach, which applies the various legal doctrines, in the context of the *Chevron* framework, in a way that effectively exempts all small sources during this part of the phase-in, while assuring the administrability of the permitting programs for the sources that remain subject to them. We anticipate that virtually all small businesses not already subject to PSD and title V would be excluded under this approach. Similarly, with respect to high GWP gases as discussed previously, we are maintaining the statutory mass-based threshold, and this should address commenters' concerns regarding the inclusion of those gases. Therefore, we reiterate that we are not finalizing any such exclusions in this rule and, as noted above, we are not taking final action in the commenters' requests for exclusions.

Concerning the comment that we did not take appropriate economic and environmental considerations into account for this rulemaking action, we disagree. The approach we finalize in this notice for Steps 1 and 2 minimizes economic burdens by limiting permitting to the largest GHG emission sources. We further note that the PSD program as applied to the sources that are covered in Steps 1 and 2 contains an express requirement to take energy, environmental, and economic considerations into account when making control technology (*i.e.*, BACT) decisions and accordingly many of the concerns about control costs will be able to be accounted for in that analysis.

Biomass Combustion/Biogenic Emissions. Several commenters request that EPA exempt emissions from biogenic activities or biomass combustion or oxidation activities, including solid waste landfills, waste-to-energy projects, fermentation processes, combustion of renewable fuels, ethanol manufacturing, biodiesel production, and other alternative energy production that uses biomass feedstocks (*e.g.*, crops or trees). For example, commenters urged that EPA exclude emissions from biomass combustion in determining the applicability of PSD to GHGs based on the notion that such combustion is "carbon neutral" (*i.e.*, that combustion or oxidation of such materials would cause no net increase in GHG emissions on a lifecycle basis). Some commenters oppose the exemption of biogenic/biomass activities, claiming the lack of a valid scientific basis for treating these GHG emissions differently than other GHG emissions and expressing concern that we should not assume all biomass combustion is carbon neutral.

The proposed Tailoring Rule did not address this issue of exemptions for biomass combustion or biogenic emissions. We are mindful of the role that biomass or biogenic fuels and feedstocks could play in reducing ***31591** anthropogenic GHG emissions, and we do not dispute the commenters' observations that many state, federal, and international rules and policies treat biogenic and fossil sources of CO_2 emissions differently. We note that EPA's technical support document for the endangerment finding final rule (Docket ID No. EPA-HQ-OAR-2009-0472-11292) states that "carbon dioxide has a very different life cycle compared to the other GHGs, which have well-defined lifetimes. Instead, unlike the other gases, CO_2 is not destroyed by chemical, photolytic, or other reaction mechanisms, but rather the carbon in CO_2 cycles between different reservoirs in the atmosphere, ocean, land vegetation, soils, and sediments. There are large exchanges between these reservoirs, which are approximately balanced such that the net source or sink is near zero."

Nevertheless, we have determined that our application of the "absurd results," "administrative necessity," and one-step-at-a-time legal rationales that support this rule, which are based on the overwhelming permitting burdens described previously, does not provide sufficient basis to exclude emissions of CO_2 from biogenic sources in determining permitting applicability provisions at this time. This is because such an exclusion alone, while reducing burdens for some sources, would not address the overwhelming permitting burdens described above, and a threshold-based approach would still be needed. As noted above, we have not examined burdens with respect to specific categories and thus we have not analyzed the administrative burden of permitting projects that specifically involve biogenic CO_2—emissions taking account of the threshold-based approach, nor did the commenters provide information to demonstrate that an overwhelming permitting burden would still exist, justifying a temporary exclusion for biomass sources.

At the same time, the decision not to provide this type of an exclusion at this time does not foreclose EPA's ability to either (1) provide this type of an exclusion at a later time when we have additional information about overwhelming permitting burdens due to biomass sources, or (2) provide another type of exclusion or other treatment based on some other rationale. Although we do not take a final position here, we believe that some commenters' observations about a different treatment of biomass combustion warrant further exploration as a possible rationale. Therefore, although we did not propose any sort of permanent exclusion from PSD or title V applicability based on lifecycle considerations of biogenic CO_2, we plan to seek further comment on how we might address emissions of biogenic carbon dioxide under the PSD and title V programs through a future action, such as a separate Advance Notice of Proposed Rulemaking (ANPR). This action would seek comment on how to address biogenic carbon under PSD and title V, the legal and policy issues raised by options regarding implementation. We will provide an opportunity for public comment before adopting any final approach.

We further note that, while we are not promulgating an applicability exclusion for biogenic emissions and biomass fuels or feedstocks, there is flexibility to apply the existing regulations and policies regarding BACT in ways that take into account their lifecycle effects on GHG concentrations. This topic has already been explored by the CAAAC workgroup on BACT issues related to GHGs that recently provided recommendations to EPA. These recommendations are located in the public docket for this rulemaking and at *http://www.epa.gov/air/caaac/climate/2010—02—InterimPhaseIReport.pdf.* While that group was unable to come to a consensus on how biomass-based emissions should be treated, it provided us with information that we will consider as we issue guidance on BACT. As previously discussed, we plan to issue BACT guidance later this year, but are not doing so as part of this rulemaking. Without prejudging the outcome of our process to seek comment whether and how we might address emissions of biogenic carbon under the PSD and title V programs through a future action, this issue warrants further exploration in the BACT context as well, and we plan to fully explore it and take action if appropriate.

Fugitive Emissions. Numerous commenters believe that fugitive GHG emissions should be excluded from major source determinations, citing difficulties in measuring or estimating such emissions. Others believe EPA did not address fugitive emissions in the proposal and they ask for clarification of the treatment of fugitive GHGs in applicability determinations under PSD and title V. Some of these commenters state that EPA has not undertaken a rulemaking under CAA section 302(j) for any source category of fugitive GHGs, so they should not be included. Several commenters representing the solid waste disposal industry requested exemptions for fugitive emissions for landfills and waste-to-energy projects, pointing out that current practice under PSD is for fugitive emissions from certain landfills to not be counted toward major source determinations.

In the proposal, EPA did not offer any specific guidance or discuss exemptions for fugitive emissions of GHGs. Commenters did not suggest that a fugitive exemption would address the overwhelming permitting burdens described previously, or that it was necessary to specifically tailor GHG applicability through the use of a fugitive emissions exclusion for categories that would otherwise be required to include them.

We do agree with commenters who stated that we should clarify how to count fugitives in determining applicability under this rule. In response, we note that we are not taking final action with respect to commenters' request, and we are not finalizing any special rules for fugitive emissions related to GHG. Thus, EPA's rules related to the treatment of fugitives would apply. Regarding the comment that a CAA section 302(j) rulemaking is required before fugitive emissions may be counted, we disagree. As we read section 302(j), once EPA has established by rule that fugitive emissions are to be counted for a specific source category, nothing in section 302(j) requires EPA to conduct new rulemaking to allow for the counting of additional pollutants from that category. We read section 302(j) as imposing an obligation to determine if fugitive emission generally should be counted from a source or source category and not requiring that EPA list both source categories and relevant pollutants. Indeed, our practice in listing categories has not been to limit the pollutants to which the listing applies. Therefore, we are applying our existing rules and policies for fugitive emissions for GHG as we would any other pollutant.

Pollution Control Projects. Other commenters request exemptions for pollution control projects from PSD major modification requirements, particularly projects that increase the efficiency or thermal performance of a unit or facility, resulting in emission reductions on a pounds/megawatt-hour or production basis. The current PSD rules do not exclude pollution control projects from being considered a physical change or change in the method of operation that would—if it resulted in a significant net emissions increase—constitute a major modification, and the case law makes clear that we could adopt a permanent exclusion in the future.[58] To the extent ***31592** that the commenters seek an exclusion for pollution control projects that relies solely on "absurd results" or "administrative necessity" for reasons similar to those described previously for other requested exclusions, we take no action on this request in this rulemaking.

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[58] On June 24, 2005, the United States Court of Appeals for the District of Columbia Circuit vacated the portions of the 2002 and 1992 NSR rules that pertained to pollution control projects, among other provisions. In response to this Court action, on June 5, 2007, EPA removed these provisions from the NSR regulations. (*See* 72 FR 32526). These provisions were added as part of EPA's NSR improvement rule that was issued on December 31, 2002.

4. Transitional Issues Including Requests for Grandfathering

In the Tailoring Rule proposal, we did not discuss or specifically ask for comment on any provisions to address the transition from a permitting regime that does not incorporate GHGs to one that does, such as "grandfathering" provisions or similar approaches that would exempt previously issued permits or pending applications from having to incorporate requirements for GHGs. We nonetheless received several public comments that addressed a variety of transitional issues. One group of comments addresses situations prior to permit issuance where a PSD or title V application is either administratively complete or more generally being processed prior to the trigger date for GHG permitting ("in process" applications). Another group of comments addresses situations where a PSD or title V permit is issued prior to the GHG trigger date and the commenters request that the application and/or permit be exempt from any requirements for updates related to GHGs after permit issuance.

With respect to PSD, many commenters requested that we adopt a "grandfathering" approach to applicability to exempt projects that have administratively complete PSD or minor NSR permit applications pending when the GHG permitting requirements go into effect. Several commenters urged us to promulgate transition provisions (without specifically using the term "grandfathering"), pointing out that we have provided transition periods for revising pending PSD permits, in the past, when new PSD rules were issued (*e.g.*, in late 1970s and 1980). These commenters assert that GHG requirements will cause more disruption than those previous rule changes. Several commenters asked that PSD applications be evaluated on the basis of the PSD requirements effective when the application is submitted and if submitted prior to the trigger date, then the application and permit would not need to address GHGs. Several commenters also asked that PSD sources with a valid permit that commences construction within 18 months of the trigger date not be required to seek a revised PSD permit for GHGs. Similarly, several commenters asked that PSD permits issued prior to the GHG trigger date not be required to be reopened only for the purpose of addressing GHG emissions. Additional commenters asked that we clarify that sources or projects not be required to obtain PSD permits if they obtained a determination that PSD did not apply (a "non-applicability" determination) prior to the GHG trigger date. Finally, many commenters also requested "grandfathering" for title V so that existing title V applications and permits do not need to be amended, revised, or resubmitted to address GHGs after they become "subject to regulation." Other commenters asked that transition provisions for title V be provided in the final action that would be similar to those requested for PSD.

We partially addressed transitional issues for PSD permitting in our April 2, 2010 final action on reconsideration of the Interpretive Memo. 75 FR 17021. This action addressed the applicability of PSD permitting requirements for GHGs to pending

PSD permit applications that were (or will be) submitted prior to January 2, 2011 based on emissions of pollutants other than GHGs. However, we have not yet addressed the questions raised by public comments concerning sources that obtain PSD permits, minor NSR permits, or determinations that no such permits are needed prior to the Step 1 period set forth in this rule. We have also not yet addressed questions about the applicability of PSD permitting requirements for sources that are not currently required to submit an application for a PSD permit but that could be required to do so in Step 2 of the phase-in established in this action. In addition, our April 2, 2010 action did not address transitional issues concerning the application of the title V provisions to GHGs.

a. Transition for PSD Permit Applications Pending When Step 1 Begins

In our action on April 2, 2010, EPA explained that the Agency did not see grounds to establish a transition provision for pending PSD permit applications because we had determined that PSD permitting requirements would not apply for GHGs for another 9 months. We explained that permit applications submitted prior to April 2, 2010 should in most cases be issued prior to January 2, 2011 and, thus, effectively have a transition period of 9 months to complete processing before PSD requirements become applicable to GHGs. We also observed that, in the case of any PSD permit application review that cannot otherwise be completed within the next 9 months based on the requirements for pollutants other than GHGs, it should be feasible for permitting authorities to begin incorporating GHG considerations into permit reviews in parallel with the completion of work on other pollutants without adding delay to permit processing. Additional discussion of EPA's reasons for not developing transition provisions for PSD permit applications that are pending on January 2, 2011 are provided in the April 2, 2010 notice. 75 FR 17021-22.

For these same reasons, we continue to feel that a transition period is not warranted to incorporate GHG requirements into any PSD permit applications that are pending when Step 1 of the permitting phase-in begins for those sources that would otherwise need to obtain a PSD permit based on emissions of pollutants other than GHGs. Thus, this action makes no change to the position we expressed on this particular issue in the April 2, 2010 notice. In this final rule on tailoring the PSD program to address GHGs, we have determined that the additional burden of incorporating GHG requirements into PSD permits for the sources already required to obtain such permits is manageable in the Step 1 period. Thus, this rule has added no additional requirements or limitations that would justify deferring the establishment of pollution controls for this category of GHG sources once PSD permitting requirements are initially triggered for GHGs.

While we do not provide for grandfathering of PSD applications, we do note that there are more than 7 months left before GHG BACT requirements will be triggered at anyway sources for projects that increase GHG emissions by more than 75,000 tpy CO_2e and more than a year before the requirements would be triggered at sources solely because of emissions of

GHGs (more than 100,000 tpy of CO_2e). We intend to work constructively and affirmatively with permitting authorities to use this time to ensure expeditious processing of pending permits and to further assure that the triggering of BACT requirements at such sources will not result in adverse impacts on pending projects. We have separately described our plans to expeditiously issue GHG ***31593** BACT guidance, but we understand that for pending projects that will be permitted soon after January 2, 2011, an opportunity for earlier engagement with EPA on BACT issues would be beneficial for permitting authorities to issue these permits without delay.

Therefore, following the issuance of this rule, we will contact permitting authorities that have pending PSD permit applications to identify those applications with a reasonable likelihood that final issuance will occur after January 2, 2011, and therefore will be required to contain GHG BACT limits. We will then work closely with those permit agencies to provide technical, legal, or policy assistance to help prepare BACT analysis and provide additional support as necessary to expedite permitting for those pending applications. Similarly, when EPA is the permitting authority, we will provide assistance to applicants with pending permits to ensure that GHG permitting decisions are made promptly, and that administrative processes move forward expeditiously.

b. PSD Permits Issued Prior to Step 1

EPA has not historically required PSD permits to be updated or reopened after they are issued in the absence of an action by the applicant to change the physical or operational characteristics of the source described in the permit application. EPA's PSD permitting regulations contain no provisions that address the modification or amendment of a PSD permit or require a PSD permit to be reopened or modified on the basis of new PSD permitting requirements that take effect after the final permit is issued. Since PSD permits are construction permits, EPA has not required updates to PSD permits in the same manner as is typically required for operating permits that incorporate a variety of applicable requirements (such as title V permits and National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act). In addition, unlike operating permits, PSD permits are not required to be renewed. However, if construction under a PSD permit is not commenced in a timely manner or is discontinued for an extended period, a PSD permit may expire if an extension is not requested or justified. *See* 40 CFR 52.21(r)(2); 40 CFR 124.5(g).

With respect to the application of PSD permitting requirements for GHGs beginning on January 2, 2011, we do not see any cause to deviate from our historical practice of not requiring PSD permits to be reopened or amended to incorporate requirements that take effect after the permit is issued. Thus, we are not promulgating any new rules or requirements pertaining to PSD permits issued prior to Step 1 of the phase-in described in this rule. There is no mandatory requirement to reopen a previously issued PSD permit to incorporate GHG requirements that were not applicable at the time the permit was issued.

A major source that obtains a PSD permit prior to January 2, 2011 will not be required under EPA regulations to reopen or revise the PSD permit to address GHGs in order for such a source to begin or continue construction authorized under the permit. Our current PSD permitting regulations provide that "[n]o new major stationary source or major modification to which the requirements of paragraphs (j) through (r)(5) of this section apply shall begin actual construction without a permit that states the major stationary source or major modification will meet those requirements." 40 CFR 51.166(a)(7)(iii); 40 CFR 52.21(a)(2)(iii). The term "begin actual construction" generally means "initiation of physical onsite construction activities on an emissions unit which are of a permanent nature" and includes activities such as "installation of building supports and foundations, laying underground pipework and construction of permanent storage structures." 40 CFR 51.166(b)(11); 40 CFR 52.21(b)(11). A source that begins actual construction authorized under a PSD permit prior to January 2, 2011 will not be in violation of the prohibition described previously if it continues construction after that date. This portion of the regulation precludes only beginning construction without the appropriate preconstruction permit and does not require a permit to be updated to continue actual construction that has already begun.

Furthermore, a source that is authorized to construct under a PSD permit but has not yet begun actual construction on January 2, 2011 may still begin actual construction after that date without having to amend the previously-issued PSD permit to incorporate GHG requirements. Sections 51.166(a)(7)(iii) and 52.21(a)(2)(iii) require "a permit that states that the major stationary source or major modification will meet those requirement," which refers to the "requirements in paragraphs (j) through (r)(5)" referenced earlier in those provisions. EPA construes this language to describe a permit that meets the requirements of paragraph (j) through (r)(5) that are in effect at the time the permit is issued. Permitting and licensing decisions of regulatory agencies must generally reflect the law in effect at the time the agency makes a final determination on a pending application. *See Ziffrin* v. *United States*, 318 U.S. 73, 78 (1943); *State of Alabama* v. *EPA*, 557 F.2d 1101, 1110 (5th Cir. 1977); *In re: Dominion Energy Brayton Point, LLC*, 12 E.A.D. 490, 614-616 (EAB 2006); *In re Phelps Dodge Corp.*, 10 E.A.D. 460, 478 n. 10 (EAB 2002).

Thus, a source may begin actual construction on or after January 2, 2011 under a PSD permit that authorized construction to begin prior to January 2, 2011 because such a permit states that the source will meet the requirements of paragraphs (j) through (r)(5) of these regulations (or state equivalents) that were in effect at the time the permit was issued. However, this would not be the case if the permit has expired because the applicant has discontinued construction or failed to commence construction by the necessary date. *See* 40 CFR 52.21(r)(2).

This approach is consistent with EPA's practice when the preconstruction permitting requirements change by virtue of the designation of an area as a nonattainment area after a PSD permit is issued. In transitional guidance issued by EPA in 1991, EPA explained that "the area designation in effect on the date of permit issuance by the reviewing agency determines which regulations (part C or D) apply to that permit." Memorandum from John S. Seitz, Director OAQPS, New Source Review (NSR) Program Transitional Guidance, page 6 (March 11, 1991). This memorandum explained further that "where a source receives a PSD or other permit prior to the date the area is designated as nonattainment, the permit remains in effect" as long as the source meets the conditions necessary to prevent the permit from expiring. *Id.* at 6.

This approach does not apply if the source engages in a major modification after January 2, 2011 that is not authorized by the previously issued permit. Once Step 1 of the phase-in begins, if the PSD requirements for GHGs are applicable to a previously-permitted source that engages in a major modification not covered by the permit, such a source will need to obtain a new PSD permit to authorize the modification and that permit may need to include GHG requirements depending on the level of increase in GHGs that results from the modification.

c. Additional Sources for Which PSD Applies in Step 2

In light of the terms of existing PSD regulations and the lead time provided in this action for sources that will first ***31594** become subject to PSD permitting in Step 2, we do not believe there is presently a need to establish transition provisions for sources that will be required to obtain PSD permits for the first time in Step 2 of the phase-in. As described previously, under our current PSD permitting regulations, a new major stationary source or major modification may not begin actual construction without a PSD permit that meets the applicable preconstruction permitting requirements. 40 CFR 51.166(a)(7)(iii); 40 CFR 52.21(a)(2)(iii).

Since a permit must be obtained before a major source may begin actual construction, the major source preconstruction permitting requirements in 40 CFR 51.166 and 52.21 of the regulation do not generally apply to a source that begins actual construction at a time when it was not a major source required to obtain a PSD permit. One exception, however, is the unique circumstance when a source becomes a major source solely by virtue of the relaxation of an enforceable limitation on the source's PTE. 40 CFR 51.166(r)(2); 40 CFR 52.21(r)(4). But absent these circumstances, PSD preconstruction permitting requirements do not generally preclude a source from continuing actual construction that began before the source was a source required to obtain a PSD permit. Thus, a source that began actual construction under the authorization of any previously required minor source or state construction permit is not required to meet any PSD preconstruction permitting requirement that becomes applicable after actual construction begins unless the source engages in a major modification after PSD permitting requirements are applicable. Likewise, a PSD permit is not required after a source begins actual construction based on a valid determination (by the source or the permitting authority) that the source need not obtain either a major PSD permitting requirements or and minor NSR permit. Based on these provisions in existing regulations, EPA will not require any sources to which PSD permitting requirements begin to apply in Step 2 to obtain a

PSD permit to continue construction that actually begins before Step 2 begins.

However, we will expect Step 2 sources that begin actual construction in Step 2 (*i.e.*, beginning July 1, 2011) to do so only after obtaining a PSD permit in accordance with 40 CFR 52.21 or 51.166, or any applicable state regulation that meets the requirements of 40 CFR 51.166. We recognize the potential for the triggering of Step 2 to result in a change in status where a project may legally have begun actual construction before Step 2 but did not do so and would then need a PSD permit. However we also note that we are providing over a year of lead time before PSD permitting requirements become applicable to Step 2 sources. If projects would be adversely affected by this change in status, this lead time affords an opportunity for sources planning such projects to secure appropriate minor NSR permits (which generally take less than a year to issue), non-applicability determinations, etc. in time to avoid such a change in status. If a new or modified source that would become newly subject to PSD in Step 2 plans to begin actual construction before Step 2, it has more than a year to obtain the applicable preconstruction approvals and begin actual construction. Likewise, a Step 2 source that does not anticipate the ability to begin actual construction before Step 2 begins should have enough lead time to submit a PSD permit application and obtain the necessary permit without significantly delaying the project further. Therefore, we do not think it is necessary or appropriate to promulgate a transition provision that would exempt Step 2 sources from PSD permitting requirements that will apply based on construction that begins after Step 2 takes effect.

This approach for Step 2 sources that have obtained a minor source construction permit or non-applicability determination differs from the approach described previously for source that obtained a PSD permit prior to Step 1. As described previously, a Step 1 source that is authorized to begin actual construction before January 2, 2011 under a previously-issued PSD permit may begin actual construction under that permit after January 2, 2011 without modifying the PSD permit to address GHGs. However, a Step 2 source that was not required to obtain a PSD permit before Step 2 begins would need to obtain a PSD permit addressing GHGs if it has not yet begun actual construction prior to Step 2, even if the source had obtained any preconstruction approvals that were necessary to authorize construction prior to Step 2. This is because such a Step 2 source that begins actual construction after Step 2 would likely be doing so without having any permit meeting the requirements of paragraphs (j) through (r)(5) of 40 CFR 52.21 or 51.166, or a state equivalent. A source that has obtained only a minor source permit prior to Step 2 but that begins actual construction after July 1, 2011 would violate the requirements of 40 CFR 52.21(a)(2)(iii) or 51.166(a)(7)(iii), or a state equivalent, unless the source took care to ensure that it was authorized to construct under a PSD permit or could demonstrate that the source's minor source construction permit makes clear that requirement of paragraphs (j) through (r)(5) of 40 CFR 52.21 or 51.166, or a state equivalent, would be met by the source even though such a permit was not nominally a PSD permit. This difference in approach for non-PSD sources is driven by the terms of 40 CFR 52.21(a)(2)(iii) and 51.166(a)(7)(iii). Since we have not provided any prior notice that we might be considering revisions to 40 CFR 52.21 and 51.166 to address this topic, we are unable to revise the regulations in this action to achieve the same result for non-PSD sources as for PSD sources. Furthermore, at the present time, we see no indication that this difference in approach is unreasonable since non-PSD sources will not trigger permitting for GHG until Step 2 (only anyway PSD source trigger in Step 1). Thus sources will have until July 1, 2011, an additional 6 months of lead time (for a total of more than 14 months), to prepare for the transition described here. Nevertheless, we recognize that the transition to the increased coverage of new sources and modifications that occurs in July will represent an unusual occurrence that may have unanticipated impacts. For this reason it is important to note that nothing in this rule forecloses our ability to further address such impacts, as necessary, by adopting rule changes or using other available tools.

EPA has previously promulgated exemptions that have authorized some sources that were not previously subject to the PSD regulations to commence construction on the basis of minor source permits after the date new PSD requirements have took effect in 1978 and 1980. *See, e.g.*, 40 CFR 52.21(i)(1)(iv)-(v). There is a notable distinction between these provisions, which use the term "commence construction," and the terms of 40 CFR 52.21(a)(2)(iii) and 51.166(a)(7)(iii), which use the term "begin actual construction." "Commence construction" is defined more broadly than "begin actual construction" to include obtaining all necessarily preconstruction approvals and either beginning actual on-site construction or entering into binding contracts to undertake a program of actual construction. 40 CFR 52.21(b)(9); 40 CFR 51.166(b)(9). The term "commence construction" is also defined in the CAA. 42 U.S.C. 7479(2)(A). Among ***31595** other purposes, the term "commence construction" is generally used in the Act and EPA regulations to distinguish construction activities that are exempt from new PSD permitting requirements from those that are not. *See, e.g.*, 42 U.S.C. 7475(a); 40 CFR 52.21(i)(1)(i)-(v). In the absence an explicit exemption in the CAA or the PSD regulations that uses the term "commence construction," we do not believe we can use the date a source "commences construction" under a minor source construction permit approval as a demarcation point for Step 2 sources that may continue ongoing construction activities without having to obtain a PSD permit based on emissions of GHGs. Since we did not provide prior notice of an intention to adopt transition provisions applicable to this situation, we are unable to adopt such an exemption in this action that applies the term commence construction in this context. Consequently, the approach described previously applies the term "begin actual construction" based on the language in 40 CFR 52.21(a)(2)(iii) and 51.166(a)(7)(iii).

d. Transitional Issues for Title V Permitting

Since the title V permitting regulations already include a robust set of provisions to address the incorporation of new applicable requirements and other transitional considerations, we do not see grounds to establish unique transition or grandfathering provisions for GHGs in this action.

Furthermore, since the purpose of title V is to collect all regulatory requirements applicable to a source and ensure compliance, we do not believe special exemptions for GHG requirements are likely to be justified. The existing title V rules do not provide any exemptions that relieve the obligation to incorporate all applicable requirements into a title V permit. However, the title V regulations contain numerous provisions that allow a reasonable period of time for incorporating new applicable requirements or applying for a title V permit that was not previously required. Transitional issues for incorporation of GHG requirements into title V permitting generally involve questions in the following categories: (1) Permit application requirements for sources not previously subject to title V that will become subject to title V requirements in Step 2 of the phase-in; (2) the need for updates or amendments to title V permit applications that are pending when GHGs become subject to regulation in Step 1 of the phase-in; and (3) the incorporation of new applicable requirements for GHGs into existing permits for sources currently subject to title V.

With respect to the first category, a title V source applying for the first time must submit its permit application within 12 months after the source "becomes subject to the [operating] permit program" or such earlier time that the permitting authority may require (*see* 40 CFR 70.5(a)(1)). Sources not otherwise subject to title V can become major sources subject to title V due to emissions of GHG no sooner than July 1, 2011. If a source becomes "subject to the [operating] permit program" on July 1, 2011, then its permit application under the title V operating permit program would typically have to be submitted no later than July 1, 2012.

There are also existing regulations relevant for the second category of GHG transition issues, where sources currently subject to title V have title V permit applications pending with a permitting authority as of January 2, 2011. Where additional applicable requirements become applicable to a source after it submits its application, but prior to release of a draft permit, the source is obligated to supplement its permit application. *See* 40 CFR 70.5(b); 71.5(b). Furthermore, title V permits are generally required to contain provisions to assure compliance with all applicable requirements at the time of permit issuance. *See* CAA section 504(a); 40 CFR 70.6(a)(1) and 71.6(a)(1). If a permitting authority determines that additional information is necessary to evaluate or take final action on an application (*e.g.*, because of uncertainty over whether a draft permit assures compliance with all applicable requirements), it may, and should, request additional information from the source in writing and set a reasonable deadline for a response. *See* 40 CFR 70.5(a)(2); 71.5(a)(2).

Likewise, the existing title V regulations provide sufficient transition for the third category of issues, where a source has additional GHG-related applicable requirements (such as the terms of a PSD permit) that must be incorporated into its existing title V permit. Where a source is required to obtain a PSD permit, the source must apply for a title V permit or permit revision within 12 months of commencing operation or on or before such earlier date as the permitting authority may establish (or prior to commencing operation if an existing title V permit would prohibit the construction or change in operation). *See* 40 CFR 70.5(a)(1)(ii); 71.5(a)(1)(ii); *see also* 40 CFR 70.7(d) and (e); 71.7(d) and (e) (permit modifications). In addition, where a source becomes subject to additional applicable requirements, the permitting authority is required to reopen the permit to add those applicable requirements if the permit term has three or more years remaining and the applicable requirements will be in effect prior to the date the permit is due to expire. *See* 40 CFR 70.7(f)(1)(i); 71.7(f)(1)(i).

Finally, EPA notes that the existing title V regulations require sources to furnish permitting authorities, within a reasonable time, any information the permitting authority may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, and for other reasons, and further provide that permitting authorities shall reopen and revise permits if EPA or the permitting authority determine that the permit must be revised or revoked to assure compliance with applicable requirements. *See* 40 CFR 70.6(a)(6)(v); 71.6(a)(6)(v) and 70.7(f)(1)(iv); 71.7(f)(1)(iv).

Thus, EPA believes that the existing title V regulations provide an adequate regulatory framework for managing the transition to incorporating GHG requirements in title V permits and additional specific exemptions or transition rules for title V are not currently warranted.

VI. What are the economic impacts of the final rule?

This section of the preamble examines the economic impacts of the final rule including the expected benefits and costs for affected sources and permitting authorities. The final rule uses a phased-in approach for requiring sources of GHG emissions to comply with title V operating permit and PSD statutory requirements, essentially lifting this burden for the phase-in period for a large number of smaller sources of GHG. Thus, this rule provides regulatory relief rather than regulatory requirements for these smaller GHG sources. For larger sources of GHGs that will be required to obtain title V permits and/or comply on PSD requirements, there are no direct economic burdens or costs as a result of this final rule, because these requirements are not imposed as a result of this rulemaking. Statutory requirements to obtain a title V operating permit or to adhere to PSD requirements are already mandated by the CAA and by existing rules, not by this rule. Similarly, this rule will impose costs to society in the form of foregone environmental benefits resulting from GHG emission reductions that, absent this rule, might otherwise ***31596** have occurred at sources deferred from permitting during the phase-in period.

The RIA conducted for this final rule provides details of the benefits or regulatory relief that smaller GHG sources will experience in terms of costs avoided as a result of this final rule and the potential for social costs in terms of foregone environmental benefits during this 6-year period. Complete details of the RIA conducted for this final rule may be found in the document "Regulatory Impact Analysis for the

Final Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule," in the docket for this rulemaking.

This rulemaking provides permitting thresholds for sources of GHG that exceed levels contained in the CAA, and these levels are phased-in steps based upon application of the "administrative necessity" and "absurd results" doctrines as explained in section V.B. For Step 1, which is effective from January 2, 2011, through June 30, 2011, only sources required to undergo title V or PSD permitting based upon non-GHG air pollutants are required to obtain an operating permit or PSD permit to include GHG emissions (referred to as the "anyway" threshold). Step 2, effective from July 1, 2011, until such time as EPA acts on a rule to amend it (which for reasons described previously, we assume is June 30, 2013, for the purposes of this analysis), will phase in title V permit requirements for larger sources emitting GHG above 100,000 tpy CO_2e (if they do not already have one) and phase in for such sources, PSD requirements when they are newly constructed or modify in a way that increases emissions by more than a 75,000 tpy CO_2e significance level. Step 2 is referred to as the 100,000 tpy CO_2e threshold. Thereafter, EPA makes an enforceable commitment to consider a possible Step 3 to further lower thresholds below 100,000 tpy CO_2e and/or permanently exclude some sources from the program(s), but only after a regulatory process is conducted addressing "administrative necessity" and "absurd results" considerations based upon the actual permitting experiences in the first two steps of the phase-in. In addition, EPA provides a deferral of permitting until we take required action in April 2016 for sources and modifications that emit below 50,000 tpy CO_2e. The deferral will end when a required study is conducted of the permitting process for sources of GHG and EPA acts, based on the study, to promulgate a rule that describes the additional GHG permitting requirements beyond 2016. In the 6 years following promulgation of this rule, the EPA estimates that compared to baseline estimates that do not include the effects of this rule, over six million sources of GHG emissions in total will be allowed to continue to operate without a title V operating permit. During this period, tens of thousands of new sources or modifying sources each year will not be subject to PSD requirements for GHG. For this large number of smaller sources, this rule alleviates the regulatory burden associated with obtaining an operating or PSD permit or complying with NSR BACT requirements. Therefore, this final action may be considered beneficial to these small sources because it provides relief from regulation that would otherwise be required.

This decision does potentially have environmental consequences in the form of higher emissions during the 6-year period of time (generally because emissions increases would have been lower if BACT were applied). These consequences are limited due to the fact that sources between 100/250 and 100,000 tpy CO_2e account for an estimated 11 percent of the six directly emitted GHG nationally from industrial, commercial, and residential source categories, while representing over 95 percent of the total number of sources potentially requiring an operating or PSD permit for GHG under current permitting thresholds in the CAA. Moreover, requiring such a large number of small sources to obtain permits for the first time would overtax the permitting authorities' abilities to process new permits and would therefore interfere with any such benefits actually being achieved. Moreover, reductions from these small sources will still be occurring, notwithstanding the fact that permitting requirements would not apply to them. These smaller sources of GHGs will be the focus of voluntary emission reduction programs and energy efficiency measures that lead to reductions in GHGs. We will also reevaluate this decision after a 6-year period and complete a study of the implications for those sources and permitting authorities of permitting smaller GHG sources beyond 2016.

In reaching the preceding decisions for this final rule, we carefully considered comments received on the Tailoring Rule proposal. We received several comments specifically on our description of the impacts of this rule. Most of these comments disagreed with our assertion that the rule is a "relief" rule. Others assert that we should have prepared a more comprehensive RIA than prepared for the rule proposal. Those commenting contend: (1) We understated the burdens of the rule while overstating its relief at proposal; (2) we erroneously omitted the impacts for "larger sources" of GHGs from the proposal RIA and should have recognized the burden to "larger sources" due to other GHG actions; (3) the economic impacts the rule will have on industry and the U.S. economy and society in general will be burdensome, especially given the current state of the economy; and (4) we need to propose a full RIA or a complete estimation of impacts to comply with CAA section 307(d) and the APA.

EPA has carefully considered the comments addressing the issue of whether the Tailoring Rule is a regulatory "relief rule," and we are not persuaded that we erred in concluding that the effect of the Tailoring Rule is to provide regulatory relief to a large number of sources of GHG for a period of up to 6 years. This final rule will provide relief from title V permitting to over 6 million sources of GHG in this country. Likewise tens of thousands of sources potentially subject to PSD permitting requirements annually for GHG will have regulation postponed for a period of up to 6 years under this rule, followed by an additional required rule addressing the period beyond 6 years. While larger sources of GHG may be required to obtain title V permits or modify existing permits and to comply with PSD requirements, these burdens result not from the Tailoring Rule but rather from the CAA requirements to apply PSD and title V to each pollutant subject to regulation, which are triggered when the LDVR takes effect. To clearly illustrate this, consider what would occur if EPA did not complete the Tailoring Rule. Sources would not be relieved of the requirement to obtain permits addressing each pollutant subject to regulation when they construct or modify, nor would they be relieved of their obligation to obtain title V permits. Instead, these requirements would simply apply to a much larger population of sources and modifications, and would lead to the absurd results and severe impairment to program implementation that this rule is designed to address.

In response to comments asserting that the RIA completed for proposal of this rulemaking: (1) Understated the burdens of the rule and overstated the benefits, (2) did not fully recognize the rule will be burdensome, especially given the current state of the economy; and (3) does not consider a complete estimation of impacts to comply with the APA and CAA section 307(d) and needs to correct flawed or erroneous ***31597** assumptions, EPA did make improvements and modifications to the RIA completed for this final rule. Based upon comments, EPA modified estimates of the number of sources affected at various threshold levels upward. EPA also improved the burden estimates associated with obtaining permits for sources and permitting authorities.

After consideration of the burden imposed by the proposed rule with these improved estimates for affected sources, the EPA modified the steps of the phase-in period to include two initial steps, described in section V, that are higher, and therefore cover fewer sources and are less burdensome than the proposal threshold of 25,000 tpy CO_2e emissions. EPA also increased the threshold below which permitting would not apply for 6 years from 25,000 to 50,000 tpy CO_2e. After the initial two step period, EPA has committed to consider lower thresholds but only down to 50,000 tpy CO_2e, and only after a regulatory process that uses information gathered on actual permitting activity during the first two steps of the phase-in period. The RIA conducted for the final rule also incorporates improvements in our estimates of the number of sources affected at alternative thresholds and improved estimates of the costs of obtaining permits by sources and processing permits by permitting authorities. The EPA acknowledges that the regulatory relief associated with the control costs due to BACT requirements for PSD new and modifying sources is not included in the

RIA for the final rule due to the lack of sufficient data about the nature of those requirements. However, it is the case that, as it relates to burden, those estimates would simply increase the amount of regulatory relief associated with this final rule.

Finally, with regard to comments that the RIA should have been a more comprehensive analysis to include the larger sources of GHG that will be required to obtain permits when GHG are regulated, the EPA maintains as previously explained that there are no direct economic burdens or costs as a result of this rule for these sources. Requirements for larger GHG sources to obtain title V or PSD permits are already mandated by the Act and by existing rules and are not imposed as a result of the Tailoring Rule. Thus the economic impacts for larger sources of GHG do not occur because of this Tailoring Rule. To include these larger sources in the RIA would actually be an inaccurate assessment of how this rule affects sources and would ignore the fact that this rule provides regulatory relief.

A. What entities are affected by this final rule?

As previously stated, this final rule does not itself result in the application of permitting requirements to any industrial, commercial, or residential entities. Entities affected by this rule are those who experience regulatory relief due to the higher thresholds and deferred applicability set forth in this rule. This action increases the threshold to obtain a title V and PSD permitting from statutory CAA levels using a phased-in step process as previously discussed. As Table VI-1 shows, this action lifts permitting requirements for over six million potential title V sources in total and tens of thousands of potential PSD new sources annually that would be otherwise required by the CAA to obtain permits. Under Step 1, over six million title V sources in total and approximately 20 thousand new PSD sources per year will not be required to obtain permits. Under Step 2, requiring sources over a 100,000 tpy CO_2e to obtain a permit, over six million title V sources in total and approximately 19.9 thousand new PSD sources per year will obtain regulatory relief. While the threshold approach differs for Steps 1 and 2 of the phase-in plan, the estimated number of sources affected does not differ greatly as shown in Table VI-1. Sectors experiencing this regulatory relief include electricity, industrial, energy, waste treatment, agriculture, commercial and residential.

TABLE VI-1—ESTIMATED NUMBER OF AFFECTED SOURCES EXPERIENCING REGULATORY RELIEF [1,2]

Sector	Number of sources experiencing regulatory relief			
	Step 1 [illegible]		Step 2 100,000 tpy	
	Title V	New PSD	Title V	New PSD
Electricity	[illegible]	[illegible]	[illegible]	[illegible]
Industrial	[illegible]	[illegible]	[illegible]	[illegible]
Energy	[illegible]	[illegible]	[illegible]	[illegible]
Waste Treatment	[illegible]	2	[illegible]	1
Agriculture	[illegible]	[illegible]	[illegible]	[illegible]
Commercial	[illegible]	[illegible]	[illegible]	[illegible]
Residential	[illegible]	[illegible]	[illegible]	[illegible]
Totals	[illegible]	[illegible]	[illegible]	[illegible]
% Reduction Overall [illegible]	[illegible]		[illegible]	

[illegible]

B. *What are the estimated annual benefits to sources due to regulatory relief from the statutory requirements?*

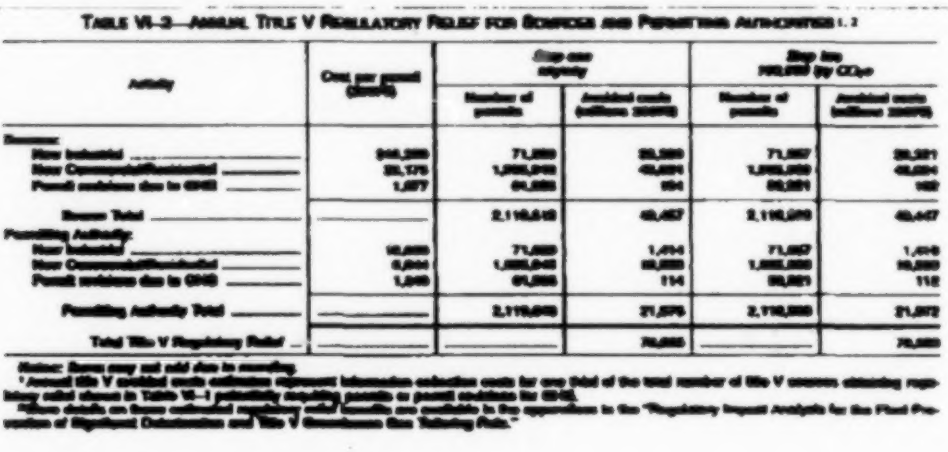
EPA estimated the annual benefits (avoided costs) to sources of GHG emissions and permitting authorities anticipated from this final rule. In addition, an accounting of the benefits from this action as measured by avoided permit processing costs for state, local, and tribal permitting authorities is provided. These benefits or avoided costs relate specifically to permit burden costs postponed for smaller sources of GHG emissions otherwise required to obtain an operating permit under title V or required to modify an existing permit to address GHG ***31598** emissions. Avoided costs shown also include permit burdens for additional PSD permits postponed for new or modifying smaller sources of GHG, as well as the avoided costs to state, local and tribal permitting authorities. We are providing an illustrative monetary estimate of statutory permitting requirements to show the magnitude of the savings that hypothetically result from this rulemaking. While we believe it is impossible to implement these permit requirements by January 2, 2011, for the reasons laid out in this preamble, it is useful to understand the scale of what the burden may have been. For sake of simplicity, we refer to this illustrative monetary estimate as the monetized benefits of the regulatory relief presented by this rulemaking or regulatory relief benefits for brevity.

These benefit estimates do not consider avoided emission control costs associated with PSD requirements for potential BACT requirements. Estimates for BACT are unavailable at this time because of the difficulty predicting the results of the BACT process as it would be applied to new pollutants and classes of sources for which there is no previous BACT experience on which to rely.

1. What are annual estimated benefits or avoided burden costs for title V permits?

Table VI-2 shows that the estimated annual title V benefits to sources and to permitting authorities in terms of avoided information collection cost resulting from this final action to be approximately \$70,535 million under Step 1 of the phase-in. These avoided costs become \$70,520 million annually under Step 2 of the phase-in where permitting is required for sources at or above the 100,000 tpy CO_2e threshold. Under the anyway threshold Step 1, approximately \$49,457 million in regulatory relief will accrue to sources and approximately \$21,078 million to permitting authorities annually in the form of avoided permit processing costs. With the 100,000 tpy CO_2e threshold for phase-in Step 2, these annual regulatory relief benefits are expected to be quite similar at \$49,447 million for sources of GHG emissions and \$21,072 million for permitting authorities. Industrial sources permitting costs are estimated to be \$46.4 thousand per permit for a new permit and \$1.7 thousand for a permit revision. The EPA estimates that over tens of thousands of industrial sources per year will avoid incurring these permitting costs under Steps 1 and 2 of the phase-in period. The cost for a permit for new commercial and residential sources is estimated to be \$23.2 thousand per permit with approximately 2 million of these permits avoided annually.

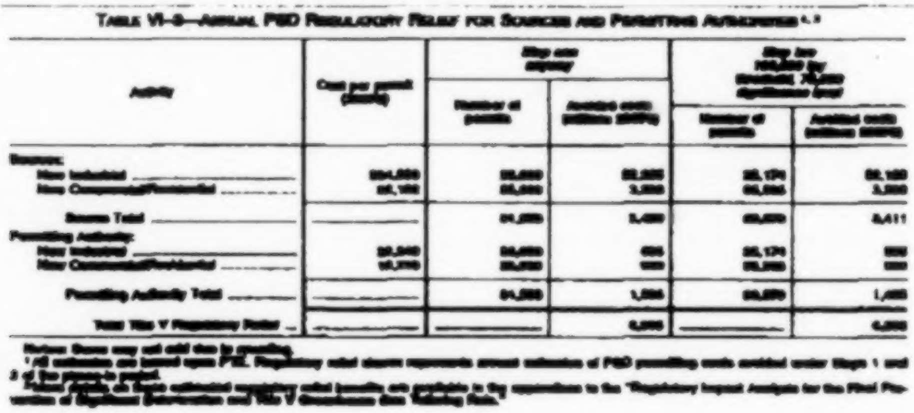
State, local, and tribal permitting authorities will also benefit in terms of avoided permitting administrative costs of over \$21 billion as a result of the decisions final in this action. For industrial sources, the cost for permitting authorities to process a new industrial title V permit is approximately $19.7 thousand per permit and $1.8 thousand for a permit revision. Similarly, permitting authority avoided permit processing costs are approximately $9.8 thousand per permit for a new commercial or residential title V permit. All estimates are stated in 2007 dollars.



2. What are annual benefits or avoided costs associated with NSR permitting regulatory relief?

Table VI-3 summarizes the estimated annual permit burden costs avoided by sources and permitting authorities for PSD permitting due to this Tailoring Rule. The benefits associated with avoided cost of compliance for BACT for these sources is not included in these estimates due to a lack of available data. The estimated avoided burden or reporting and recordkeeping cost that would occur absent this rule for new industrial sources to obtain permits is estimated to be $84.5 thousand for a modifying PSD industrial source and $59.2 thousand for a modifying commercial or multi-family residential source. New

PSD sources will also be required to obtain a title V permit increasing these costs to $130.9 thousand per permit for new industrial sources and to $82.3 thousand per permit for new commercial or multi-family residential sources. (Note the title V costs for these new PSD sources have been included in title V estimates shown in Table VI-2.) New and modifying sources avoid approximately $5.5 billion annually in PSD permitting costs with this rule under the phase-in Step 1 threshold. Under the phase-in Step 2, 100,000 tpy CO_2e threshold and 75,000 tpy CO_2e significance level, this avoided PSD permitting cost estimate ***31599** becomes $5.4 billion annually. State, local, and tribal permitting authorities are expected to avoid about $1.51 billion annually in administrative expenditures associated with postponing PSD program requirements for these GHG sources under Step 1 and $1.49 billion under Step 2. All estimates are shown in 2007 dollars.



[illegible]

[illegible]	[illegible]	[illegible]		[illegible]	
		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]		[illegible]

[illegible]

C. What are the economic impacts of this rulemaking?

This final rulemaking does not impose economic burdens or costs on any sources or permitting authorities, but should be viewed as regulatory relief for smaller GHG emission sources and for permitting authorities. Although sources above the thresholds set in this rule will become subject to permitting on January 2, 2011, those impacts are not attributable to the present rulemaking. Rather they are mandated by the CAA and existing regulations and automatically take effect independent of this action.

In addition to considering the regulatory relief expected for affected entities as a result of this final rule, the EPA considered the impact of this rulemaking to small entities (small businesses, governments and non-profit organizations) as required by the *Regulatory Flexibility Act* (RFA) and the *Small Business Regulatory Enforcement Fairness Act* (SBREFA). For informational purposes, the RIA includes the SBA definition of small entities by industry categories for stationary sources of GHG and potential regulatory relief from title V and NSR permitting programs for small sources of GHG. Since this rule does not impose regulatory requirements but rather lessens the regulatory burden of the CAA requirements to smaller sources of GHG, no economic costs are imposed upon small sources of GHG as a result of this final rule. Rather this action provides regulatory relief for small sources. These avoided costs or benefits accrue because small sources of GHG are not required to obtain a title V permit and new or modifying small sources of GHG are not required to meet PSD requirements. Some of the small sources benefitting from this action are small entities, and these entities will benefit from the regulatory relief finalized by this rule. For discussion of comments received and EPA responses regarding small entities impacts, *see* section VII of this preamble.

D. What are the costs of the final rule for society?

EPA examined the social costs of this final rule. These social costs represent the foregone environmental benefits that will occur as a result of the regulatory relief offered to sources of GHG emissions. This action is one of regulatory relief since it increases the emissions thresholds for the title V and PSD programs, as they apply to sources of GHG emissions, to levels above those in the CAA. In this preamble section, the benefits or avoided regulatory costs of such relief are discussed, but there is also a social cost imposed by such relief, because this rule may forego some of the possible benefits associated with title V and PSD programs for sources of GHG emissions below the permitting thresholds established. These benefits are those attributed to title V and PSD permitting programs in general. These benefits are based upon the relevance of these programs to policymaking, transparency issues, and market efficiency, and therefore are very difficult to quantify and monetize. For title V, they include the benefits of improved compliance with CAA requirements that stem from (1) Improved clarity regarding applicability of requirements, (2) discovery and required correction of noncompliance prior to receiving a permit, (3) improving monitoring, recordkeeping, and reporting concerning compliance status, (4) self-certification of compliance with applicable requirements initially and annually, and prompt reporting of deviations from permit requirements, (5) enhanced opportunity for the public to understand and monitor sources' compliance obligations, and (6) improved ability of EPA, permitting authorities, and the public to enforce CAA requirements. However, it is important to remember that a title V permit generally does not add new requirements for pollution control itself, but rather collects all of a facility's applicable requirements under the CAA in one permitting mechanism. Therefore, the compliance benefits above are less when title V permits contains few or no CAA applicable requirements. During the initial steps of the phase-in plan established under this action, we expect that the vast majority of sources excluded from title V would be sources that have no CAA applicable ***31600** requirements for GHG emissions and few or no requirements for other pollutants because their emissions of those pollutants are so small. For this reason, while it is extremely difficult to measure the degree of improved compliance, if any, that would be foregone, or to quantify the social costs that would be imposed, we expect that they would be small. We will be evaluating this issue further during subsequent phases.

For PSD, the primary social cost imposed by the Tailoring Rule stems from the foregone benefit of applying BACT to the tens of thousands of small new sources and modifications that will be below our final thresholds during the first steps of the phase-in. This social cost potentially weighs against the cost savings described previously that stem (in part) from avoiding the administrative and control costs of applying BACT to these sources. The BACT requirement assures that new and modified sources, when they increase their emissions are using state-of-the-art emission controls and affords the public an opportunity to comment on the control decision. It does not prohibit increases but it assures that such controls are applied. Delaying the BACT requirement for numerous small sources during the first steps of the phase-in for this final rule could allow increases from these smaller sources that are greater than they would be if BACT were applied. A detailed analysis of this difference is beyond the scope of this rule, because we do not have detailed information on the universe of these tens of thousands of small PSD actions, the candidate BACT technologies for each of them, how permitting authorities would make the BACT decisions, and how the BACT limit would compare to what would otherwise be installed absent BACT.

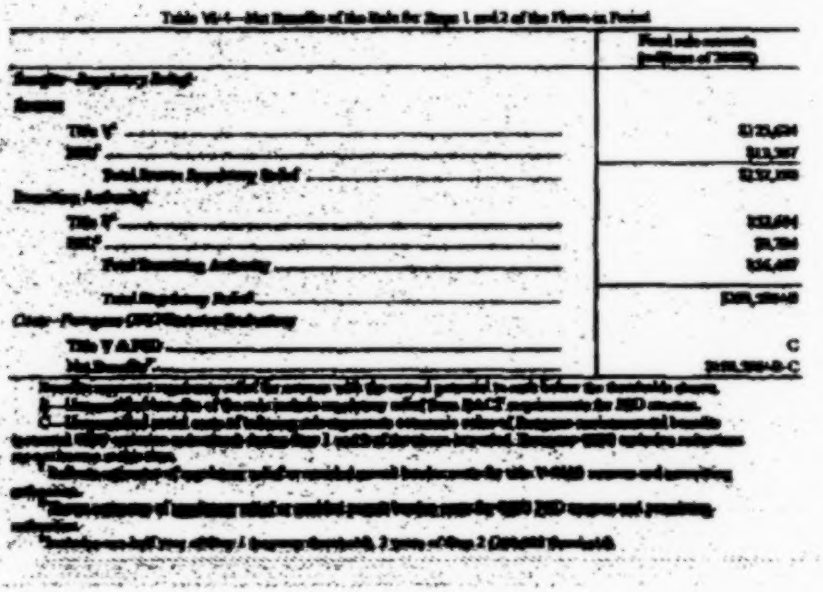
It is not possible at this time to quantify the social costs of avoided BACT. However, we note that the universe of possible emissions that would be regulated by sources excluded under the Tailoring Rule is small compared to those that would remain subject to PSD. The sources excluded in these first two steps of the phase-in plan of this action comprise only 11 percent of total stationary source GHG emissions, while 67 percent remain subject to regulation. Furthermore, we expect the emissions differences due to BACT controls for such sources to be relatively small due to the lack of available capture and control technologies for GHG at such sources that are akin to those that exist for conventional pollutants and sources, as well as the like-lihood that even in the absence of BACT such sources would already be installing relatively efficient GHG technologies to save on fuel costs. Thus, while potential benefits would be foregone by excluding smaller sources from the permitting programs, these benefits are likely to be small. Under the Tailoring Rule, we will be working during the 6-year period to greatly improve our understanding of both the administrative costs of regulating and the social costs of not regulating smaller sources under PSD and title V, and we will be relying on that information to support our future threshold analyses called for under the action.

In reaching the decisions for this Tailoring Rule, the EPA recognizes that GHG emissions can remain in the atmosphere for decades to centuries, meaning that their concentrations become well-mixed throughout the global atmosphere regardless of emission origin, and their effects on climate are long lasting and significant. A detailed explanation of climate change and its impact on health, society, and the environment is included in EPA's TSD for the endangerment finding action (Docket ID No. EPA-HQ-OAR-2009-0171). The EPA recognizes the importance of reducing climate change emissions for all sources of GHG emissions including those sources afforded regulatory relief in this rule and plans to address potential emission reductions from these small sources using voluntary and energy efficiency approaches. Elsewhere, we have discussed EPA's interest in continuing to use regulatory and/or non-regulatory tools for reducing emissions from smaller GHG sources because we believe that these tools will likely result in more efficient and cost-effective regulation than would case-by-case permitting.

E. What are the net benefits of this final rule?

The net benefits of this GHG tailoring rule represent the difference between the benefits and costs of this rule to society. As discussed in this preamble, this rule is one of regulatory relief and the benefits to society are estimates the regulatory relief (avoided permit burden costs) to sources and permitting authorities for Steps 1 and 2 of the phase-in period. The social costs of the rule are the foregone environmental benefits in the form of potential GHG emission reductions that could occur during the phase-in period and are discussed qualitatively.

This rulemaking provides regulatory relief for a phase-in period to smaller sources of GHG by phasing in the statutory permitting threshold at levels above statutory requirements. This final rule establishes thresholds and PSD significance levels for Steps 1 and 2 of the phase-in period (the 2.5 year period between January 2, 2011 and July 1, 2013), commits to considering a further Step 3, and indicates floor title V and PSD threshold levels from July 1, 2013 through April 30, 2016. The net benefits of the final rule for Steps 1 and 2 are $193,598+B-C million for the 2 and one-half year period where B denotes the unquantified benefits and C the quantified costs of this final rule. These unquantified benefits of this rule include the avoided PSD BACT costs for new and modifying sources. The unquantified costs previously discussed relate to the foregone environment benefits or GHG emission reductions that might be possible during the 2.5 year Step 1 and 2 phase-in period. These estimates are subject to significant uncertainties that are discussed at length in the Regulatory Impact Analysis for the Prevention of Significant Deterioration and Title V GHG Tailoring Rule contained in the docket to this final rule. All dollar estimates shown are based upon 2007$.



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VII. Comments on Statutory and Executive Order Reviews

In this section, we provide responses to comments we received for various Executive Orders.

A. Comments on Executive Order 12866—Regulatory Planning and Review

At proposal, EPA prepared an analysis of the potential costs and benefits associated with EPA's Tailoring Rule proposal in an RIA. Several commenters state that EPA's failure to estimate the full costs of the effects of its interpretation of PSD applicability in the proposed Tailoring Rule violates Executive Order 12866. Some of these commenters maintain that Executive Order 12866 directs EPA to submit to the Office of Management and Budget (OMB) new significant regulations under consideration by the EPA. These commenters assert that, in the section 202 rule, EPA failed to analyze the effect on stationary sources in the cost benefit analysis and there is no indication that EPA included these impacts in its submission to OMB. According to the commenters, in EPA's proposal for this rulemaking, EPA has similarly failed to analyze the costs and benefits of triggering PSD for stationary sources. The commenters assert that without this key information, OMB could not fully review the impacts of the proposed rule. The commenters believe that EPA's failure to account for known costs that will occur as a direct result of the promulgation of the proposed rule in conjunction with the section 202 rule violates several applicable requirements of Executive Order 12866, including sections 6(B)(ii) and 6(C)(iii), which require assessments of the potential costs and benefits of the regulatory action and "reasonably feasible alternatives to the planned regulation, identified by the Agencies or the public * * *" thereby violating both the APA and CAA section 307(d) because they deprive businesses and permitting authorities alike of a meaningful opportunity to comment on the rule.

The EPA has prepared a revised RIA assessing the benefits and costs of the final Tailoring Rule to support this rulemaking in accordance with Executive Order 12866, as was done with the proposal for this rulemaking. Similarly, the RIA completed for this action is subject to review by an Interagency review panel that includes OMB, as was the case with the proposal RIA. Further, the RIA completed for this final rule fully assesses the known benefits and costs associated with the Tailoring Rule. This final rule is one of regulatory relief from statutory requirements in which a large number of sources of GHGs will be relieved of the burden of title V and PSD permitting for a period of at least 6 years. This final rule will provide relief from title V permitting to over 6 million sources of GHG in this country. Likewise tens of thousands of sources potentially subject to PSD permitting requirements for GHGs will have regulation postponed for a period of at least 6 years. While larger sources of GHG may still be required to obtain title V permits or modify existing permits and to comply with PSD requirements, these burdens result from existing statutory requirements, not from this final Tailoring Rule.

B. Comments on the Paperwork Reduction Act

At proposal, we stated in the preamble that we did not believe that the proposal would impose any new information collection burden. We concluded that the proposed action would reduce costs incurred by sources and permitting authorities relative to the costs that would be incurred if EPA did not revise the rule and provided estimates of those reduced costs. Further, we stated that, despite our estimated burden reductions, it was unnecessary for us to submit a new ICR to the OMB because the ICR contained in the existing regulations for PSD (*see, e.g.*, 40 CFR 52.21) and title V (*see* 40 CFR parts 70 and 71) had already been approved under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* and was assigned OMB control number 2060-0003 and OMB control number 2060-0336, respectively.

However, several commenters disagree that it was unnecessary for us to submit a new ICR for the proposed action. These commenters believe that (1) prior approval of an ICR for the PSD and title V programs ignores the fact that there would be an increase in the paperwork burden as a result of applying PSD and title V permitting requirements; and (2) unless EPA resubmits the information collection approval request to OMB with a proper and fully-inclusive analysis, EPA will lack authority to collect information from stationary sources for PSD and title V GHG emissions permitting.

As we stated in the proposal, this is a burden relief rule and as such it does not impose any new requirements for the NSR or title V programs that are not currently required. For that reason, we concluded that for purposes of this rule it was unnecessary for us to submit a new ICR to the OMB and that the ICR contained in the existing regulations for PSD (*see, e.g.*, 40 CFR 52.21) and title V (*see* 40 CFR parts 70 and 71) that had already been approved under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* and was assigned OMB control number 2060-0003 and OMB control number 2060-0336, respectively, still applies.

***31602** Nevertheless, we understand that once GHGs are regulated under the PSD and title V programs, there might be an increase in the overall paperwork burden for these programs. EPA will have to assess this possible burden during the normal course of 3-year renewal ICR process.

C. Comments on the RFA

At proposal, EPA certified that the proposed rule would not have a significant impact on a substantial number of small entities and therefore we are not obligated to convene a formal Small Business Advocacy Review (SBAR) panel. This certification was based upon the fact that the proposed action would relieve the regulatory burden associated with the major PSD and title V operating permits programs for new or modified major sources that emit GHGs, including small businesses. Nevertheless, EPA was aware at proposal that many small entities would be interested in the various GHG rulemakings currently under development and might have concerns about the potential impacts of the statutory imposition of PSD requirements that may occur as a result of the group of EPA actions, notwithstanding the relief provided to small businesses by the Tailoring Rule. For these reasons, and in collaboration with the SBA, EPA conducted an outreach meeting designed to exchange information with small entities that may be interested in these regulations. The outreach effort was organized and led by representatives from EPA's Office of Air Quality Planning and Standards within the Office of Air and Radiation, EPA's Office of Policy Economics and Innovation, the Office of Information and Regulatory Affairs within OMB, and the Office of Advocacy of the SBA. This meeting was conducted on November 17, 2009 in Arlington, VA, and documentation of this meeting, which includes a summary of the advice and recommendations received from the small entity representatives identified for the purposes of this process, can be obtained in the docket for this rulemaking. (*See* Docket No. EPA-HQ-OAR-2009-0517-19130.)

During the comment period, several commenters alleged that EPA inappropriately limited its RIA and

RFA/SBREFA analysis, and that had we done a comprehensive analysis, we would not have been able to certify that any of the proposed rules will not have a significant economic impact on a "substantial number of small entities." Thus they conclude that EPA failed to prepare and publicize an initial regulatory flexibility analysis (IRFA). Additional commenters stated that EPA's failure to conduct an IRFA to assess the full costs of the effects of its interpretation of PSD applicability in the proposed Tailoring Rule violates a host of statutes and Executive Orders requiring analysis and public review of regulatory burdens. These commenters conclude that EPA should have convened one or more SBAR Panels.

We are not persuaded that we should have taken into account effects beyond those caused by the Tailoring Rule when we made our certification of no significant economic impact on a substantial number of small entities for this rule. No permitting requirements are imposed by this final Tailoring Rule. Instead, this final Tailoring Rule offers regulatory relief to over an estimated six million sources of GHG emissions that would otherwise be required to obtain a title V permit and tens of thousands of sources of GHG emissions subject to PSD permitting requirements that would otherwise be required statutorily to obtain permit. The RFA does not require that an agency complete a regulatory flexibility analysis or conduct an SBAR panel where the rule does not have any negative impact on small entities. For more discussion of RFA issues, please see the RTC document.

D. Comments on the Unfunded Mandates Reform Act

At proposal, EPA asserted that the Tailoring Rule does not impose unfunded mandates on any entities including sources and permitting authorities. Since the proposed Tailoring Rule is one of regulatory relief, it alleviates the burden of adhering to statutorily required permitting thresholds and does not impose regulatory requirements.

Some commenters on the proposed rule assert that EPA has failed to comply with the requirements of the Unfunded Mandates Reform Act (UMRA), pursuant to which EPA must assess the effects of the proposed rule on state, local, and tribal governments and the private sector. Specifically, these commenters state that section 202 of the UMRA requires EPA to prepare a written statement, including a cost-benefit analysis, for proposed rules with "federal mandates" that may result in expenditures to state, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. According to the commenters, in concluding that "the revisions would ultimately reduce the PSD and title V program administrative burden that would otherwise occur in the absence of this rulemaking," EPA did not account for the billions of dollars that permitting authorities and stationary sources will soon be required to spend once PSD is triggered for GHGs. Additionally, a few commenters contend that the EPA underestimated the impacts to public utilities which are owned/operated by local governments and also to state regulatory agencies.

The EPA has carefully considered the comments on unfunded mandates expressed by commenters to the proposed rule. The EPA did complete a RIA for the final rule assessing the benefits and costs of the Tailoring Rule, including any unfunded mandates. As previously discussed, the Tailoring Rule is one of regulatory relief because it increases the GHG emissions threshold for NSR and title V permitting substantially above otherwise statutory requirements. As such, the EPA has determined that this Tailoring Rule does not impose unfunded mandates on any entities. This RIA of the final rule incorporates the extensive changes made in this final rule, including increased threshold levels for title V and PSD above those contained in the proposed rule. While we also incorporated improved estimates of the costs for sources to obtain permits and for permitting authorities to process permits, they do not change our conclusion that this final rule does not impose unfunded mandates on any entities.

E. Comments on Executive Order 13132—Federalism

Some comments received on the proposed rule assert that federalism concerns were ignored, in violation of Executive Order 13132. According to the commenters, EPA cannot maintain that the Tailoring Rule "will not have a substantial direct effect on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities between various levels of government," such that Executive Order 13132 does not apply. Some of these commenters assert that the proposed rulemaking would require radical changes in state laws, interjects GHGs into permit programs never once conceived for that purpose (any more than was EPA's), requires massive staff hiring at state agencies, and rewrites SIPs in place for years or even decades.

As we stated previously, this is a burden relief rule and as such it does not impose any requirements for the NSR or title V programs that are not currently required. In addition, this action does not interject GHGs into the permit programs, nor does it change state laws or SIPs to impose any new permitting requirements. Instead, this ***31603** action will significantly reduce the burden and costs incurred by sources and permitting authorities relative to the burden and costs that would be incurred if EPA did not revise the permitting provisions to account for higher applicability thresholds for GHG emissions.

However, since this rule finalizes burden reducing thresholds that will not otherwise apply to the PSD and title V programs, we are aware that a few states may have to amend their SIPs to incorporate these new thresholds if they do not incorporate federal rules by reference and cannot adopt our approach through interpretation. Executive Order 13132 is still not implicated by this rule because it finalizes burden reducing thresholds that would not otherwise apply to the PSD and title V programs.

F. Comments on Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

The National Tribal Air Association (NTAA) supports EPA's proposed rule but requests that tribal air grant funding be increased to reflect the air quality-related needs of tribes across the nation, and to allow these tribes the opportunity to implement the CAA's PSD and title V programs. The NTAA states that, not only are tribes eligible for section 103 grant funding to conduct air quality monitoring, emissions inventories, and other studies and assessments, but they may also obtain section 105 grant funding to implement CAA regulatory programs. According to the NTAA, tribes are facing many of the same air-related issues that neighboring state and local jurisdictions are facing, but are significantly underfunded to address such issues.

The Agency is aware and concerned about the resource needs for the tribal air program and we are working to see how grant funding might be increased in the future. Nevertheless and for the purpose of the permitting programs, we want to clarify that tribes that develop Tribal Implementation Plans (TIPs) can charge for permits and tribes with delegation or authorization would develop permit fee programs under their authority (*e.g.*, Navajo's permit fee program for their delegated title V permit program) to fund both the NSR and title V programs. For these reasons, there are a number of ways we would like to work with tribes to address the funding concern, including encouraging delegation or authorization of permitting programs and having model codes available for tribes that want to do TIPs for NSR and title V permitting.

G. Comments on Executive Order 13211—Actions That Significantly Affect Energy Supply, Distribution, or Use

Other commenters assert that EPA's analysis under Executive Order 13211 is insufficient because it addresses only smaller sources. These commenters contend that EPA has not meaningfully examined the energy implications of its proposed actions and interpretations of the CAA. The commenters disagree with EPA's conclusion that the imposition of costly PSD obligations on power plants would have no impact on power supply, distribution, or use, when those plants will have had no time to prepare for compliance and no idea what BACT may be for GHG emissions. Other commenters opine that the adoption of BACT for some industries newly-subject to PSD permitting requirements for GHGs could involve fuel-switching, and increased energy costs (due to the need for a source to convert from coal to natural gas to meet BACT).

Again, this action is a burden relief rule and as such it does not create any new requirements for sources in the energy supply, distribution, or use sectors. For the purpose of the BACT determinations for GHGs, the long-standing top-down BACT selection process still applies. Under the CAA and EPA's implementing regulations, BACT is still an emission limitation based on the maximum degree of emission reduction achievable through application of production processes and available methods, systems, and techniques that considers energy, environmental, and economic impacts. In other words, BACT determinations for GHGs will still have to consider energy, environmental and economic feasibility for the various control technologies under consideration before selecting a particular technology as BACT for a specific source. For that reason, what BACT may be for GHG emissions will vary by source, and the technology that is ultimately selected has to be one that is feasible based on the current energy, environmental and economic impacts that the planned technology might have. Thus, we do not believe that this action is likely to have a significant adverse effect on the supply, distribution, or use of energy.

VIII. Statutory and Executive Order Reviews

A. Executive Order 12866—Regulatory Planning and Review

Under section 3(f)(1) of Executive Order 12866 (58 FR 51735, October 4, 1993), this action is an "economically significant regulatory action" because it is likely to have an annual effect on the economy of $100 million or more. Accordingly, EPA submitted this action to the OMB for review under Executive Order 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

In addition, EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in the RIA for this final rule. A copy of the analysis is available in the docket for this action and the analysis is briefly summarized in section VII of this preamble.

This rule uses a phased-in approach for requiring larger sources of GHG emissions to comply with title V operating permit and PSD statutory requirements, essentially lifting this burden for a period of at least 6 years for a large number of sources of GHG. Thus, this rule provides regulatory relief rather than regulatory requirements for these GHG sources. For sources of GHG that will be required to obtain title V permits and/or comply with PSD requirements, there are no direct economic burdens or costs as a result of this final rule, because these requirements are not imposed as a result of this rulemaking. Statutory requirements to obtain a title V operating permit or to adhere to PSD requirements are already mandated by the CAA and by existing rules, not by this rule. As a result, this Tailoring Rule annual effect on the economy will be positive because it will result in billions of dollars of regulatory relief during the phase-in period.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. Instead, this action will significantly reduce costs incurred by sources and permitting authorities relative to the costs that would be incurred if EPA did not revise the rule. Based on our revised GHG threshold data analysis, we estimate that over 80,000 new and modified facilities per year would be subject to PSD review based on applying a GHG emissions threshold of 100/250 tpy using a CO_2e metric. This is compared to 280 PSD permits currently issued per year, which is an increase of more than 280-fold. Similarly, for title V, we estimate that over six million new sources would be affected at the 100-tpy threshold for GHGs using the CO_2e metric. By increasing the volume of permits by over 400 times, the administrative burden would be unmanageable without this rule.

However, OMB has previously approved the information collection ***31604** requirements contained in the existing regulations for PSD (*see, e.g.*, 40 CFR 52.21) and title V (*see* 40 CFR parts 70 and 71) under the provisions of the Paperwork *Reduction Act*, 44 U.S.C. 3501 *et seq*. and has assigned OMB control number 2060-0003 and OMB control number 2060-0336. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. *Regulatory Flexibility Act*

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the APA or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this final action on small entities, small entity is defined as: (1) A small business that is a small industrial entity as defined in the U.S. SBA size standards (*see* 13 CFR 121.201); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this final rule on small entities, I certify that this final action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant *adverse* economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives "which minimize any significant economic impact of the rule on small entities." 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule.

We have therefore concluded that this final rule will relieve the regulatory burden for most affected small entities associated with the major PSD and title V operating permits programs for new or modified major sources that emit GHGs, including small businesses. This is because this rule raises the major source applicability thresholds for these programs for the sources that emit GHGs. As a result, the program changes provided in this rule are not expected to result in a significant economic impact on a substantial number of small entities.

D. Unfunded Mandates Reform Act

This rule does not contain a federal mandate that may result in expenditures of $100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Only those few states whose permitting authorities do not implement the federal PSD and title V rules by reference in their SIPs will have a small increase in burden. These states will have to amend their corresponding SIPs to incorporate the new applicability thresholds, since the burden reducing thresholds that we are finalizing with this rule will not otherwise apply to the PSD and title V programs. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. As discussed earlier, this rule is expected to result in cost savings and an administrative burden reduction for all permitting authorities and permittees, including small governments.

E. Executive Order 13132—Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. These final amendments will ultimately simplify and reduce the burden on state and local agencies associated with implementing the PSD and title V operating permits programs, by providing that a source whose GHG emissions are below the proposed levels will not have to obtain a PSD permit or title V permit. Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and state and local governments, EPA specifically solicited comment on the proposed rule from state and local officials.

F. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

Subject to the Executive Order 13175 (65 FR 67249, November 9, 2000) EPA may not issue a regulation that has tribal implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by tribal governments, or EPA consults with tribal officials early in the process of developing the proposed regulation and develops a tribal summary impact statement.

EPA has concluded that this action may have tribal implications. However, it will neither impose substantial direct compliance costs on tribal governments, nor preempt tribal law. There are no tribal authorities, currently issuing major NSR permits; however, this may change in the future.

EPA consulted with tribal officials early in the process of developing this regulation to allow them to have meaningful and timely input into its development by publishing an ANPR that included GHG tailoring options for regulating GHGs under the CAA. (73 FR 44354, July 30, 2008) As a result of the ANPR, EPA received several comments from tribal officials on differing GHG tailoring options presented in the ANPR which were considered in the proposal and this final rule. Additionally, we also specifically solicited comment from tribal officials on the proposed rule (74 FR 55292, October 27, 2009).

G. *Executive Order 13045—Protection of Children From Environmental Health and Safety Risks*

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

H. *Executive Order 13211—Actions That Significantly Affect Energy Supply, Distribution, or Use*

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that this rule is not likely to have any adverse energy effects ***31605** because this action would not create any new requirements for sources in the energy supply, distribution, or use sectors.

I. *National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law No. 104-113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

J. Executive Order 12898—Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has concluded that it is not practicable to determine whether there would be disproportionately high and adverse human health or environmental effects on minority and/or low income populations from this rule. This rule is necessary in order to allow for the continued implementation of permitting requirements established in the statute. Specifically, without this rule, the CAA permitting programs (PSD and title V) would become overwhelmed and unmanageable by the millions of GHG sources that would become newly subject to them. This would result in severe impairment of the functioning of these programs with potentially adverse human health and environmental effects nationwide. Under this rule and the legal doctrines of "absurd results," administrative necessity, and one-step-at-a-time, EPA is ensuring that the CAA permitting programs continue to operate by limiting their applicability to the maximum number of sources the programs can possibly handle. This approach is consistent with congressional intent as it allows PSD applicability to at least the largest sources initially, at least to as many more sources as possible, and as promptly as possible over time. By doing so, this rule allows for the maximum degree of environmental protection possible while providing regulatory relief for the unmanageable burden that would otherwise exist. Therefore, we believe it is not practicable to identify and address disproportionately high and adverse human health or environmental effects on minority populations and low income populations in the United States under this final rule.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by SBREFA, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the

Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective August 2, 2010.

L. Judicial Review

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit by August 2, 2010. Any such judicial review is limited to only those objections that are raised with reasonable specificity in timely comments. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. Under section 307(b)(2) of the Act, the requirements of this final action may not be challenged later in civil or criminal proceedings brought by us to enforce these requirements. Pursuant to section 307(d)(1)(V) of the Act, the Administrator determines that this action is subject to the provisions of section 307(d). Section 307(d)(1)(V) provides that the provisions of section 307(d) apply to "such other actions as the Administrator may determine." This action finalizes some, but not all, elements of a previous proposed action—the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule Proposed Rule (74 FR 55292, October 27, 2009).

IX. Statutory Authority

The statutory authority for this action is provided by sections 307(d)(7)(B), 101, 111, 114, 116, and 301 of the CAA as amended (42 U.S.C. 7401, 7411, 7414, 7416, and 7601). This action is also subject to section 307(d) of the CAA (42 U.S.C. 7407(d)).

List of Subjects

40 CFR Part 51

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 52

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 70

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 71

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

***31606**

Dated: May 13, 2010.

Lisa P. Jackson,

Administrator.

For reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as set forth below.

PART 51—[AMENDED]

- 1. The authority citation for part 51 continues to read as follows:

Authority: 23 U.S.C. 101; 42 U.S.C. 7401-7671q.

Subpart I—[Amended]

- 2. Section 51.166 is amended:

- a. By adding paragraph (b)(48);
- b. By revising paragraph (b)(49)(iv); and
- c. By adding paragraph (b)(49)(v).

The revisions and additions read as follows:

§ 51.166 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(48) *Subject to regulation* means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(i) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in paragraphs (b)(48)(iv) through (v) of this section.

(ii) For purposes of paragraphs (b)(48)(iii) through (v) of this section, the term tpy CO_2 *equivalent emissions* (CO_2e) shall represent an amount of GHGs emitted, and shall be computed as follows:

(*a*) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials.

(*b*) Sum the resultant value from paragraph (b)(48)(ii)(a) of this section for each gas to compute a tpy CO_2e.

(iii) The *term emissions increase* as used in paragraphs (b)(48)(iv) through (v) of this section shall mean that both a significant emissions increase (as calculated using the procedures in (a)(7)(iv) of this section) and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section) occur. For the pollutant GHGs, an emissions increase shall be based on tpy CO_2e, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and "significant" is defined as 75,000 tpy CO_2e instead of applying the value in paragraph (b)(23)(ii) of this section.

(iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:

(*a*) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO_2e or more; or

(*b*) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO_2e or more; and,

(v) Beginning July 1, 2011, in addition to the provisions in paragraph (b)(48)(iv) of this section, the pollutant GHGs shall also be subject to regulation:

(*a*) At a new stationary source that will emit or have the potential to emit 100,000 tpy CO_2e; or

(*b*) At an existing stationary source that emits or has the potential to emit 100,000 tpy CO_2e, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO_2e or more.

(49) * * *

(iv) Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(48) of this section.

(v) Notwithstanding paragraphs (b)(49)(i) through (iv) of this section, the term ***regulated NSR pollutant*** shall not include any or all hazardous air pollutants either listed in section 112 of the Act, or added to the list pursuant to section 112(b)(2) of the Act, and which have not been delisted pursuant to section 112(b)(3) of the Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

* * * * *

PART 52—[AMENDED]

- 3. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

Subpart A—[Amended]

- 4. Section 52.21 is amended:
- a. By adding paragraph (b)(49);
- b. By revising paragraph (b)(50)(iv); and
- c. By adding paragraph (b)(50)(v).

The revisions and additions read as follows:

§ 52.21 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(49) *Subject to regulation* means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(i) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in paragraphs (b)(49)(iv) through (v) of this section.

(ii) For purposes of paragraphs (b)(49)(iii) through (v) of this section, the term tpy CO_2 equivalent emissions (CO_2e) shall represent an amount of GHGs emitted, and shall be computed as follows:

(a) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials.

(b) Sum the resultant value from paragraph (b)(49)(ii)(a) of this section for each gas to compute a tpy CO_2e.

(iii) The term *emissions increase* as used in paragraphs (b)(49)(iv) through (v) of this section shall mean that both a significant emissions increase (as calculated using the procedures in paragraph (a)(2)(iv) of this section) and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section) occur. For the pollutant GHGs, an emissions increase shall be based on tpy CO_2e, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and "significant" is defined as 75,000 tpy CO_2e instead of applying the value in paragraph (b)(23)(ii) of this section.

***31607**

(iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:

(a) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO_2e or more; or

(b) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO_2e or more; and,

(v) Beginning July 1, 2011, in addition to the provisions in paragraph (b)(49)(iv) of this section, the pollutant GHGs shall also be subject to regulation

(a) At a new stationary source that will emit or have the potential to emit 100,000 tpy CO_2e; or

(b) At an existing stationary source that emits or has the potential to emit 100,000 tpy CO_2e, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO_2e or more.

(50) * * *

(iv) Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(49) of this section.

(v) Notwithstanding paragraphs (b)(50)(i) through (iv) of this section, the term regulated NSR pollutant shall not include any or all hazardous air pollutants either listed in section 112 of the Act, or added to the list pursuant to section 112(b)(2) of the Act, and which have not been delisted pursuant to section 112(b)(3) of the Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

* * * * *

- 5. A new § 52.22 is added to read as follows:

§ 52.22 Enforceable commitments for further actions addressing the pollutant greenhouse gases (GHGs).

(a) Definitions.

(1) *Greenhouse Gases (GHGs)* means the air pollutant as defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(2) All other terms used in this section shall have the meaning given in § 52.21.

(b) *Further action to regulate GHGs under the PSD program.*

(1) *Near term action on GHGs.* The Administrator shall solicit comment, under section 307(b) of the Act, on promulgating lower GHGs thresholds for PSD applicability. Such action shall be finalized by July 1, 2012 and become effective July 1, 2013.

(2) *Further study and action on GHGs.*

(i) No later than April 30, 2015 the Administrator shall complete a study projecting the administrative burdens that remain with respect to stationary sources for which GHGs do not constitute a regulated NSR pollutant. Such study shall account, among other things, for permitting authorities ability to secure resources, hire and train staff; experiences associated with GHG permitting for new types of sources and technologies; and, the success of streamlining measures developed by EPA (and adopted by the states) for reducing the permitting burden associated with such stationary sources.

(ii) Based on the results of the study described in paragraph (b)(2)(i) of this section, the Administrator shall propose a rule addressing the permitting obligations of such stationary sources under § 52.21 and § 51.166 of this chapter. The Administrator shall take final action on such a rule no later than April 30, 2016.

(iii) Before completing the rule described in paragraph (b)(2)(ii) of this section, the Administrator shall take no action to make the pollutant GHGs subject to regulation at stationary sources that emit or have the potential to emit less than 50,000 tpy CO_2e, or for physical changes or changes in the method of operations at stationary sources that result in an emissions increase of less than 50,000 tpy CO_2e (as determined using the methodology described in § 52.21(b)(49)(ii).)

PART 70—[AMENDED]

- 6. The authority citation for part 70 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

- 7. Section 70.2 is amended:
- By revising the introductory text of paragraph (2) of the definition for "major source"; and
- b. By adding a definition for "Subject to regulation" in alphabetical order.

The revision and addition read as follows:

40 CFR § 70.2

§ 70.2 Definitions.

* * * * *

Major source * * *

(2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

* * * * *

Subject to regulation means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(1) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO_2 equivalent emissions.

(2) The *term tpy CO_2 equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials, and summing the resultant value for each to compute a tpy CO_2e.

* * * * *

- 8. A new § 70.12 is added to read as follows:

§ 70.12 Enforceable commitments for further actions addressing greenhouse gases (GHGs).

(a) *Definitions.*

(1) *Greenhouse Gases (GHGs)* means the air pollutant as defined in § 86.1818-12(a) of this chapter

as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(2) All other terms used in this section shall have the meaning given in § 70.2.

(b) *Further action to regulate GHGs under the title V program.*

(1) *Near term action on GHGs.* The Administrator shall solicit comment, ***31608** under section 307(b) of the Act, on promulgating lower GHGs thresholds for applicability under § 70.2. Such action shall be finalized by July 1, 2012 and become effective July 1, 2013.

(2) *Further study and action on GHGs.*

(i) No later than April 30, 2015 the Administrator shall complete a study projecting the administrative burdens that remain with respect to stationary sources for which GHGs do not constitute a pollutant subject to regulation. Such study shall account, among other things, for permitting authorities ability to secure resources, hire and train staff; experiences associated with GHG permitting for new types of sources and technologies; and, the success of streamlining measures developed by EPA (and adopted by the states) for reducing the permitting burden associated with such stationary sources.

(ii) Based on the results of the study described in paragraph (b)(2)(i) of this section, the Administrator shall propose a rule addressing the permitting obligations of such stationary sources under § 70.2.

The Administrator shall take final action on such a rule no later than April 30, 2016.

(iii) Before completing the rule described in paragraph (b)(2)(ii) of this section, the Administrator shall take no action to make the pollutant GHGs subject to regulation at stationary sources that emit or have the potential to emit less than 50,000 tpy CO_2e (as determined using the methodology described in § 70.2.)

PART 71—[AMENDED]

- 9. The authority citation for part 71 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq*.

Subpart A—[AMENDED]

- 10. Section 71.2 is amended:
- By revising the introductory text of paragraph (2) of the definition for "major source"; and
- b. By adding a definition for "Subject to regulation" in alphabetical order.

The revision and addition read as follows:

§ 71.2 Definitions.

* * * * *

Major source * * *

(2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation (including any

major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

* * * * *

Subject to regulation means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(1) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO_2 equivalent emissions.

(2) The *term tpy CO_2 equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases

in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials, and summing the resultant value for each to compute a tpy CO_2e.

- 11. A new § 71.13 is added to subpart A to read as follows:

§ 71.13 Enforceable commitments for further actions addressing Greenhouse Gases (GHGs)

(a) Definitions.

(1) *Greenhouse Gases (GHGs)* means the air pollutant as defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(2) All other terms used in this section shall have the meaning given in § 71.2.

(b) *Further action to regulate GHGs under the title V program.*

(1) *Near term action on GHGs.* The Administrator shall solicit comment, under section 307(b) of the Act, on promulgating lower GHGs thresholds for applicability under § 71.2. Such action shall be finalized by July 1, 2012 and become effective July 1, 2013.

(2) *Further study and action on GHGs.*

(i) No later than April 30, 2015, the Administrator shall complete a study projecting the administrative burdens that remain with respect to stationary sources for which GHGs do not constitute a pollutant subject to regulation. Such study shall account, among other things, for permitting authorities ability to secure resources, hire and train staff; experiences associated with GHG permitting for new types of sources and technologies; and, the success of streamlining measures developed by EPA (and adopted by the states) for reducing the permitting burden associated with such stationary sources.

(ii) Based on the results of the study described in paragraph (b)(2)(i) of this section, the Administrator shall propose a rule addressing the permitting obligations of such stationary sources under § 71.2. The Administrator shall take final action on such a rule no later than April 30, 2016.

(iii) Before completing the rule described in paragraph (b)(2)(ii) of this section, the Administrator shall take no action to make the pollutant GHGs subject to regulation at stationary sources that emit or have the potential to emit less than 50,000 tpy CO_2e, (as determined using the methodology described in § 71.2.)

[FR Doc. 2010-11974 Filed 6-2-10; 8:45 am]

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12-1272
No. ______

Supreme Court, U.S.
FILED
APR 19 2013
OFFICE OF THE CLERK

In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

*ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT*

PETITIONERS' APPENDIX
VOLUME IV OF V (1126a-1755a)

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Chapter I

[EPA-HQ-OAR-2008-0318; FRL-8694-2]

RIN 2060-AP12

Regulating Greenhouse Gas Emissions Under the Clean Air Act

Wednesday, July 30, 2008

AGENCY: Environmental Protection Agency (EPA).

***44354 ACTION**: Advance Notice of Proposed Rulemaking.

SUMMARY: This advance notice of proposed rulemaking (ANPR) presents information relevant to, and solicits public comment on, how to respond to the U.S. Supreme Court's decision in *Massachusetts v. EPA*. In that case, the Supreme Court ruled that the Clean Air Act (CAA or Act) authorizes regulation of greenhouse gases (GHGs) because they meet the definition of air pollutant under the Act. In view of the potential ramifications of a decision to regulate GHGs under the Act, the notice reviews the various CAA provisions that may be applicable to regulate GHGs, examines the issues that regulating GHGs under those provisions may raise, provides information regarding potential regulatory approaches and technologies for reducing GHG emissions, and raises issues relevant to possible legislation and the potential for overlap between legislation and CAA regulation. In addition, the notice describes and solicits comment

on petitions the Agency has received to regulate GHG emissions from ships, aircraft and nonroad vehicles such as farm and construction equipment. Finally, the notice discusses several other actions concerning stationary sources for which EPA has received comment regarding the regulation of GHG emissions.

The implications of a decision to regulate GHGs under the Act are so far-reaching that a number of other federal agencies have offered critical comments and raised serious questions during interagency review of EPA's ANPR. Rather than attempt to forge a consensus on matters of great complexity, controversy, and active legislative debate, the Administrator has decided to publish the views of other agencies and to seek comment on the full range of issues that they raise. These comments appear in the Supplemental Information, below, followed by the June 17 draft of the ANPR preamble prepared by EPA, to which the comments apply. None of these documents represents a policy decision by the EPA, but all are intended to advance the public debate and to help inform the federal government's decisions regarding climate change.

DATES: Comments must be received on or before November 28, 2008.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2008-0318, by one of the following methods:

- *www.regulations.gov*: Follow the on-line instructions for submitting comments.
- *E-mail*: *a-and-rDocket@epa.gov*.
- *Fax*: 202-566-9744.

- *Mail*: Air and Radiation Docket and Information Center, Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave., NW., Washington, DC 20460. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attn: Desk Officer for EPA, 725 17th St., NW., Washington, DC 20503.
- *Hand Delivery*: EPA Docket Center, EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington DC, 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2008-0318. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or e-mail. The *www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *www.regulations.gov* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*. For additional instructions on submitting comments, go to Section VII, Public Participation, of the **SUPPLEMENTARY INFORMATION** section of this document.

Docket: All documents in the docket are listed in the *www.regulations.gov* index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Joe Dougherty, Office of Air and Radiation, 1200 Pennsylvania Ave., NW., Washington, DC 20460;

telephone number: (202) 564-1659; fax number: (202) 564-1543; e-mail address: *Dougherty.Joseph-J@epa.gov*.

SUPPLEMENTARY INFORMATION:

Preface From the Administrator of the Environmental Protection Agency

In this Advanced Notice of Proposed Rulemaking (ANPR), the Environmental Protection Agency (EPA) seeks comment on analyses and policy alternatives regarding greenhouse gas (GHG) effects and regulation under the Clean Air Act. In particular, EPA seeks comment on the document entitled "Advanced Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act" and observations and issues raised by other federal agencies. This notice responds to the U.S. Supreme Court's decision in *Massachusetts v. EPA* and numerous petitions related to the potential regulation of greenhouse gas emissions under the Clean Air Act.

EPA's analyses leading up to this ANPR have increasingly raised ***44355** questions of such importance that the scope of the agency's task has continued to expand. For instance, it has become clear that if EPA were to regulate greenhouse gas emissions from motor vehicles under the Clean Air Act, then regulation of smaller stationary sources that also emit GHGs—such as apartment buildings, large homes, schools, and hospitals—could also be triggered. One point is clear: The potential regulation of greenhouse gases under any portion of the Clean Air Act could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land.

This ANPR reflects the complexity and magnitude of the question of whether and how greenhouse gases could be effectively controlled under the Clean Air Act. This document summarizes much of EPA's work and lays out concerns raised by other federal agencies during their review of this work. EPA is publishing this notice today because it is impossible to simultaneously address all the agencies' issues and respond to our legal obligations in a timely manner.

I believe the ANPR demonstrates the Clean Air Act, an outdated law originally enacted to control regional pollutants that cause direct health effects, is ill-suited for the task of regulating global greenhouse gases. Based on the analysis to date, pursuing this course of action would inevitably result in a very complicated, time-consuming and, likely, convoluted set of regulations. These rules would largely pre-empt or overlay existing programs that help control greenhouse gas emissions and would be relatively ineffective at reducing greenhouse gas concentrations given the potentially damaging effect on jobs and the U.S. economy.

Your input is important. I am committed to making the data and models EPA is using to form our policies transparent and available to the public. None of the views or alternatives raised in this notice represents Agency decisions or policy recommendations. It is premature to do so. Rather, I am publishing this ANPR for public comment and review. In so doing, I am requesting comment on the views of other federal agencies that are presented below including important legal questions regarding endangerment. I encourage the public to (1) understand the magnitude and complexity of the Supreme Court's direction in *Massachusetts v. EPA* and (2) comment on the many questions raised in this notice.

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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

ADMINISTRATOR
OFFICE OF
INFORMATION AND
REGULATORY AFFAIRS

July 10, 2008

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator Johnson:

I am writing with regard to the draft Advance Notice of Proposed Rulemaking (ANPR) "Regulating Greenhouse Gas Emissions Under the Clean Air Act," submitted to the Office of Management and Budget (OMB) on June 17, 2008 pursuant to Executive Order 12866. The issues raised during interagency review are so significant that we have been unable to reach interagency consensus in a timely way, and as a result, this staff draft cannot be considered Administration policy or representative of the views of the Administration. However, given the Administration's commitment to respond to the Supreme Court's decision in *Massachusetts v. EPA*, we have determined in this case that consensus is not necessary in order for EPA to seek public comment on the wide-ranging issues raised by the draft regarding the potential regulation of greenhouse gases under the Clean Air Act. Thus, as we have discussed, you are withdrawing the draft from review under Executive Order 12866, and I am waiving the requirement for review due to the extraordinary circumstances presented here. Of course, given the significance of any actions to address greenhouse gas emissions under the Clean Air Act, any future notice would be subject to interagency review under Executive Orders 12866 and 13342.

The enclosed letter from the Secretaries of Agriculture, Commerce, Transportation, and Energy, along with summaries of issues raised by their departments, and letters from the Chairman of the Council on Environmental Quality, the Director of the Office of Science and Technology Policy and the Chairman of the Council of Economic Advisors, and the Chief Counsel for Advocacy at the Small Business Administration identify important concerns. As reflected in these letters, there is strong disagreement with many of the legal, analytical, economic, science and policy interpretations in the draft; however, these letters do reflect agreement with you that the Clean Air Act is a deeply flawed and unsuitable vehicle for reducing greenhouse gas emissions. Interagency reviewers concluded upon reading the draft that trying to address greenhouse gas emissions through the existing provisions of the Clean Air Act will not only harm the U.S. economy, but will fail to provide an effective response to the global challenge of climate change.

As the President observed in April:

> Decisions with such far-reaching impact should not be left to unelected regulators and judges. Such decisions should be debated openly [and] made by the elected representatives of the people they affect.

EPA should seek public comment on the issues raised in the attached letters and should address these issues before it considers, and before OMB reviews, a notice of proposed rulemaking under the Clean Air Act.

The draft sets out a hypothetical roadmap outlining ways in which different provisions of the Clean Air Act could be applied to address greenhouse gas emissions. Following such a regulatory roadmap could result in the piecemeal application of command-and-control regulation—based on EPA staff determinations of the availability and suitability of a wide range of technology—covering both U.S. manufacturing activity and a broad range of commercial and household activities to an extent well beyond the scope of current regulation. To illustrate:

- The draft observes that regulation under almost any section of the Act would trigger the prevention of significant deterioration (PSD) program, which could require case-by-case EPA permitting covering building design for large office and residential buildings, hotels, retail stores and other similarly-sized projects;
- The draft discusses potential requirements that would regulate the design of plants in the U.S. manufacturing sector to increase energy efficiency;
- The draft discusses various technologies to achieve greenhouse gas emission reductions in the trucking industry, including devices to limit vehicle speed;
- In the agricultural sector, the draft discusses animal feeding operations, agricultural soil management, and fire management practices as a source of greenhouse gas emissions;
- The draft discusses approaches to reduce greenhouse gas emissions from households, for example, it notes that it "could require a different unit of measure tied to [a] machine's mission or output—such as grams per kilogram of cuttings from a 'standard' lawn for lawnmowers";
- The draft suggests reducing greenhouse gases from shipping through both ship design and marine operations, including redesigning ship hulls, limiting ship speed, using less ballast, and regulating route planning and port management. (It notes that "innovative strategies for reducing hull friction include coatings with textures similar to marine animals…").

To mitigate the far reaching and potentially harmful effects of regulating greenhouse gases under the Clean Air Act, the draft offers several untested legal propositions for "flexible" interpretations of the Act. In the case of PSD permitting, which could capture thousands of small sources never before regulated under the Clean Air Act, the draft specifically acknowledges that these novel theories violate the plain meaning of the Act, but suggests "the plain meaning of legislation is not conclusive…" The draft also relies on untested legal theories to suggest that some Clean Air Act provisions could be adapted to provide economic incentives to reduce greenhouse gas emissions. For example, it suggests that a regulatory program based on National Ambient Air Quality Standards might permit the adoption of a nationwide cap-and-trade program. Even if this regulatory approach legally could support economic incentives, it would likely be narrowly focused to cover a limited set of activities, and would not successfully engage the ingenuity and creativity of American citizens so that future generations can continue to enjoy both prosperity and environmental quality.

Addressing greenhouse gas emissions may be the most significant environmental policy decision of our generation, and I suspect that you are engaging public debate on the appropriateness of relying on the Clean Air Act, written decades ago to address different air quality concerns, to guide these policies. I appreciate that EPA will publish in the *Federal Register* this letter along with the enclosed letters from your Cabinet and other colleagues in addition to the June 17th EPA draft in order to facilitate public understanding of, and public comment on, the issues associated with regulating greenhouse gases under the Clean Air Act.

Sincerely,

Susan B. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget

United States Department of Agriculture
United States Department of Commerce
United States Department of Transportation
United States Department of Energy

July 9, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Dear Administrator Dudley:

The Departments of Agriculture, Commerce, Transportation, and Energy have serious concerns with the draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act" ("draft") submitted by the Environmental Protection Agency to the Office of Management and Budget on June 17, 2008.

Climate change is a significant issue for both our environment and our economy, and the nations of the world must act together to address greenhouse gas ("GHG") emissions. The United States currently is working with the world's major emitting economies to devise a new international framework to replace the one that expires in 2012. In addition, since 2001 our agencies have committed billions of dollars and have taken other actions to confront climate change through the development and deployment of new technologies; through rulemakings to increase fuel economy, energy efficiency, and the production and use of alternative fuels; and through significantly increased investment in new climate science research. These and other serious efforts to address climate change must continue.

The EPA staff now has prepared a draft suggesting that the Clean Air Act can be both workable and effective for addressing global climate change by regulating GHG emissions from stationary and mobile sources of virtually every kind. Our agencies have serious concerns with this suggestion because it does not fairly recognize the enormous—and, we believe, insurmountable—burdens, difficulties, and costs, and likely limited benefits, of using the Clean Air Act to regulate GHG emissions.

First, the Clean Air Act is fundamentally ill-suited to the effective regulation of GHG emissions. Indeed, the draft acknowledges that "the [Clean Air Act] was not specifically designed to address GHGs." Instead, the Clean Air Act is premised on the idea that controlling emissions in the United States will improve air quality in the United States, and that a State or region can improve its air quality by controlling emissions in that area. This is not true in the case of GHGs. Controlling GHG emissions in the United States will reduce atmospheric concentrations of those gases only if our emissions reductions are not simply replaced with emissions increases elsewhere in the world. Moreover, under the Clean Air Act, emissions requirements generally are related to a health-based or public-welfare-based air quality standard. Yet there is no such standard for GHGs in the Act or elsewhere, and thus the draft seems to take the approach of seeking emissions reductions with no precise idea of exactly what goal is being pursued or what GHG concentration-level objective is to be achieved.

Second, the use of the Clean Air Act to regulate GHG emissions unilaterally as envisioned in the draft would harm America's international competitiveness. Applying Clean Air Act regulations to U.S. businesses in order to address global climate change—outside of any international framework that brings together all of the world's major economies, both developed and developing—would simply export economic activity and emissions to less-regulated countries and might not generate any net reduction in worldwide GHG emissions. According to the Energy Information Administration, carbon dioxide emissions in non-OECD (Organization for Economic Cooperation and Development) nations already surpass those of OECD nations and are estimated to exceed them by 72 percent in 2030. The draft does not take account of these realities, and instead builds a regime that would impose enormous costs on U.S. consumers, workers, and businesses without addressing the fundamental shift in emissions growth from the developed world to the developing world.

Third, while acknowledging that "the complexity and interconnections inherent in [Clean Air Act] regulation of GHGs" has caused EPA staff to "not believe that all aspects of the Act are well designed for establishing the kind of comprehensive GHG regulatory program that could most effectively achieve the GHG emission reductions that may be needed over the next several decades," the draft nevertheless suggests that regulating GHGs under the Clean Air Act would be workable. We disagree. The draft offers a number of legal constructs to support its position, but there is no certainty of how those theories will work in actuality, or whether they would be upheld by the courts. Such legal uncertainty simply emphasizes the risk to the Nation's energy, economic, and environmental security of seeking to shoehorn a GHG regulatory program into the Clean Air Act. Moreover, some might read the draft's discussion of an array of GHG regulatory constructs to prejudge the question of endangerment, even though there are critical open issues that must be addressed and resolved in making that legal determination and which must be decided before GHG emissions can be regulated under the Clean Air Act.

Even if the Act could support all of the legal theories outlined in the draft, the suggested permitting regimes would be extraordinarily intrusive and burdensome. In fact, the draft recognizes that regulation of GHG emissions under the Clean Air Act would likely extend permitting requirements and emissions controls to many sources not previously subject to Clean Air Act regulation, such as large buildings heated by natural gas. This could lead to EPA exercising de facto zoning authority through control over thousands of what formerly were local or private decisions, impacting the construction of schools, hospitals, and commercial and residential development.

Fourth, although the draft sets forth data and analysis that could be useful in the overall debate about GHGs, our agencies disagree with many of the assumptions in the draft about the costs of controlling GHGs, the technologies currently available and potentially available in the future, the timeline for the development of some of those technologies, and the potential harm from and benefits of controlling GHG emissions from specific sources. Moreover, there are important differences between the draft and the peer-reviewed reports recently issued by the U.S. Climate Change Science Program—an interagency program in which EPA has been a key participant.

Finally, the draft suggests approaches to control GHG emissions that would needlessly duplicate newly passed laws and effectively ignore regulatory initiatives currently underway. For example, the Department of Transportation is already conducting a rulemaking to update fuel economy standards for light trucks and automobiles, pursuant to the recently enacted Energy Independence and Security Act of 2007. The draft suggests the possibility of an overlapping regulatory mandate using the Clean Air Act, potentially creating inconsistent regulatory mandates and uncertainty for U.S. industries and consumers, with minimal if any improvements in U.S. greenhouse gas emissions.

In sum, global climate change presents a serious challenge, and a workable and meaningful approach must be crafted to address that challenge. Unfortunately, using the Clean Air Act is not such an approach, as the draft sometimes acknowledges, but does not realistically address. In the enclosures with this letter, our respective agencies have provided brief analyses of some of the key technical, economic, and analytical difficulties with the draft, and our agencies may supplement these comments at a later date.

Sincerely,

Ed Schafer

Edward T. Schafer
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Carlos M. Gutierrez
Secretary
U.S. Department of Commerce

Mary E. Peters

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Secretary
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Samuel W Bodman

Samuel W. Bodman
Secretary
U.S. Department of Energy

Enclosures

U.S. Department of Transportation
U.S. Department of Energy
U.S. Department of Commerce
U.S. Department of Agriculture

***44361** Department of Transportation

The Department of Transportation ("the Department" or "DOT") hereby submits the following preliminary comments on the Environmental Protection Agency ("EPA") staff's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft"). In view of the very short time the Department has had to review the document, DOT will offer a longer, more detailed response by the close of the comment period.

***44362** *General Considerations*

In response to Massachusetts v. EPA and multiple rulemaking petitions, the EPA must consider whether or not greenhouse gases may reasonably be anticipated to endanger public health or welfare, within the meaning of the Clean Air Act. Such a determination requires the resolution of many novel questions, such as whether global or only U.S. effects should be considered, how imminent the anticipated endangering effects are, and how greenhouse gases are to be quantified, to name just a few. Without resolving any of these questions, let alone actually making an endangerment finding, the June 17 draft presents a detailed discussion of regulatory possibilities. In other words, the draft suggests an array of specific regulatory constructs in the transportation sector under the Clean Air Act without the requisite determinations that greenhouse gas emissions endanger public health or welfare and that regulation is feasible and appropriate. In fact, to propose specific regulations prejudices those critical determinations and reveals a predilection for regulation that may not be justified.

Policymakers and the public must consider a broader question: even if greenhouse gas regulation using a law designed for very different environmental challenges is legally permissible, is it desirable? We contend that it is not. We are concerned that attempting to regulate greenhouse gases under the Clean Air Act will harm the U.S. economy while failing to actually reduce global greenhouse gas emissions. Clean Air Act regulation would necessarily be applied unevenly across sources, sectors, and emissions-causing activities, depending on the particular existing statutory language in each section of the Act. Imposing Clean Air Act regulations on U.S. businesses, without an international approach that involves all of the world's major emitters, may well drive U.S. production, jobs, and emissions overseas, with no net improvement to greenhouse gas concentrations.

The Department believes that the Nation needs a well considered and sustainable domestic climate change policy that takes into account the best climatological, technical and economic information available. That policy—as with any significant matter involving Federal law and regulation—should also reflect a national consensus that the actions in question are justified and effective, and do not bring with them substantial unintended consequences or unacceptable economic costs. Reducing greenhouse gas emissions across the various sectors of our economy is an enormous challenge that can be met effectively only through the setting of priorities and the efficient allocation of resources in accordance with those priorities.

It is an illusion to believe that a national consensus on climate policy can be forged via a Clean Air Act rulemaking. Guided by the provisions of a statute conceived for entirely different purposes—and unconstrained by any calculation of the costs of the specific regulatory approaches it contemplates—such a rulemaking is unlikely to produce that consensus.

Administrator Johnson of the EPA said in a recent speech, "now is the time to begin the public debate and upgrade [the Clean Air Act's] components."Administrator Johnson has called for fundamental changes to the Clean Air Act "to consider benefits, costs, risk tradeoffs and feasibility in making decisions about how to clean the air."This, of course, is a criticism of the Clean Air Act's ability to address its intended purposes, let alone purposes beyond those Congress contemplated. As visualized in the June 17 draft, the U.S. economy would be subjected to a complex set of new regulations administered by a handful of people with little meaningful public debate and no ability to consider benefits, costs, risk tradeoffs and feasibility. This is not the way to set public policy in an area critical to our environment and to our economy.

As DOT and its fellow Cabinet departments argue in the cover letter to these Comments, using the Clean Air Act as a means for regulating greenhouse gas emissions presents insurmountable obstacles. For instance, Clean Air Act provisions that refer to specific pollutants, such as sulfur dioxide, have been updated many times over the past three decades. In contrast, the language referring to unspecified pollutants, which would apply to greenhouse gases, retains, in fossil form, the 1970s idea that air pollution is a local and regional scale problem, with pollution originating in motor vehicles and a few large facilities, for which "end of pipe" control technologies exist or could be invented at acceptable cost. Greenhouse gas emissions have global scale consequences, and are emitted from millions of sources around the world. If implemented, the actions that the draft contemplates would significantly increase energy and transportation costs for the American people and U.S. industry with no assurance that the regulations would materially affect global greenhouse gas atmospheric concentrations or emissions.

Transportation-Related Considerations

As the Nation's chief transportation regulatory agency, the Department has serious concerns about the draft's approach to mobile sources, including, but not limited to, the autos, trucks, and aircraft that Section VI of the draft considers regulating.

Title II of the Clean Air Act permits the use of technology-forcing regulation of mobile sources. Yet Section VI of the draft appears to presume an endangerment finding with respect to emissions from a variety of mobile sources and then strongly suggests the EPA's intent to regulate the transportation sector through an array of source-specific regulations. Thus, much of Section VI is devoted to describing and requesting information appropriate to setting technology-forcing performance standards for particular categories of vehicles and engines based on an assessment of prospective vehicle and engine technology in each source category.

In its focus on technology and performance standards, the draft spends almost no effort on assessing how different regulatory approaches might vary in their effectiveness and compliance costs. This despite the fact that picking an efficient, effective, and relatively unintrusive regulatory scheme is critically important to the success of any future program—and far more important at this stage than identifying the cost-effectiveness of speculative future technologies.

The draft fails to identify the market failures or environmental externalities in the transportation sector that regulation might correct, and, in turn, what sort of regulation would be best tailored to correcting a specific situation. Petroleum accounts for 99 percent of the energy use and greenhouse gas emissions in the transportation sector. Petroleum prices have increased fivefold since 2002. Rising petroleum prices are having a powerful impact on airlines, trucking companies, marine operators, and railroads, and on the firms that supply vehicles and engines to these industries. Petroleum product prices have doubled in two years, equivalent to a carbon tax of $200 per metric ton, far in excess of the cost of any previously contemplated climate change measure. Operators are searching for every possible operating economy, and capital equipment manufacturers are fully aware that fuel efficiency is a critical selling point for new aircraft, vehicles, and engines. At this point, regulations could provide no ***44363** more powerful incentive for commercial operators than that already provided by fuel prices. Badly designed performance standards would be at best non-binding (if private markets demand more efficiency than the regulatory standard) or would actually undermine efficient deployment of fuel efficient technologies (if infeasible or non-cost-effective standards are required).

Light Duty Vehicles

On December 19, 2007, the President signed the Energy Independence and Security Act ("EISA"), which requires the Department to implement a new fuel economy standard for passenger cars and light trucks. The Department's National Highway Traffic Safety Administration ("NHTSA") has moved swiftly to comply with this law, issuing a Notice of Proposed Rulemaking ("NPRM") on April 22, 2008. The comment period for this NPRM closed on July 1, 2008. If finalized in its present form, the rule would reduce U.S. carbon dioxide emissions by an estimated 521 million metric tons over the lifetime of the regulated vehicles.

This NPRM is only the latest in a series of NHTSA Corporate Average Fuel Economy ("CAFE") program rules proposed or implemented during this Administration. Indeed, these proposals together represent the most aggressive effort to increase the fuel economy (and therefore to reduce the emissions) of the U.S. fleet since the inception of the CAFE program in 1975.

In enacting EISA, Congress made careful and precise judgments about how standards are to be set for the purpose of requiring the installation of technologies that reduce fuel consumption. Although almost all technologies that reduce carbon dioxide emissions do so by reducing fuel consumption, the EPA staff's June 17 draft not only ignores those congressional judgments, but promotes approaches inconsistent with those judgments.

The draft includes a 100-page analysis of a tailpipe carbon dioxide emissions rule that has the effect of undermining NHTSA's carefully balanced approach under EISA. Because each gallon of gasoline contains approximately the same amount of carbon, and essentially all of the carbon in fuel is converted to carbon dioxide, a tailpipe carbon dioxide regulation and a fuel economy regulation are essentially equivalent: they each in effect regulate fuel economy.

In the draft's analysis of light duty vehicles, the external benefits of reducing greenhouse gas emissions account for less than 15 percent of the total benefits of improving vehicle efficiency, with the bulk of the benefits attributable to the market value of the gasoline saved. Only rather small marginal reductions in fuel consumption or greenhouse gas emissions would be justified by external costs in general, and climate change benefits in particular. Thus, the draft actually describes fuel economy regulations, which generate primarily fuel savings benefits, under the rubric of environmental policy.

Though it borrows an analytical model provided by NHTSA, the draft uses differing assumptions and calculates the effects of the Agency's standard differently than does the rule NHTSA proposed pursuant to EISA. The draft conveys the incorrect impression that the summary numbers such as fuel savings, emission reductions, and economic benefits that are presented in the draft are comparable with those presented in NHTSA's NPRM, when in fact the draft's numbers are calculated differently and, in many cases, using outdated information.

The draft does not include the provisions of EISA or past, current, or future CAFE rulemakings in its baseline analysis of light duty vehicle standards. Thus, the draft inflates the apparent benefits of a Clean Air Act light duty vehicle rulemaking when much of the benefits are already achieved by laws and regulations already on the books. The draft fails to ask whether additional regulation of light duty vehicles is necessary or desirable, nor gives any serious consideration how Clean Air Act and EISA authorities might be reconciled.

The draft comprehensively mischaracterizes the available evidence on the relationship between safety and vehicle weight. In the draft, EPA asserts that the safety issue is "very complex," but then adds that it disagrees with the views of the National Academy of Sciences (NAS) and NHTSA's safety experts, in favor of the views of a two-person minority on the NAS panel and a single, extensively criticized article.

Much of the text of this portion of the draft is devoted to a point-by-point recitation and critique of various economic and technological assumptions that NHTSA, the Office of Management and Budget, and other Federal agencies—among them EPA—painstakingly calculated over the past year, but that EPA now unilaterally revises for this draft. It is not clear why it is necessary or desirable to use one set of analytical assumptions, while the rest of the Federal Government uses another.

The public interest is ill-served by having two competing proposals, put forth by two different agencies, both purporting to regulate the same industry and the same products in the same ways but with differing stringencies and enforcement mechanisms, especially during a time of historic volatility in the auto industry and mere months after Congress passed legislation tasking another agency with regulation in this area. The detailed analysis of a light duty vehicle rule in the draft covers the same territory as does NHTSA's current rulemaking—and is completely unnecessary for the purposes of an endangerment finding or for seeking comment on the best method of regulating mobile source emissions.

Setting Air Quality Standards

The discussion of the process for setting National Ambient Air Quality Standards ("NAAQS") and development of state/Federal implementation plans for greenhouse gases is presented as an option for regulating stationary sources, and is placed in the discussion of stationary sources. The draft describes a scenario in which the entire country is determined to be in nonattainment.

Such a finding would reach beyond power plants and other installations to include vital transportation infrastructure such as roads, bridges, airports, ports, and transit lines. At a time when our country critically needs to modernize our transportation infrastructure, the NAAQS that the draft would establish—and the development of the implementation plans that would follow—could seriously undermine these efforts. Because the Clean Air Act's transportation and general conformity requirements focus on local impacts, these procedures are not capable of assessing and reducing impacts of global pollutants without substantial disruption and waste.

If the entire Nation were found to be in nonattainment for carbon dioxide or multiple greenhouse gases, and transportation and general conformity requirements applied to Federal activities, a broad range of those activities would be severely disrupted. For example, application of transportation conformity requirements to all metropolitan area transportation plans would add layers of additional regulations to an already arduous Federal approval process and expand transportation-related litigation without any assurance that global greenhouse gas emissions would be reduced. Indeed, needed improvements to airports, highways and transit systems that would make the transportation system more efficient, and thus help reduce greenhouse gas and other emissions, could be precluded due to ***44364** difficulties in demonstrating conformity. Though the potential for such widespread impact is clear from even a cursory reading of the draft, it ignores the issue entirely.

For these reasons, we question the practicality and value of establishing NAAQS for greenhouse gases and applying such a standard to new and existing transportation infrastructure across the Nation.

Heavy Duty Vehicles

The draft contemplates establishing a greenhouse gas emissions standard for heavy duty vehicles such as tractor-trailers. The draft's discussion of trucks makes no mention of the National Academy of Sciences study required by Section 108 of EISA that would evaluate technology to improve medium and heavy-duty truck fuel efficiency and costs and impacts of fuel efficiency standards that may be developed under 49 U.S.C. Section 32902(k), as amended by section 102(b) of EISA. This section directs DOT, in consultation with EPA and DOE, to determine test procedures for measuring and appropriate procedures for expressing fuel efficiency performance, and to set standards for medium- and heavy-duty truck efficiency. DOT believes that it is premature to review potential greenhouse gas emission standards for medium- and heavy-duty trucks in light of this study and anticipated future standard-setting action under EISA, and, in any event, that it is problematic to do so with no accounting of the costs that these standards might impose on the trucking industry.

In the case of light duty vehicles, it can be argued that consumers do not accurately value fuel economy, and regulation can correct this failure. Heavy-duty truck operators, on the other hand, are acutely sensitive to fuel costs, and their sensitivity is reflected in the product offerings of engine and vehicle manufacturers. The argument for fuel economy or tailpipe emissions regulation is much harder to make than in the case of light duty vehicles.

The medium and heavy truck market is more complex and diverse than the light duty vehicle market, incorporating urban delivery vans, on-road construction vehicles, work trucks with power-using auxiliaries, as well as the ubiquitous long-haul truck-trailer combinations. Further, a poorly designed performance standard that pushes operators into smaller vehicles may result in greater and not fewer of the emissions the draft intends to reduce. Because freight-hauling performance is maximized by matching the vehicle to the load, one large, high horsepower truck will deliver a large/heavy load at a lower total and fuel cost than the same load split into two smaller, low horsepower vehicles.

Railroads

The Clean Air Act includes a special provision for locomotives, Section 213(a)(5), which permits EPA to set emissions standards based on the greatest emission reduction achievable through available technology. The text of the draft suggests that EPA may consider such standards to include hybrid diesel/electric locomotives and the application of dynamic braking.

As in other sectors, it is hard to imagine how a technology-forcing regulation can create greater incentives than provided by recent oil prices. And sensible public policy dictates caution against imposing unrealistic standards or mandating technology that is not cost-effective, not reliable, or not completely developed.

Marine Vessels

The International Maritime Organization ("IMO") sets voluntary standards for emissions from engines used in ocean-going marine vessels and fuel quality through the MARPOL Annex VI (International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto ("MARPOL"), Annex VI, Prevention of Air Pollution from Ships). Member parties apply these voluntary standards through national regimes. The IMO is also working to consider ways to address greenhouse gas emissions from vessels and marine transportation, including both vessel-based and operational measures. The U.S. is a participant in these discussions. We believe that the discussion of ways to reduce greenhouse gas emissions from vessels and marine transportation should reference the IMO voluntary measures and discussions, and need not address detailed technological or operational measures.

Aviation

The draft includes a lengthy discussion of possible methods by which to regulate the greenhouse gas emissions of aircraft. For all its detail, however, the draft does not provide adequate information (and in some instances is misleading) regarding aviation emissions related to several important areas: (1) The overwhelming market pressures on commercial airlines to reduce fuel consumption and therefore carbon dioxide emissions and the general trends in aviation emissions growth; (2) expected technology and operational improvements being developed under the interagency Next Generation Air Transportation System ("NextGen") program; (3) the work and role of the International Civil Aviation Organization ("ICAO") in aviation environmental matters; (4) limits on EPA's ability to impose operational controls on aviation emission; and (5) the scientific uncertainty regarding greenhouse gas emissions from aircraft.

First, the draft does not provide the public an accurate picture of aviation emissions growth. Compared to 2000, U.S. commercial aviation in 2006 moved 12 percent more passengers and 22 percent more freight while burning less fuel, thereby reducing carbon output. Further, the draft's projections of growth in emissions are overstated because they do not reflect technology improvements in aircraft or air traffic operations and apparently do not take into account the industry's ongoing contraction or even the sustained increase in aviation jet fuel prices in 2007 and 2008. That increase (in 2008, U.S. airlines alone will spend $60 billion for fuel, compared to $16 billion in 2000) provides an overwhelming economic incentive for a financially troubled industry to reduce fuel consumption. Because reduction of a gallon of jet fuel displaces about 21 pounds of carbon dioxide, that incentive is the single most effective tool for reducing harmful emissions available today. Yet the draft makes no note of the trend.

Second, the draft does not adequately address the multi-agency NextGen program, one of whose principal goals is to limit or reduce the impact of aviation emissions on the global climate. This includes continued reduction of congestion through modernization of the air traffic control system, continued research on aircraft technologies and alternative fuels, and expanded deployment of operational advances such as Required Navigation Performance that allow aircraft to fly more direct and efficient routes in crowded airspace. Through NextGen, the Department's Federal Aviation Administration (FAA), in cooperation with private sector interests, is actively pursuing operational and technological advances that could result in a 33 percent reduction in aircraft fuel burn and carbon dioxide emissions.

Third, the draft gives short shrift to the Administration's efforts to reduce aviation emissions through a multilateral ICAO process, and it contemplates regulatory options either never analyzed by EPA or the aviation community for aircraft ("fleet *44365 averaging"[1]) or previously rejected by ICAO itself (flat carbon dioxide standards). The FAA has worked within the ICAO process to develop guidance for market-based measures, including adoption at the 2007 ICAO Assembly of guidance for emissions trading for international aviation. ICAO has established a Group on International Aviation and Climate Change that is developing further recommendations to address the aviation impacts of climate change.[2] The FAA's emphasis on international collaboration is compelled by the international nature of commercial aviation and the fact that performance characteristics of engines and airframes—environmental and otherwise—work best when they maximize consistency among particular national regulations.[3]

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[1] The concept of "fleet averaging," though used for automobiles, has never been applied to aviation or considered by

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either ICAO or FAA as a basis for standard setting. The draft offers little indication of why the concept would be worth serious consideration, and it is difficult to understand how that could be, given that manufacturers turn out only several hundred commercial airplanes for "averaging" annually, compared to over a million light duty vehicles per year built by large manufacturers. In any event, if further analysis supports the viability of fleet averaging, the appropriate venue for pursuing this would be through ICAO—so that aviation experts from around the world can assess the concept.

[2] In this context, we note that the draft invites comment on proposals in the European Union regarding an emissions trading scheme to be imposed by the EU on all Europe-connected commercial operations. The U.S. Government, led by the Department of State, has repeatedly argued that any of these proposals, if enacted, would violate international aviation law and has made clear its opposition to the proposals in ICAO and other international fora. It is curious that the EPA would solicit comments on the benefits of proposals that the United States (along with numerous other nations) opposes as unlawful and unworkable.

[3] The draft is potentially misleading in suggesting that the fuel flow rate data reported for the ICAO landing and takeoff cy-

Fourth, the draft invites comments on potential aviation operational controls that might have emissions benefits. But proposals for changes to airspace or air traffic operational procedures usurp the FAA's responsibility as the Nation's aviation safety regulator and air traffic manager. It is inappropriate for the EPA to suggest operational controls without consideration of the safety implications that the FAA is legally required to address.

Finally, the draft does not accurately present the state of scientific understanding of aviation emissions and contains misleading statements about aviation emissions impacts. The report of the Intergovernmental Panel on Climate Change (cited in the draft but often ignored) more clearly conveys cautions about underlying uncertainties associated with regulating aviation emissions. For instance, the IPCC specifically concludes that water vapor is a small contributor to climate change, yet the draft focuses on condensation trails produced by water vapor and includes an inaccurate statement that carbon dioxide and water vapor are "the major compounds from aircraft operations that are related to climate change."Further, the draft does not convey the significant scientific uncertainty associated with measuring particulate matter (PM) emissions from aircraft engines. That understanding needs to be significantly improved before any "tailpipe" PM standard could sensibly be considered.

Conclusion

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cle engine emissions certification process, and the carbon dioxide emissions concentrations data collected for calculation and calibration purposes may be used as the basis for a carbon dioxide standard.

The EPA has made an enormous effort in assembling the voluminous data that contributed to the draft as published today. However, because the draft does not adequately identify or discuss the immense difficulties and burdens, and the probable lack of attendant benefits, that would result from use of the Clean Air Act to regulate GHG emissions, DOT respectfully submits these preliminary comments to point out some of the problematic aspects of the draft's analysis regarding the transportation sector. We anticipate filing additional comments before the close of the comment period.

Department of Energy

I. Introduction

The U.S. Department of Energy (Department or DOE) strongly supports aggressively confronting climate change in a rational manner that will achieve real and sustainable reductions in global greenhouse gas (GHG) emissions, promote energy security, and ensure economic stability. In support of these goals, DOE believes that the path forward must include a comprehensive public discussion of potential solutions, and the foreseeable impacts of those proposed solutions—including impacts on energy security and reliability, on American consumers, and on the Nation's economy.

The Department supports the actions taken by the United States to date to address global climate change and greenhouse gas emissions, and believes these efforts should be continued and expanded. These actions have included a broad combination of market-based regulations, large increases in funding for climate science, new government incentives for avoiding, reducing or sequestering GHG emissions, and enormous increases in funding for technology research. The Department has played a significant role in implementing many of these initiatives, including those authorized by the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007.

The Department believes that an effective and workable approach to controlling GHG emissions and addressing global climate change should not simply consist of a unilateral and extraordinarily burdensome Clean Air Act (CAA or the Act) regulatory program being layered on top of the U.S. economy, with the Federal Government taking the position that energy security and indeed the American economy will just have to live with whatever results such a program produces. Rather, the United States can only effectively address GHG emissions and global climate change in coordination with other countries, and by addressing how to regulate GHG emissions while considering the effect of doing so on the Nation's energy and economic security. Considering and developing such a comprehensive approach obviously is enormously difficult.

Unfortunately, and no doubt due in part to the limitations of the Clean Air Act itself, the draft Advance Notice of Proposed Rulemaking prepared by the staff of the Environmental Protection Agency (EPA) does not take such an approach. That draft Notice, entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act" ("draft"), which was submitted to the Office of Management and Budget on June 17, 2008, instead seeks to address global climate change through an enormously elaborate, complex, burdensome and expensive regulatory regime that would not be assured of significantly mitigating global atmospheric GHG concentrations and global climate change. DOE believes that once the implications of the approach offered in the draft are fully explained and understood, it will make one thing clear about controlling GHG emissions and addressing global climate change—unilaterally proceeding with an extraordinarily burdensome and costly regulatory program under the Clean Air Act is not the right way to go.

DOE has had only a limited opportunity to review the June 17 EPA staff draft, and therefore anticipates providing additional comments at a later date. Based on the limited review DOE has been able to conduct so far, it is apparent that the draft reflects extensive work and includes valuable information, analyses and data that ***44366** should help inform the public debate concerning global climate change and how to address GHG emissions.

However, DOE has significant concerns with the draft because it lacks the comprehensive and balanced discussion of the impacts, costs, and possible lack of effectiveness were the United States, through the EPA, to use the CAA to comprehensively but unilaterally regulate GHG emissions in an effort to address global climate change. The draft presents the Act as an effective and appropriate vehicle for regulating GHG emissions and addressing climate change, but we believe this approach is inconsistent with the Act's overarching regulatory framework, which is based on States and local areas controlling emissions of air pollutants in order to improve U.S. air quality. Indeed, the Act itself states that Congress has determined "air pollution prevention * * * and air pollution control at its source is the primary responsibility of States and local governments," CAA § 101(a)(3); that determination is reflected in the Act's regulatory structure. The CAA simply was not designed for establishing the kind of program that might effectively achieve global GHG emissions controls and emissions reductions that may be needed over the next decades to achieve whatever level of atmospheric GHG concentration is determined to be appropriate or necessary.

Although the draft recognizes that the CAA does not authorize "economy-wide" cap and trade programs or emission taxes, it in essence suggests an elaborate regulatory regime that would include economy-wide approaches and sector and multi-sector trading programs and potentially other mechanisms yet to be conceived. The draft has the overall effect of suggesting that under the CAA, as it exists today, it would be possible to develop a regulatory scheme of trading programs and other mechanisms to regulate GHG emissions and thus effectively address global climate change. It is important to recognize, however, that such programs have not yet been fully conceived, in some cases rely on untested legal theories or applications of the Act, would involve unpredictable but likely enormous costs, would be invasive into virtually all aspects of the lives of Americans, and yet would yield benefits that are highly uncertain, are dependent on the actions of other countries, and would be realized, if at all, only over a long time horizon.

The draft takes an affirmative step towards the regulation of stationary sources under the Act—and while it is easy to see that doing so would likely dramatically increase the price of energy in this country, what is not so clear is how regulating GHG emissions from such sources would actually work under the CAA, or whether doing so would effectively address global climate change. Other countries also are significant emitters of GHGs, and "leakage" of U.S. GHG emissions could occur—that is, reduced U.S. emissions simply being replaced with increased emissions in other countries—if the economic burdens on U.S. GHG emissions are too great. In that regard, CAA regulation of GHG emissions from stationary sources would significantly increase costs associated with the operation of power plants and industrial sources, as well as increase costs associated with direct energy use (e.g., natural gas for heating) by sources such as schools, hospitals, apartment buildings, and residential homes.

Furthermore, in many cases the regulatory regime envisioned by the draft would result in emission controls, technology requirements, and compliance costs being imposed on entities that have never before been subject to direct regulation under the CAA. Before proceeding down that path, EPA should be transparent about, and there should be a full and fair discussion about, the true burdens of this path—in terms of its monetary cost, in terms of its regulatory and permitting burden, and in terms of exactly who will bear those costs and other burdens. These impacts are not adequately explored or explained in the draft. What should be crystal clear, however, is that the burdens will be enormous, they will fall on many entities not previously subject to direct regulation under the Act, and all of this will happen even though it is not clear what precise level of GHG emissions reduction or atmospheric GHG concentration level is being pursued, or even if that were decided, whether the CAA is a workable tool for achieving it.

In the limited time DOE has had to review the draft, DOE primarily has focused on the extent to which the draft addresses stationary sources and the energy sector. Based on DOE's review, we briefly discuss below (1) the inadequacy of CAA provisions for controlling greenhouse gas emissions from stationary sources as a method of affecting global GHG concentrations and addressing global climate change; (2) the potential costs and effects of CAA regulation of GHG emissions on the U.S. electric power sector; and (3) considerations for U.S. action to address GHG emissions from stationary sources in the absence of an effective global approach for addressing climate change and worldwide GHG emissions.

II. The Ineffectiveness and Costs Associated with CAA Regulation of Greenhouse Gas Emissions from Stationary Sources

The draft states that it was prepared in response to the decision of the United States Supreme Court in *Massachusetts v. EPA*, 549 U.S. _____, 127 S. Ct. 1438 (2007). In that case, the Court held that EPA has the authority to regulate GHG emissions from new motor vehicles because GHGs meet the Clean Air Act's definition of an "air pollutant." *Id.* at 1460. As a result, under section 202(a) of the Act, the EPA Administrator must decide whether, "in his judgment," "the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines""cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." If the EPA Administrator makes a positive endangerment finding, section 202(a) states that EPA "shall by regulation prescribe * * * standards applicable to the emission of" the air pollutant with respect to which the positive finding was made.

The Supreme Court stated that it did not "reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding."Instead, the Court said that when exercising the "judgment" called for by section 202(a) and in deciding how and when to take any regulatory action, "EPA must ground its reasons for action or inaction in the statute."

As a result, and based on the text of section 202(a) of the Clean Air Act, any EPA "endangerment" finding must address a number of issues that involve interpretation of statutory terms and the application of technical or scientific data and judgment. For example, an endangerment determination must involve, among other things, a decision about the meaning of statutory terms including "reasonably be anticipated to," "cause, or contribute to," "endanger," and "public health or welfare." Moreover, because the Act refers to "air pollutant" in the singular, presumably EPA should make any endangerment finding as to individual greenhouse gases and not as to all GHGs taken together, but this also is a matter that EPA must address and resolve. There are other issues that must be resolved as well, such as: whether the "public health and welfare" should be evaluated with respect to the United States alone or, if foreign impacts can or ***44367** should or must be addressed as well, what the statutory basis is for doing so and for basing U.S. emissions controls on foreign impacts; what time period in the future is relevant for purposes of determining what is "reasonably anticipate[d]"; whether and if so how EPA must evaluate any beneficial impacts of GHG emissions in the United States or elsewhere in making an endangerment determination; and whether a particular volume of emissions or a particular effect from such emissions from new motor vehicles must be found before EPA may make a "cause or contribute" finding, since the Act explicitly calls for the EPA Administrator to exercise his "judgment," and presumably that judgment involves more than simply a mechanistic calculation that one or more molecules will be emitted.

If EPA were to address these issues and resolve them in favor of a positive endangerment finding under section 202(a) of the Act with respect to one or more greenhouse gases and in favor of regulating GHG emissions from new motor vehicles, then the language similarities of various sections of the CAA likely would require EPA also to regulate GHG emissions from stationary sources. A positive endangerment finding and regulation of GHGs from new motor vehicles likely would immediately trigger the prevention of significant deterioration (PSD) permit program which regulates stationary sources that either emit or have the potential to emit 250 tons per year of a regulated pollutant or, if they are included on the list of source categories, at least 100 tons per year of a regulated pollutant. Because these thresholds are extremely low when considered with respect to GHGs, thousands of new sources likely would be swept into the PSD program necessitating time consuming permitting processes, costly new investments or retrofits to reduce or capture GHG emissions, increasing costs, and creating vast areas of uncertainty for businesses and commercial and residential development.

In addition to the PSD program, it is widely acknowledged that a positive endangerment finding could lead to three potential avenues of stationary source regulation under the CAA: (1) The setting of national ambient air quality standards (NAAQS) under sections 108 and 109; (2) the issuance of new source performance standards (NSPS) under section 111; and/or (3) the listing of one or more greenhouse gases as hazardous air pollutants (HAP) under section 112. Each of these approaches, and their associated deficiencies with respect to GHG emissions and as a method of addressing global climate change, are briefly discussed below.

a. Sections 108-109: NAAQS

Section 108 of the CAA requires EPA to identify and list air pollutants that "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare."For such pollutants, EPA promulgates "primary" and "secondary" NAAQS. The primary standard is defined as the level which, in the judgment of the EPA Administrator, based on scientific criteria, and allowing for an adequate margin of safety, is requisite to protect the public health. The secondary standard is defined as the level which is requisite to protect the public welfare. Within one year of EPA's promulgation of a new or revised NAAQS, each State must designate its regions as non-attainment, attainment, or unclassifiable. Within three years from the NAAQS promulgation, States are required to adopt and submit to EPA a State implementation plan (SIP) providing for the implementation, maintenance, and enforcement of the NAAQS.

At least three major difficulties would be presented with respect to the issuance by EPA of a NAAQS for one or more greenhouse gases: (1) The determination of what GHG concentration level is requisite to protect public health and welfare; (2) the unique nature of GHGs as pollutants dispersed from sources throughout the world and that have long atmospheric lifetimes; and (3) GHG concentrations in the ambient air are virtually the same throughout the world meaning that they are not higher near major emissions sources than in isolated areas with no industry or major anthropogenic sources of GHG emissions.

While much has been said and written in recent years about the need to reduce greenhouse gas emissions to address climate change, there is far less agreement on the acceptable or appropriate atmospheric concentration level of CO_2 or other GHGs. As the draft states, "[d]etermining what constitutes 'dangerous anthropogenic interference' is not a purely scientific question; it involves important value judgments regarding what level of climate change may or may not be acceptable."While the Department agrees with this statement, the courts have held that when setting a NAAQS, EPA cannot consider important policy factors such as cost of compliance. This limitation inhibits a rational balancing of factors in determining and setting a GHG NAAQS based on the science available, the availability and cost of emission controls, the resulting impact on the U.S. economy, the emissions of other nations, etc.

Unlike most pollutants where local and regional air quality, and local and regional public health and welfare, can be improved by reducing local and regional emissions, GHGs originate around the globe, and are mixed and dispersed such that there is a relatively uniform atmospheric GHG concentration level around the world. There is little or nothing that a single State or region can do that will appreciably alter the atmospheric GHG concentration level in that particular State or region. Thus, it is hard to see how a GHG NAAQS, which required States to take action to reduce their emissions to meet a particular air quality standard, would actually work. A GHG NAAQS standard would put the entire United States in either attainment or non-attainment, and it would be virtually impossible for an individual State to control or reduce GHG concentrations in its area and, thus, to make significant strides towards remaining in or reaching attainment with the NAAQS.

Whatever level EPA might eventually establish as an acceptable NAAQS for one or more GHGs, EPA's setting of such a level would immediately implicate further issues under the NAAQS regime, including the ability of States and localities to meet such a standard. If the GHG NAAQS standard for one or more gases is set at a level below the current atmospheric concentration, the entire country would be in nonattainment. All States then would be required to develop and submit State Implementation Plans (SIPs) that provide for meeting attainment by the specified deadline. And yet, as the draft states, "it would appear to be an inescapable conclusion that the maximum 10-year horizon for attaining the primary NAAQS is ill-suited to pollutants such as greenhouse gases with long atmospheric residence times * * * [t]he long atmospheric lifetime of * * * greenhouse gases * * * means that atmospheric concentrations will not quickly respond to emissions reduction measures * * * in the absence of substantial cuts in worldwide emissions, worldwide concentrations of greenhouse gases would continue to increase despite any U.S. emission control efforts. Thus, despite active control efforts to meet a NAAQS, the entire United States would remain in nonattainment for an unknown number of years."

As the draft also recognizes, if the NAAQS standard for GHGs is set at a ***44368** level above the current atmospheric concentration, the entire country would be in attainment. In a nationwide attainment scenario, the PSD and new source review (NSR) permitting regimes would apply and States would have to submit SIPs for the maintenance of the primary NAAQS and to prevent interference with the maintenance by other States of the NAAQS; tasks, that as applied to GHGs, are entirely superfluous given the inability of any single State to change through its own unilateral action the global or even local concentration level of GHGs.

As the difficult choices and problematic results outlined above demonstrate, the inability of a single State to appreciably change atmospheric GHG concentrations in its own area through its own emission reduction efforts is inconsistent with a fundamental premise of the Clean Air Act and of the NAAQS program—that States and localities are primarily responsible for air pollution control and maintaining air quality, and that State and local governments can impose controls and permitting requirements that will allow the State to maintain or attain air quality standards through its own efforts.

b. Section 111: NSPS

Section 111 of the CAA requires the EPA Administrator to list categories of stationary sources if such sources cause or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare. The EPA must then issue new source performance standards (NSPS) for such sources categories. An NSPS reflects the degree of emission limitation achievable through the application of the "best system of emission reduction" which the EPA determines has been adequately demonstrated. EPA may consider certain costs and non-air quality health and environmental impact and energy requirements when establishing NSPS. Where EPA also has issued a NAAQS or a section 112 maximum achievable control technology (MACT) standard for a regulated pollutant, NSPS are only issued for new or modified stationary sources. Where no NAAQS has been set and no section 112 MACT standard issued, NSPS are issued for new, modified, and existing stationary sources.

Regulation of GHGs under section 111 presents at least two key difficulties. First, EPA's ability to utilize a market system such as cap and trade has not been confirmed by the courts. EPA's only attempt to establish a cap and trade program under section 111, the "Clean Air Mercury Rule," was vacated by the U.S. Court of Appeals for the District of Columbia Circuit, though on grounds unrelated to EPA's authority to implement such a program under section 111. DOE believes EPA does have that authority, as EPA previously has explained, but there is legal uncertainty about that authority, which makes a GHG market-oriented program under section 111 uncertain.

Second, EPA's regulation of small stationary sources (which account for a third of all stationary source emissions) would require a burdensome and intrusive regulatory mechanism unlike any seen before under the CAA. If EPA were to determine that it cannot feasibly issue permits to and monitor compliance for all of these sources, a section 111 system presumably would cover only large stationary sources, which would place the compliance burden completely on electric generators and large industrial sources, and reduce any overall effect from the GHG control regime.

However, there are questions about whether it would be permissible for EPA to elect not to regulate GHG emissions from small stationary sources. Section 111(b)(1) indicates that the Administrator must list a category of sources if, in his judgment, it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health and welfare. Given the volume of greenhouse gases that are emitted from small stationary sources in the aggregate, it is uncertain whether, if EPA makes a positive endangerment finding for emissions of one or more GHGs from new motor vehicles, EPA could conclude that small stationary sources do not cause "or contribute significantly" to air pollution that endangers the public health or welfare. This might well turn on the interpretation and application of the terms in CAA section 202(a), noted above. Regardless, it is uncertain whether, and if so where, EPA could establish a certain GHG emission threshold for determining what sources or source categories are subject to GHG regulations under section 111. What does seem clear is that regulating GHG emissions under section 111 would entail implementation of an enormously complicated, costly, and invasive program.

c. Section 112: HAP

Section 112 contains a list of hazardous air pollutants subject to regulation. A pollutant may be added to the list because of adverse health effects or adverse environmental effects. DOE believes it would be inappropriate for greenhouse gases to be listed as HAPs given, among other things, EPA's acknowledgment that ambient GHG concentrations present no health risks. Nevertheless, if one or more GHGs were listed under section 112, EPA would have to list all categories of "major sources" (defined as sources that emit or potentially emit 10 tons per year of any one HAP or 25 tons per year of any combination of HAPs). For each major source category, EPA must then set a maximum available control technology (MACT) standard.

It is entirely unclear at this point what sort of MACT standard would be placed on which sources for purposes of controlling GHG emissions, what such controls would cost, and whether such controls would be effective. However, complying with MACT standards with respect to GHG emission controls likely would place a significant burden on States and localities, manufacturing and industrial facilities, businesses, power plants, and potentially thousands of other sources throughout the United States. As the draft explains, section 112 "appears to allow EPA little flexibility regarding either the source categories to be regulated or the size of sources to regulate * * * EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources * * * we believe that small commercial or institutional establishments and facilities with natural gas fired furnaces would exceed this major source threshold; indeed, a large single family residence could exceed this threshold if all appliances consumed natural gas."

Compliance with the standards under section 112 is required to be immediate for most new sources and within 3-4 years for existing sources. Such a strict timeline would leave little to no time for emission capture and reduction technologies to emerge, develop, and become cost-effective.

d. Effects of CAA Regulation of GHGs on the U.S. Energy Sector

While the Department has general concerns about the portrayal of likely effects of proposals to regulate GHGs under the CAA on all sectors of the U.S. economy, DOE is particularly concerned about the effects of such regulation on the energy sector. The effects of broad based, economy-wide regulation of GHGs under the CAA would have significant adverse effects on U.S. energy supplies, energy reliability, and energy security.

Coal is used to generate about half of the U.S. electricity supply today, and the Energy Information Administration (EIA) projects this trend to continue ***44369** through 2030. (EIA AEO 2008, at 68) At the electricity generating plant itself, conventional coal-fired power stations produce roughly twice as much carbon dioxide as a natural gas fired power station per unit of electricity delivered. Given this reality, the effect of regulating emissions of GHGs from stationary sources under the CAA could force a drastic shift in the U.S. power sector. As Congressman John

D. Dingell, Chairman of the U.S. House of Representatives Committee on Energy and Commerce, explained in a statement issued on April 8, 2008:

> "As we move closer to developing policies to limit and reduce emissions, we must be mindful of the impact these policies have on the price of all energy commodities, particularly natural gas. What happens if efforts to expand nuclear power production and cost-effectively deploy carbon capture and storage for coal-fired generation are not successful? You know the answer. We will drive generation to natural gas, which will dramatically increase its price tag. We don't have to look too far in the past to see the detrimental effect that high natural gas prices can have on the chemical industry, the fertilizer industry, and others to know that we must be conscious of this potential consequence."

Chairman Dingell's view is supported by studies of the climate bill recently considered by the United States Senate. EIA's analysis of the Lieberman-Warner bill stated that, under that bill, and without widespread availability of carbon capture and storage (CCS) technology, natural gas generation would almost double by 2030. See *Energy Information Administration, Energy Market and Economic Impacts of S. 2191, the Lieberman-Warner Climate Security Act of 2007* at 25.[4]

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[4] DOE's Energy Information Administration (EIA) prepared an analysis of the proposed Lieberman-Warner Climate Security Act of 2007 and projected that if new nuclear, renew-

If CAA regulation of GHG emissions from stationary sources forces or encourages a continued move toward natural gas fired electric generating units, there will

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able and fossil plans with carbon capture and sequestration are not developed and deployed in a time frame consistent with emissions reduction requirements, there would be increased natural gas use to offset reductions in coal generation, resulting in markedly higher delivered prices of natural gas. See *Energy Market and Economic Impacts of S. 2191, the Lieberman-Warner Climate Security Act of 2007* (EIA, April 2008) EIA estimated price increases from 9.8 cents per kilowatthour in 2020 to 14.5 cents per kilowatthour in 2030, ranging from 11 to 64 percent higher by 2030. *Id., p. 27,* Figure 16. EPA's analysis of the proposed legislation similarly projected electricity prices to increase 44% in 2030 and 26% in 2050 assuming the growth of nuclear, biomass or carbon capture and storage technologies. See *EPA Analysis of the Lieberman-Warner Climate Security Act of 2008* (March 14, 2008), pp. 3, 57. If the growth of nuclear, biomass, or carbon capture and storage technologies was constrained, EPA projected that electricity prices in 2030 would be 79% higher and 2050 prices would be 98% higher than the reference scenario prices. Other analyses of the legislation also projected substantial increases in energy costs for consumers. *See, e.g. Analysis of the Lieberman-Warner Climate Security Act (S. 2191) Using the National Energy Modeling System* (A Report by the American Council for Capital Formation and the National Associate of Manufacturers, conducted by Science Applications International Corporation (SAIC))(study finding increases in energy prices for residential consumers by 26% to 36% in 2020, and 108% to 146% in 2030 for natural gas, and 28% to 33% in 2020, and 101% to 129% in 2030 for electricity). Further, in its analysis o the bill the Congressional Budge Office estimated that costs of private sector mandates associated with the legislation would amount to more than $90 billion each year during the 2012-2016 period, most of which cost would ultimately be passed on to consumers in the form of higher prices for energy and energy-intensive goods and services. *See Congressional Budget Office Cost Estimate*, S. 2191 (April 10, 2008), pp. 2, 19.

be significantly increased demand for natural gas. Given the limitations on domestic supplies, including the restrictions currently placed on the production of natural gas from public lands or from areas on the Outer Continental Shelf, much of the additional natural gas needed likely would have to come from abroad in the form of liquefied natural gas (LNG). This LNG would have to be purchased at world prices, currently substantially higher than domestic natural gas prices and generally tied to oil prices (crude or product). To put this into perspective, natural gas closed on June 27, 2008, at about $13.20/mcf for August delivery, about twice as high as last year at this time, despite increasing domestic natural gas production. The reason is that unlike last year, the U.S. has been able to import very little LNG this year, even at these relatively high domestic prices. United States inventories of natural gas in storage currently are about 3% below the five year average, and are 16% below last year at this time. Among other effects, a large policy-forced shift towards increased reliance on imported LNG would raise energy security and economic concerns by raising domestic prices for consumers (including electricity prices) and increasing U.S. reliance on foreign sources of energy.

In order for coal to remain a viable technology option to help meet the world's growing energy demand while at the same time not addressing GHG emissions, CCS technologies must be developed and widely deployed. While off-the-shelf capture technologies are available for coal power plant applications, current technologies are too costly for wide scale deployment for both new plant construction and retrofit of the existing fleet of coal-fired power plants. DOE studies (e.g., DOE/NETL Report: "Cost and Performance Baseline for Fossil

Energy Plants," May 2007) show that capturing and sequestering CO_2 with today's technology is expensive, resulting in electricity cost increases on the order of 30%-90% above the cost of electricity produced from new coal plants built without CCS.

The impact of a policy that requires more production of electricity from natural gas will be felt not just in the United States but in worldwide efforts to reduce GHG emissions. Unless U.S. policy supports rapid development of CCS technologies to the point that they are economically deployable (i.e., companies are not forced to switch to natural gas fired electric generating facilities), CCS will not be installed as early as possible in the China or other developing nations. In a global climate sense, most of the benefit from new technology installation will come from the developing countries, and much of the international benefit would come from providing countries like China and India with reasonable-cost CCS options for development of their massive coal resources, on which we believe they will continue to rely.

III. Energy Policy Considerations for Addressing Climate Change

The Department is concerned that the draft does not properly acknowledge collateral effects of using CAA regulation to address global climate change, particularly in the absence of a regime that actually will effectively address global climate change by addressing global GHG emissions. DOE strongly supports efforts to reduce GHG emissions by advancing technology and implementing policies that lower emissions, but doing so in a manner that is conscious of and that increases, rather than decreases, U.S. energy security and economic security. With these goals in mind, DOE believes policymakers and the public should be mindful of the considerations briefly described below as the United States seeks to effectively address the challenge of global climate change.

Secretary Bodman has stated that "improving our energy security and addressing global climate change are among the most pressing challenges of our time."This is particularly true in light of the estimate by the International Energy Agency that the world's primary energy needs will grow by over 50% by 2030.

In order to address these challenges simultaneously and effectively, the United States and other countries must make pervasive and long-term changes. Just as the current energy and environmental situation did not develop ***44370** overnight, neither can these challenges be addressed and resolved immediately.

To ensure that we both improve energy security and reduce GHG emissions, rather than address one at significant cost to the other, DOE believes that a number of actions must be taken. None of these actions is sufficient in itself, and none of these actions can be pursued to the exclusion of the others.

Specifically, the United States and other nations must: Bring more renewable energy online; aggressively deploy alternative fuels; develop and use traditional hydrocarbon resources, and do so in ways that are clean and efficient; expand access to safe and emissions-free nuclear power, while responsibly managing spent nuclear fuel and reducing proliferation risks; and significantly improve the efficiency of how we use energy. In all of these things, the Department believes that technological innovation and advancement is the key to unlocking the future of abundant clean energy and lower GHG emissions. Therefore, this innovation and advancement—through government funding, private investment, and public policies that promote both of these—should be the cornerstone of any plan to combat global climate change.

In recent years, DOE has invested billions of dollars to advance the development of technologies that advance these objectives. For example, in 2007 DOE funded the creation of three cutting-edge bioenergy research facilities. These facilities, which are already showing progress, will seek to advance the production of biofuels that have significant potential for both increasing the Nation's energy security and reducing GHG emissions. Since the start of 2007, DOE has invested well over $1 billion to spur the growth of a robust, sustainable biofuels industry in the United States.

DOE also has promoted technological advancement and deployment in other renewable energy areas such as wind, solar and geothermal power, and these advancements and policies are producing results. For example, in 2007, U.S. cumulative wind energy capacity reached 16,818 megawatts—more than 5,000 megawatts of wind generation were installed in 2007 alone. The United States has had the fastest growing wind power capacity in the world for the last three years in a row. In addition, DOE recently issued a solicitation offering up to $10 billion in federal loan guarantees, under the program authorized by Title XVII of the Energy Policy Act of 2005, to incentivize the commercial deployment of new or significantly improved technologies in projects that will avoid, reduce or sequester emissions of GHGs or other air pollutants.

DOE strongly believes that nuclear power must play an important role in any effective program to address global climate change. Indeed, we believe that no serious effort to effectively control GHG emissions and address climate change can exclude the advancement and development of nuclear power. DOE continues to seek advancements in nuclear power technology, in the licensing of new nuclear power facilities, and in responsibly disposing of spent nuclear fuel. With respect to new nuclear power plants, DOE has put in place a program to provide risk insurance for the developers of the first new facilities, and recently issued a solicitation offering up to $18.5 billion in federal loan guarantees for new nuclear power plants.

Significant advancements have been made in recent years toward the development of new nuclear facilities. There now are pending at the Nuclear Regulatory Commission several applications, all of which have been filed in 2007 or 2008, to license new nuclear generating facilities. DOE views the filing of these applications and the interest in licensing and building new nuclear power facilities as very positive developments from the perspectives of the Nation's electric reliability and energy security, as well as the effort to control greenhouse gas emissions. But there still is much to be done, and it will take a sustained effort both by the private sector and by federal, State and local governments, to ensure that these facilities are licensed, built and placed into service.

As noted above, DOE believes that coal can and must play an important role in this Nation's energy future. Moreover, regardless what decisions about coal U.S. policy officials may wish to make, it seems clear that coal will continue to be used by other countries to generate electricity for decades to come. It has been noted that China is building new coal power plant capacity at the incredible rate of one per week. As a result, it is critically important that we develop and deploy cost-effective carbon capture and sequestration technology, both to ensure that we can take advantage of significant energy resources available in the United States, but also to help enable the control of emissions in other countries as well.

DOE believes that cost effective CCS technology must be developed over the next 10-15 years that could be deployed on new plants built to meet increasing demand and to replace retiring capital stock, and retrofitted on existing plants with substantial remaining plant life. DOE is helping to develop technologies to capture, purify, and store CO_2 in order to reduce GHG emissions without significant adverse effects on energy use or on economic growth. DOE's primary CCS research and development objectives are: (1) Lowering the cost and energy penalty associated with CO_2 capture from large point sources; and (2) improving the understanding of factors affecting CO_2 storage permanence, capacity, and safety in geologic formations and terrestrial ecosystems.

Once these objectives are met, new and existing power plants and fuel processing facilities in the U.S. and around the world will have the potential to deploy CO_2 capture technologies. Roughly one third of the United States' carbon emissions come from power plants and other large point sources. To stabilize and ultimately reduce atmospheric concentrations of CO_2, it will be necessary to employ carbon sequestration—carbon capture, separation and storage or reuse. The availability of advanced coal-fired power plants with CCS to provide clean, affordable energy is essential for the prosperity and security of the United States.

The DOE carbon sequestration program goal is to develop at R&D scale by 2012, fossil fuel conversion systems that offer 90 percent CO_2 capture with 99 percent storage permanence at less than a 10 percent increase in the cost of energy services from new plants. For retrofits of existing facilities, the task will be much harder, and the penalties in terms of increased cost of power production from those plants likely will be much higher. We expect that these integrated systems for new plants will be available for full commercial deployment—that is, will have completed the demonstration and early deployment phase—in the 2025 timeframe. Of course, there are inherent uncertainties in these projections and long-term research, development, demonstration and deployment goals.

In line with the Department's CCS R&D goals, DOE is working with regional carbon sequestration partnerships to facilitate the development of the infrastructure and knowledge base needed to place carbon sequestration technologies on the path to commercialization. In addition, DOE recently restructured its FutureGen program to accelerate the near-term deployment of advanced clean coal technology by equipping new integrated gasification combined cycle (IGCC) or other clean coal commercial power ***44371** plants with CCS technology. By funding multiple projects, the restructured FutureGen is expected to at least double the amount of CO_2 sequestered compared to the concept that previously had been announced in 2003. The restructured FutureGen approach also will focus on the challenges associated with avoidance and reduction of carbon emissions and criteria pollutants through sequestration.

In order to reduce the demand on our power sector and the associated emissions of GHGs and other pollutants, we must continue to support expanded efforts to make our society more efficient, from major power plants to residential homes. DOE has helped lead this effort with, among other things, its Energy Star program, a government-backed joint effort with EPA to establish voluntary efficiency standards that help businesses and individuals protect the environment and save money through greater energy efficiency. By issuing higher efficiency standards for an increasing number of products, the Energy Star program helps consumers make fully-informed and energy-conscious decisions that result in reduced emissions of GHGs and other pollutants. Last year alone, with the help of the Energy Star program, American consumers saved enough energy to power 10 million homes and avoid GHG emissions equivalent to the emissions from 12 million cars—all while saving $6 billion in energy costs.

IV. Conclusion

The Department believes the draft does not address and explain in clear, understandable terms the extraordinary costs, burdens and other adverse consequences, and the potentially limited benefits, of the United States unilaterally using the Clean Air Act to regulate GHG emissions. The draft, while presenting useful analysis, seems to make a case for the CAA being the proper vehicle to meaningfully combat global climate change, but we believe it understates the potential costs and collateral adverse effects of attempting to regulate GHG emissions and address climate change through a regulatory scheme that is forced into the Clean Air Act's legal and regulatory mold.

Any effective and workable approach to controlling GHG emissions and addressing global climate change should not simply consist of a unilateral and extraordinarily burdensome CAA regulatory program that is placed on top of the U.S. economy with all other existing mandates, restrictions, etc. simply remaining in place and the Government taking the position that U.S. energy security and indeed the American economy will just have to live with whatever results the GHG control program produces. Rather, the Nation can only effectively address GHG emissions and global climate change in coordination with other countries, and by addressing how to regulate GHG emissions while considering the effect of doing so on the Nation's energy and economic security. Considering and developing such a comprehensive approach obviously will be very difficult. But what seems clear is that it would be better than the alternative, if the alternative is unilaterally proceeding with the enormously burdensome, complex and costly regulatory program under the Clean Air Act discussed in the draft, which in the end might not even produce the desired climate change benefits.

U.S. Department of Commerce

Analysis of Draft Advanced Notice of Proposed Rulemaking

"Regulating Greenhouse Gas Emissions Under the Clean Air Act"

Overview: This analysis reviews some of the implications of regulating greenhouse gas (GHG) emissions under the Clean Air Act (CAA) as outlined in the draft Advance Notice of Proposed Rulemaking submitted to the Office of Management and Budget on June 17, 2008 (the draft). The Department of Commerce's fundamental concern with the draft's approach to using the CAA to regulate GHGs is that it would impose significant costs on U.S. workers, consumers, and producers and harm U.S. competitiveness without necessarily producing meaningful reductions in global GHG emissions.

Impact on U.S. Competitiveness and Manufacturing: The draft states that competitiveness is an important policy consideration in assessing the application of CAA authorities to GHG emissions. It also acknowledges the potential unintended consequences of domestic GHG regulation, noting "[t]he concern that if domestic firms faced significantly higher costs due to regulation, and foreign firms remained unregulated, this could result in price changes that shift emissions, and possibly some production capacity, from the U.S. to other countries."[5] This is a real issue for any domestic regulation implemented without an international agreement involving the world's major emitters.

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[5] EPA draft, pg. 36.

However, the draft does not detail the shift in global emissions that is currently taking place. As the chart below shows, the emissions of countries outside of the Organization of Economic Cooperation and Development (OECD) already exceed those of OECD countries. By 2030, non-OECD emissions are projected to be 72 percent higher than those of their OECD counterparts.[6]

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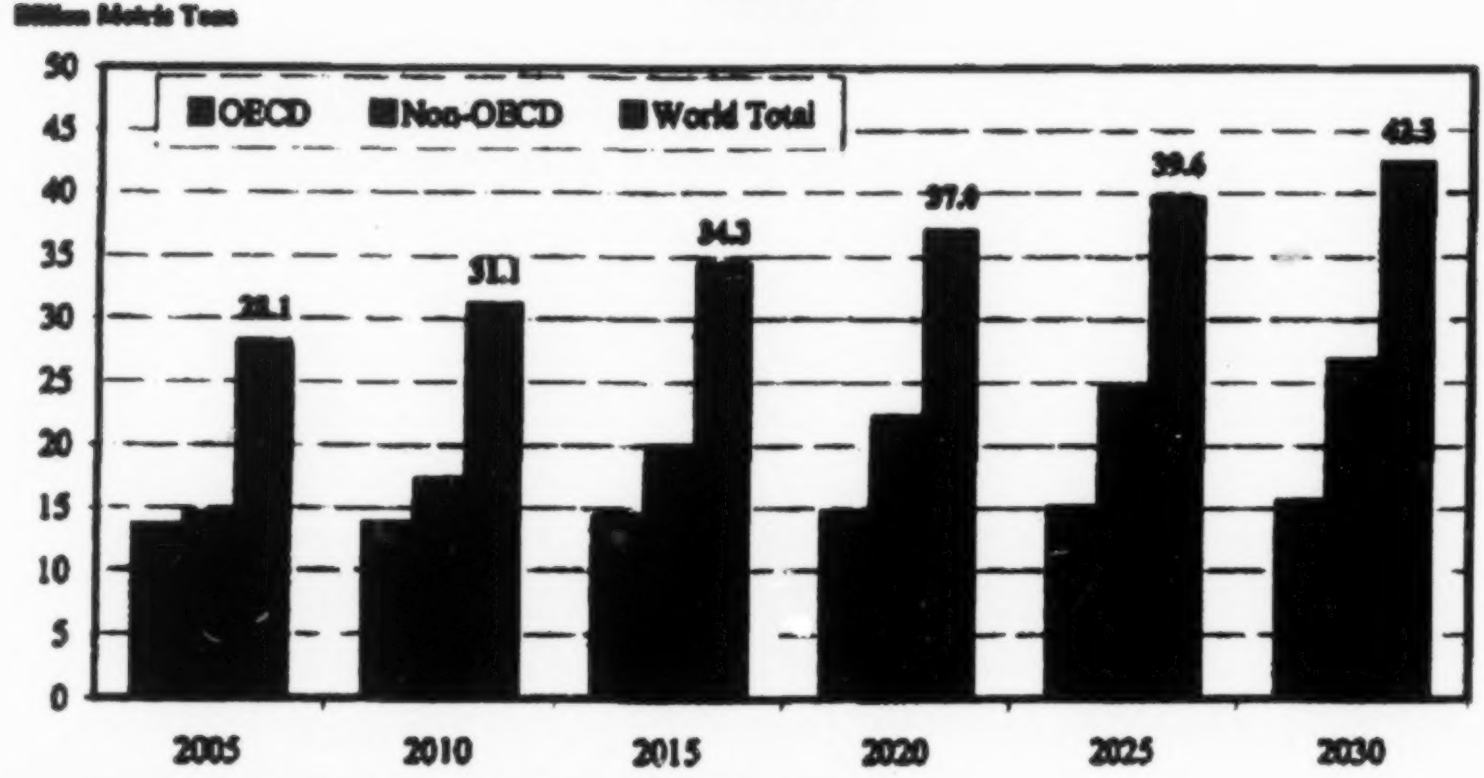
[6] EIA International Energy Outlook 2008, *http://www.eia.doe.gov/oiaf/ieo/highlights.html.*

World Carbon Dioxide Emissions
2005-2030



Source: Energy Informatin Administration, World Energy Projections Plus (2008).

***44372** Any climate change regulation must take this trend into account. Greenhouse gas emissions are a global phenomenon, and, as documented in the draft, require reductions around the world in order to achieve lower concentrations in the atmosphere. However, the costs of emissions reductions are generally localized and often borne by the specific geographic area making the reductions. As a result, it is likely that the U.S. could experience significant harm to its international competitiveness if GHGs were regulated under the CAA, while at the same time major sources of emissions would continue unabated absent an international agreement.

Because the draft does not specify an emissions target level, the implications of national regulation for the U.S. economy as a whole and for energy price-sensitive sectors in particular are difficult to forecast. However, recent analysis of emissions targets similar to those cited in the draft provides a guide to the estimated level of impacts.

In April 2008, the Energy Information Administration (EIA) released an analysis of legislation that set emission reduction targets of 30 percent below 2005 levels by 2030 and 70 percent below 2005 levels by 2050. The EIA estimated that in the absence of international offsets and with limited development of alternatives, achieving those emission targets would reduce manufacturing employment by 10 percent below currently projected levels in 2030. Under the same scenario, the EIA estimate indicated the emission targets would reduce the output of key energy-intensive manufacturing industries, such as food, paper, glass, cement, steel, and aluminum, by 10 percent and the output of non-energy intensive manufacturing industries by nine percent below currently projected levels in 2030.[7]

The European Union's experience with implementation of its cap-and-*44373 trade system is also instructive from a competitiveness standpoint. Key energy intensive industries in Europe have raised concerns about the competitiveness impacts of the emissions trading system (ETS), arguing that the ETS would force them to relocate outside of Europe. EU leaders have responded to these concerns by considering the possibility of awarding free emissions permits to certain industries, provided the industries.also agreed to reduce emissions.[8] This illustrates one of the challenges of crafting an effective national or regional solution to a global problem.

International Trade: In order to address the concern that GHG regulation in the United States will lead to emissions leakage and movement of certain sectors to countries without strict carbon regulations, the draft requests comment on "trade-related policies such as import tariffs on carbon or energy content, export subsidies, or requirements for importers to submit allowances to cover the carbon content of certain products."[9]

Applying tariffs to imports from countries without carbon regulations would have a number of significant repercussions. In addition to exposing the United States to World Trade Organization challenges by our trading partners, unilateral U.S. carbon tariffs could spark retaliatory measures against U.S. exporters, the brunt of which would fall on U.S. workers, consumers, and businesses. For example, a World Bank study found that carbon tariffs applied to U.S. exports to Europe "could result in a loss of about 7 percent in U.S. exports to the EU. The energy intensive industries, such as steel and cement * * * could suffer up to a 30 percent loss."[10]

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[7] Energy Market and Economic Impacts of S. 2191, Figure 28 & 29, *http:// www.eia.doe.gov/oiaf/servicerpt/s2191 /economic. html.*

[8] *Financial Times*, "Brussels softens line on carbon permits," Andrew Bounds, Jan. 22, 2008.

[9] EPA draft, pg. 37.

Moreover, carbon tariffs would actively undermine existing U.S. trade policy. The U.S. Government has consistently advocated for reducing tariffs, non-tariff barriers, and export subsidies. Introducing new tariffs or export subsidies for carbon or energy content would undermine those efforts with respect to clean energy technologies specifically and U.S. goods and services more broadly, as well as invite other countries to expand their use of tariffs and subsidies to offset costs created by domestic regulations.

Two examples of U.S. efforts to reduce tariffs or enhance exports in this area: The United States Trade Representative is actively engaged in trade talks to specifically reduce tariffs on environmental technologies, which will lower their costs and encourage adoption, while the Department of Commerce's International Trade Administration is currently planning its third "Clean Energy" trade mission to China and India focused on opening these rapidly developing economies to U.S exporters of state-of-the-art clean technologies. Rather than raising trade barriers, the U.S. Government should continue to advocate for the deployment of clean energy technologies through trade as a way to address global GHG emissions

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[10] The World Bank, International Trade and Climate Change: Economic, Legal, and Institutional Perspectives, 2008, pg. 12.

The issue of emissions leakage and the potential erosion of the U.S. industrial base are real concerns with any domestic GHG regulation proposal outside of an international framework. Accordingly, the proper way to address this concern is through an international agreement that includes emission reduction commitments from all the major emitting economies, not by unilaterally erecting higher barriers to trade.

Realistic Goals for Reducing Carbon Emissions: Establishing a realistic goal of emissions reduction is an essential aspect of designing policies to respond to climate change. Although the draft does not "make any judgment regarding what an appropriate [greenhouse gas] stabilization goal may be," the document cites, as an example, the Intergovernmental Panel on Climate Change's projection that global CO2 emissions reductions of up to 60 percent from 2000 levels by 2050 are necessary to stabilize global temperatures slightly above pre-industrial levels.[11]

To provide context, it is useful to note that a 60 percent reduction in U.S. emissions from 2000 levels would result in emissions levels that were last produced in the United States during the 1950s (see chart on next page). In 1950, the population in the United States was 151 million people—about half the current size—and the Gross Domestic Product was $293 billion.[12] Without the emergence of technologies that dramatically alter the amount of energy necessary for U.S. economic output, the reduction of energy usage necessary to achieve this goal would have significant consequences for the U.S. economy.

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[11] EPA draft, pg. 14.

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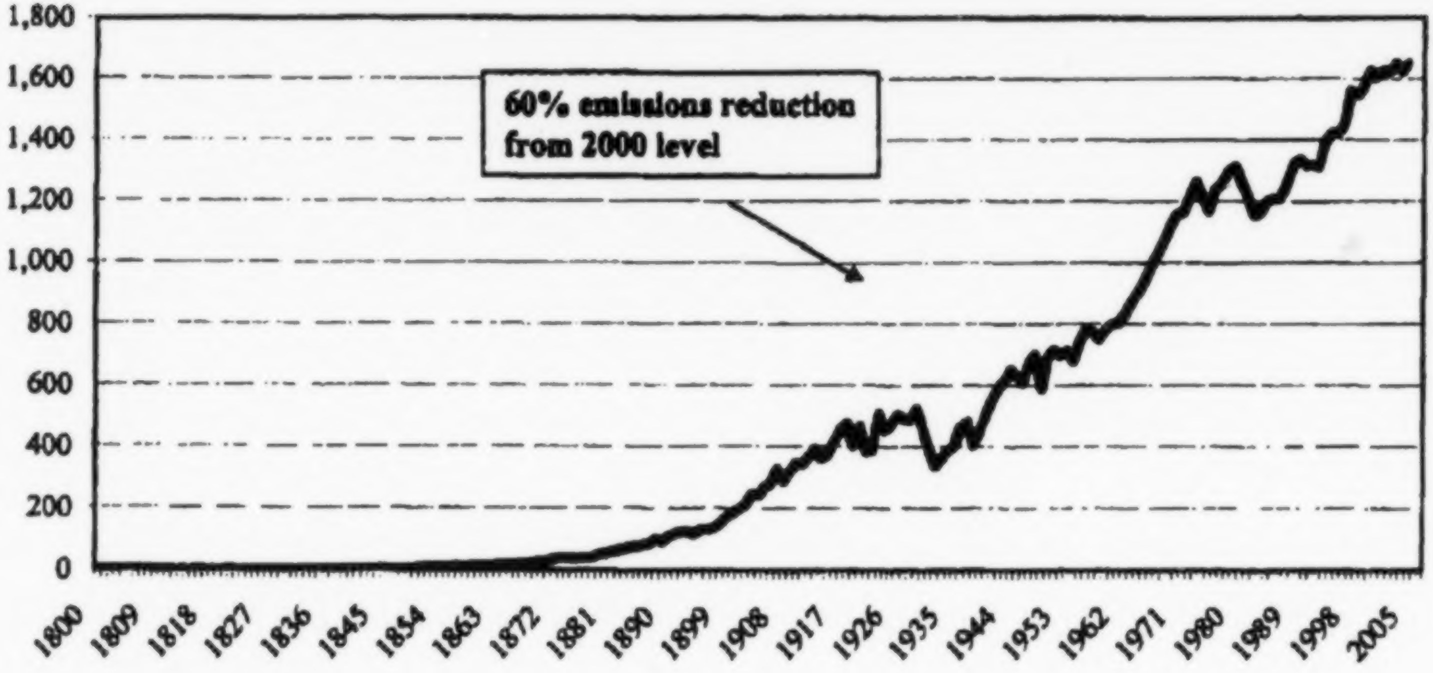
[12] U.S. Census Bureau, 1950 Decennial Census; Bureau of Economic Analysis, National Income and Product Accounts Table.

United States Total Fossil Fuel CO2 Emissions

Million Metric Tons of Carbon



Source: Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, August 17, 2007 (http://cdiac.ornl.gov/ftp/trends/emissions/usa.dat).

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Moreover, as the draft acknowledges, initial emissions reductions under the CAA or other mechanism "may range from only [a] few percent to 17% or more in some cases. Clearly, more fundamental technological changes will be needed to achieve deeper reductions in stationary source GHG emissions over time."[13] But the inability, at this time, to identify either a realistic emissions target or the technical feasibility of achieving various levels of reduction is one of the major flaws of using the draft to assess policy changes of this magnitude.

The draft also notes that "[a]n economy-wide, market-oriented environmental regulation has never been implemented before in the U.S."[14] This point is worth underscoring: The CAA has never been applied to every sector in the U.S. economy. Instead, the CAA is generally applied to specific sectors (such as the power sector) or sources of emissions, and it has included initiatives to address regional and multi-state air quality issues. While these examples clearly provide valuable experience in addressing air pollution issues across state boundaries, using the CAA to regulate GHGs is significantly more ambitious in scope than anything previously attempted under the CAA.

Accountability and Public Input: The draft contemplates a dramatic regulatory expansion under the CAA. However, climate policies of this magnitude are best addressed through legislative debate and scrutiny. Examining these issues in the legislative context would ensure that citizens, through their elected representatives, have ample opportunity to make their views known and to ensure accountability for the decisions that are made.

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[13] EPA draft, pg. 209.

[14] EPA draft, pg. 32.

Economic Implications of Applying CAA Authorities: The draft noted numerous issues of economic significance in analyzing the potential application of the CAA to stationary sources of GHGs. The Department of Commerce highlights below some of the most important issues raised in the draft that could impact U.S. competitiveness, innovation, and job creation.

Compliance Costs of Multiple State Regulations Under the CAA: The draft describes the various authorities under the CAA that could be applied to GHGs. One such mechanism involves the development of individual state implementations plans (SIPs) in order to meet a national GHG emissions reduction standard. As the draft notes, "[t]he SIP development process, because it relies in large part on individual states, is not designed to result in a uniform national program of emission controls."[15] The draft also raises the potential implications of this approach: "[u]nder the traditional SIP approach, emissions controls on specific source categories would flow from independent state-level decisions, and could result in a patchwork of regulations requiring different types and levels of controls in different states."[16] If this were the result, it could undermine the benefit of having a national standard and significantly raise compliance costs. The implications of this approach should be examined further.

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[15] EPA draft, pg. 181.

[16] EPA draft, pg. 187.

Viability of Technological Alternatives: The draft notes that some of the authorities in the CAA could impose requirements to use technology that is not commercially viable. For example, when discussing Standards of Performance for New and Existing Sources, the draft notes that "the systems on which the standard is based need only be 'adequately demonstrated' in EPA's view * * * The systems, and corresponding emission rates, need not be actually in use or achieved in ***44375** practice at potentially regulated sources or even at a commercial scale."[17] Similarly, in examining the potential application of the New Source Review program to nonattainment areas, the draft outlines the program's required use of the Lowest Available Emissions Rate (LAER) technology which "does not allow consideration of the costs, competitiveness effects, or other related factors associated with the technology * * * New and modified sources would be required to apply the new technology even if it is a very expensive technology that may not necessarily have been developed for widespread application at numerous smaller sources, and even if a relatively small emissions improvement came with significant additional cost."[18]

If CAA requirements such as these were used to regulate GHGs, it would impose significant costs on those required to adopt the technology.

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[17] EPA draft, pg. 196.

[18] EPA draft, pg. 232.

Expanding CAA Regulation to Cover Small Businesses and Non-Profits: The draft notes that the use of some CAA authorities could extend regulation to small and previously unregulated emissions sources. For example, the draft states that the use of one authority under the CAA could result in the regulation of "small commercial or institutional establishments and facilities with natural gas-fired furnaces."[19] This could include large single family homes, small businesses, schools, or hospitals heated by natural gas. If the CAA was applied in ways that extended it beyond those traditionally regulated under the Act, it could have significant economic impacts, and the costs of such an application should be further analyzed. To put this potential expansion in context, in 2003 there were 2.4 million commercial non-mall buildings in the United States that used natural gas, and an estimated 54 percent of these buildings were larger than 5,000 square feet.[20] According to the EIA's 2003 Commercial Building Energy Consumption Survey, a building between 5,001 to 10,000 square feet consumes 408,000 cubic feet of natural gas per year.[21] Based on preliminary calculations using the EPA's Greenhouse Gas Equivalencies Calculator, this translates into annual CO_2 emissions of 21 metric tons, which would exceed the allowable threshold under one provision of the CAA.[22]

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[19] EPA draft, pg. 215.

[20] Energy Information Agency, 2003 Commercial Buildings Energy Consumption Survey-Overview of Commercial Buildings Characteristics, Table C23.

[21] 2003 Commercial Buildings Energy Consumption Survey.

[22] Calculation done by converting cubic feet of gas consumed to therms, and the number of therms then inserted into the EPA calculator. According to the EPA draft (pg. 214): If

The table below taken from the EIA's 2003 Commercial Building Energy Consumption Survey shows the number and size of U.S. buildings, providing more detail on the type of structures that could be regulated if the CAA was applied to GHGs. Based on the estimate of 21 metric tons of annual emissions from a building 5,000-10,000 square feet in size, it is likely that schools, churches, hospitals, hotels, and police stations heated by natural gas could be subject to the CAA. Clearly, the costs and benefits of such an approach should be examined in greater detail.

GHGs were listed as a Hazardous Air Pollutant (HAP) under the CAA, the HAP standard's "major source thresholds of 10 tons for a single HAP and 25 for any combination of HAP would mean that very small GHG emitters would be considered major sources."

Non-Mall Buildings Using Natural Gas

[Number and Floorspace by Principal Building Activity, 2003]

	Number of buildings (thousand)	Total floorspace (million sq. ft.)	Mean square feet per building (thousand)
All Buildings	2,391	43,468	18.2
Education	213	7,045	33.1
Food Sales	98	747	7.6
Food Service	226	1,396	6.2
Health Care	72	2,544	35.5
Inpatient	7	1,805	257.0
Outpatient	65	739	11.4
Lodging	86	4,256	49.7
Mercantile	245	2,866	11.7
Office	488	8,208	16.8
Public Assembly	146	2,723	18.6
Public Order and Safety	36	637	17.7
Religious Worship	220	2,629	11.9
Service	281	2,496	8.9
Warehouse and Storage	187	5,494	29.4
Other	45	1,252	27.9
Vacant	49	1,176	24.2

Source: from Energy Information Administration, 2003 Commercial Buildings Energy Consumption Survey, Table C23. (*http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed—tables—2003/2003set11/2003excel/c23.xls*)

Cost of CAA Permitting: As the draft states, "the mass emissions [of CO_2] from many source types are orders of magnitude greater than for currently regulated pollutants," which could result in the application of the CAA's preconstruction permitting requirements for modification or new construction to large office buildings, hotels, apartment building and large retail facilities.[23] The draft also notes the potential time impacts (i.e., the number of months necessary to receive a CAA permit) of applying new permit requirements to projects and buildings like those noted above that were not previously subject to the CAA.[24] The potential economic costs of applying the CAA permitting regimes to these areas of the economy, such as small businesses and commercial development, merit a complete assessment of the costs and benefits of such an approach.

Conclusion: Climate change presents real challenges that must be addressed through focused public policy ***44376** responses. However, the draft raises serious concerns about the use of the CAA to address GHG emissions. The CAA is designed to reduce the concentration of pollutants, most of which have a limited lifetime in the air, while climate change is caused by GHG emissions that linger in the atmosphere for years. The CAA uses regulations that are often implemented at the state and regional level, while climate change is a global phenomenon. The CAA is designed to regulate major sources of traditional pollutants, but applying those the standards to GHGs could result in Clean Air Act regulation of small businesses, schools, hospitals, and churches.

Using the CAA to address climate change would likely have significant economic consequences for the United States. Regulation of GHG emissions through the CAA would mean that the United States would embrace emissions reductions outside of an international agreement with the world's major emitters. This would put U.S. firms at a competitive disadvantage by raising their input costs compared to foreign competitors, likely resulting in emissions leakage outside of the United States and energy-intensive firms relocating to less regulated countries. Such an outcome would not be beneficial to the environment or the U.S. economy.

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[23] EPA draft, pg. 224, 225.

[24] EPA draft, pg. 227.

Department of Agriculture

Americans enjoy the safest, most abundant, and most affordable food supply in the world. Our farmers are extraordinarily productive, using technology and good management practices to sustain increased yields that keep up with growing populations, and they are good stewards of the land they depend upon for their livelihoods. Because of their care and ingenuity, the United States is projecting an agricultural trade surplus of $30 billion in 2008.

Unfortunately, the approach suggested by the Environmental Protection Agency ("EPA") staff's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft ANPR"), threatens to undermine this landscape. If EPA were to exercise a full suite of the Clean Air Act ("CAA") regulatory programs outlined in the draft ANPR, we believe that input costs and regulatory burden would increase significantly, driving up the price of food and driving down the domestic supply. Additionally, the draft ANPR does not sufficiently address the promise of carbon capture and sequestration, and how a Clean Air Act regulatory framework could address these issues.

Input Costs

Two of the more significant components of consumer food prices are energy and transportation costs, and as these costs rise, they will ultimately be passed on to consumers in the form of higher food prices. As the past several months have demonstrated to all Americans, food prices are highly sensitive to increased energy and transportation costs. From May 2007 to May 2008, the price of crude oil has almost doubled, and the price consumers in the United States paid for food has increased by 5.1%.

We do not attempt here to address the effects on energy and transportation costs that would likely flow from a Clean Air Act approach to regulating greenhouse gases. The expert agencies—the Department of Energy and the Department of Transportation—have each included their own brief assessments of such effects. Our analysis begins with the assumption that these input costs would be borne by agricultural producers.

United States commercial agriculture is a highly mechanized industry. At every stage—field preparation, planting, fertilization, irrigation, harvesting, processing, and transportation to market—modern agriculture is dependent on technically complex machinery, all of which consume energy. Direct energy consumption in the agricultural sector includes use of gas, diesel, liquid petroleum, natural gas, and electricity. In addition, agricultural production relies on energy indirectly through the use of inputs such as nitrogen fertilizer, which have a significant energy component associated with their production.

Crop and livestock producers have been seeing much higher input prices this year. From June 2007 to June 2008, the prices paid by farmers for fertilizer are up 77%, and the prices paid for fuels have risen 61%. The prices paid by farmers for diesel fuel alone have increased by 72% over the past year. In practical terms, these figures mean that it is becoming far more costly for the producer to farm. Currently, USDA forecasts that expenditures for fertilizers and lime, petroleum fuel and oils, and electricity will exceed $37 billion in 2008, up 15% from 2007.

Depending on the extent to which the Clean Air Act puts further pressure on energy prices, input costs for indispensible items such as fuel, feed, fertilizer, manufactured products, and electricity will continue to rise. A study conducted by USDA's Economic Research Service (Amber Waves, April 2006) found the impact of energy cost changes on producers depends on both overall energy expenditures and, more importantly, energy's share of production costs, with the potential impacts on farm profits from changes in energy prices greatest for feed grain and wheat producers. The study also found that variation in the regional distribution of energy input costs suggests that changes in energy prices would most affect producers in regions where irrigation is indispensable for crop production. Less use of irrigation could mean fewer planted acres or lower crop yields, resulting in a loss of production. In addition to potential financial difficulties, farmers fear that future tillage practices could be mandated and livestock methane management regulated.

However, the impact of higher energy prices on farmers is only part of the story. Only 19% of what consumers paid for food in 2006 went to the farmer for raw food inputs. The remaining 81% covered the cost of transforming these inputs into food products and transporting them to the grocery store shelf. Of every $1 spent on U.S.-grown foods, 3.5 cents went toward the costs of electricity, natural gas, and other fuels used in food processing, wholesaling, retailing, and food service establishments. An additional 4 cents went toward transportation costs. This suggests that for every 10 percent increase in energy costs, retail food prices could increase by as much as 0.75 percent if fully passed onto consumers. The resulting impact to the consumer of higher energy prices will be much higher grocery bills. More important, however, will be the negative effect on our abundant and affordable food supply.

Regulatory Burden on Agriculture

In its draft ANPR, EPA contemplates regulating agricultural greenhouse gas (GHG) emissions under the three primary CAA programs—National Ambient Air Quality Standards ("NAAQS"), New Source Performance Standards ("NSPS"), or Hazardous Air Pollutant ("HAP") standards. Like the Act itself, these programs were neither designed for, nor are they suitable to, regulation of greenhouse gases from agricultural sources. If agricultural producers were covered under such complex regulatory schemes, most (except perhaps the largest operations) would be ill-equipped to bear the costly *44377 burdens of compliance, and many would likely cease farming altogether.

The two common features of each CAA program are permitting and control requirements:

Permitting: Operators who are subject to Title V permitting requirements—regardless of which CAA program is applicable—are required to obtain a permit in order to operate. These Title V permits are subject to a public notice and comment period and contain detailed requirements for emission estimation, monitoring, reporting, and recordkeeping. Title V permits may also contain control requirements that limit the operation of a facility. If a producer desired, or were compelled by changed circumstances (e.g., changing market demand, weather events, or pest infestation) to modify his operational plans, he would be required to first seek a permit modification from EPA or the State.

If GHG emissions from agricultural sources are regulated under the CAA, numerous farming operations that currently are not subject to the costly and time-consuming Title V permitting process would, for the first time, become covered entities. Even very small agricultural operations would meet a 100-tons-per-year emissions threshold. For example, dairy facilities with over 25 cows, beef cattle operations of over 50 cattle, swine operations with over 200 hogs, and farms with over 500 acres of corn may need to get a Title V permit. It is neither efficient nor practical to require permitting and reporting of GHG emissions from farms of this size. Excluding only the 200,000 largest commercial farms, our agricultural landscape is comprised of 1.9 million farms with an average value of production of $25,589 on 271 acres. These operations simply could not bear the regulatory compliance costs that would be involved.

Control: Unlike traditional point sources of concentrated emissions from chemical or manufacturing industries, agricultural emissions of greenhouse gases are diffuse and most often distributed across large open areas. These emissions are not easily calculated or controlled. Moreover, many of the emissions are the result of natural biological processes that are as old as agriculture itself. For instance, technology does not currently exist to prevent the methane produced by enteric fermentation associated with the digestive processes in cows and the cultivation of rice crops; the nitrous oxide produced from the tillage of soils used to grow crops; and the carbon dioxide produced by soil and animal agricultural respiratory processes. The only means of controlling such emissions would be through limiting production, which would result in decreased food supply and radical changes in human diets.

The NAAQS program establishes national ambient concentration levels without consideration of specific emission sources. The determination of which source is required to achieve emission reductions and how to achieve those reductions is specified in the State Implementation Plans ("SIPs") developed by each State. Under a NAAQS regulatory program, agricultural sources may need to employ Reasonably Available Control Measures ("RACM") or, at a minimum, include the use of Reasonably Available Control Technologies ("RACT"). In the past, such control measures were established with a national focus for typical industrial sources. In previously regulated sectors, these control measures and technologies have typically been associated with improved engineering or chemical processes; however, agriculture is primarily dependent upon biological processes which are not readily re-engineered. Given the nature of many agricultural source emissions, RACM and RACT may not exist or may be cost prohibitive.

The NSPS program regulates specific pollutants emitted from industrial categories for new, modified, or reconstructed facilities. EPA, rather than individual States, determines who is regulated, the emission reductions that must be achieved, and the associated control technologies and compliance requirements. Should EPA choose to regulate agriculture under NSPS, control requirements would be established at the national level using a "one-size-fits-all" approach. Differences in farming practices make it difficult to comply with this approach, as variability exists between types of operations and between similar operations located in different regions of the United States.

In addition, regulation of the agricultural sector under a NSPS program would likely trigger the added challenge of compliance with the pre-construction permitting process under the Prevention of Significant Deterioration ("PSD") program. Triggering pre-construction permits could result in a requirement to utilize Best Available Control Technologies ("BACT") or technologies that achieve the Lowest Available Emission Reductions ("LAER"). Given the state of available control methods for agricultural area sources, compliance with these requirements may not currently be achievable in many instances. Should BACT or LAER technologies exist, the ability to utilize them across the variety of farming operations is questionable, and the costs to employ these technologies would be high since they would be relatively new technologies.

Similar to the NSPS program, the HAP program focuses on industrial categories. EPA must list for regulation all categories of major sources that emit one or more HAP at levels that are very low (i.e., 10 tons per year of a single HAP or 25 tons per year of a combination of HAP). Under a HAP program, EPA can regulate both major sources and smaller (i.e., area) sources. In addition to the Title V permit requirement, this program would result in emission control requirements for all agricultural sources regardless of the size of the operation. These requirements are driven by the best-performing similar sources, with EPA determining the similarity between sources. This approach does not lend itself to compliance by agricultural sources whose practices vary farm-by-farm and locality-by-locality. In addition, the cost of controls used by the best-performing sources would increase the operating expenses for all farms regardless of size.

While this discussion only begins to address the practical difficulties that agricultural producers will face if EPA were to regulate GHGs under the CAA, these questions have not been raised in the draft ANPR in the context of agriculture. USDA believes that these issues must be thoroughly considered before a rule is finalized.

Capture and Sequestration

The draft ANPR does not sufficiently address the promise of carbon capture and sequestration, or how a Clean Air Act regulatory framework could address these issues. In describing emissions by sector, the draft ANPR does contain the following brief introductory statement:

> *Land Use, Land-Use Change, and Forestry*: Land use is not an economic sector per se but affects the natural carbon cycle in ways that lead to GHG emissions and sinks. Included in this category are emissions and sequestration of CO_2 from activities such as deforestation, afforestation, forest management and management of agricultural soils. Emissions and sequestration depend on local conditions, but overall land use in the United States was a net sink in 2006 equivalent to 12.5 percent of total GHG emissions.

Thus, the United States Government, as well as private landowners throughout the country, possess land resources that hold potentially ***44378** tremendous economic and environmental value in a carbon-limited environment.

Unfortunately, in the draft ANPR's extensive discussion of regulatory alternatives, the EPA staff does not even attempt to make the case that the Clean Air Act could or should be used to ensure that a regulatory scheme maximizes opportunities and incentives for carbon capture and sequestration. Had the draft ANPR raised these issues, it would become evident that there are substantial questions as to whether the CAA could provide an effective vehicle to account for such beneficial actions.

Additionally, any regulatory program should avoid needless duplication and conflict with already existing efforts. The recently enacted Food, Conservation and

Energy Act of 2008 ("Farm Bill") requires the Secretary of Agriculture to establish technical guidelines to create a registry of environmental services benefits from conservation and land management activities, including carbon capture and sequestration. USDA is including EPA and other Federal agencies as participants in this process, which we believe holds substantial promise.

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Executive Office of the President
Council of Economic Advisers

Executive Office of the President
Office of Science and Technology Policy

July 10, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Subject: Environmental Protection Agency's Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clear Air Act"

Dear Administrator Dudley:

The Council of Economic Advisers and Office of Science and Technology Policy would like to offer our views on the science and economics that relate to EPA's ANPR entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act." Our comments are divided into two parts. In the first, we address complexities associated with the phenomenon of anthropogenic climate change that distinguish it from traditionally regulated phenomena and that significantly increase the technical difficulty of regulation. In the second, we address the likely consequences for public welfare of various proposals for mitigating greenhouse gas (GHG) emissions.

Part I: Implications of the Complex Nature of Anthropogenic Climate Change

According to the Intergovernmental Panel on Climate Change (IPCC), "Warming of the climate system is unequivocal," "...Most of the observed increase in global average temperatures...is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" and "...evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases" (IPCC Fourth Assessment). These straightforward and widely accepted scientific conclusions cover a huge range in the diversity, timing, and severity of climate change impacts on the public welfare that greatly complicate their analysis. While it is true, as the ANPR authors point out, that "The exact benefits and costs of virtually every environmental regulation are at least somewhat uncertain," (p 39) the authors nevertheless acknowledge that "In the case of climate change, the uncertainty inherent in most economic analyses of environmental regulations is magnified by the long-term and global scale of the problem and the resulting uncertainties regarding socioeconomic futures, corresponding GHG emissions, climate responses to emissions changes, the bio-physical and economic impacts associated with changes in climate, and the costs of reducing GHG emissions." The ability to assess potential costs and benefits of a particular regulatory mechanism is critical to informed policymaking. However, the long-term nature and global scale of climate change and the nature of the associated uncertainties, such as those raised in the ANPR and listed above, is such as to overwhelm the capability of existing technical means to trace public welfare impacts to specific regulated activities.

GHG emissions, especially of CO_2, arise from a very wide variety of natural, domestic, and industrial activities, nearly all of which are beneficial to society. Because the geographical and temporal patterns of emissions vary with technology and market-driven human choices, a regulatory approach to the mitigation of GHGs that is based on an assortment of activity-specific regulatory mechanisms, such as those described in the ANPR, must necessarily be responsive on relatively short time-scales to the changing emissions picture. No reliable model of technical innovation exists to forecast how these patterns are likely to change even in the immediate future. Current rapid changes in transportation and energy production and use, for example, came as a surprise to economists and markets around the world. In the absence of much more accurate forecasting for the array of CO_2 emitting activities, the regulatory process will be continually out of step with reality unless it can be designed to adjust itself on realistic time scales. Historical time scales for environmental regulation in the U.S. suggest that this will be impossible, especially for the very large array of interconnected activities that would need to be regulated to mitigate CO_2 emissions.

This technical complexity is indeed one of the reasons why economists and policy-makers favor broad market-oriented frameworks such as carbon taxes, technology-neutral subsides, or carbon trading schemes for GHG mitigation. The widespread support for such schemes is itself evidence for the impracticality of the array of regulatory mechanisms on which the ANPR seeks comment.

The diversity and complex distribution in space and time of GHG sources combine with intrinsic features of relevant climate phenomena to multiply further the obstacles to traditional regulation. Anthropogenically driven climate impacts are in nearly every case indistinguishable from naturally occurring phenomena. The anthropogenic contribution is apparent primarily in retrospective statistical analyses, and its adverse impacts cannot be readily distinguished from impacts that would have occurred in the absence of anthropogenic warming. Although few deny that anthropogenic causes underlie much of the general observed patterns, it is not the case that all "new" impacts exceeding historical means can be attributed to anthropogenic warming. The individual phenomena causing the impacts show strong regional variation and differing sensitivity to human behavior. Hurricane impacts, for example, are linked to coastal development patterns and to long term ocean circulation trends that occur with and without anthropogenic warming. Efforts to identify and evaluate specific localized adverse impacts uniquely associated with activities that lend themselves to regulation are nearly impossible under such circumstances. Tracing climate change causes to effects invariably requires simulations of the entire climate system. Such simulations are feasible for broad measures such as global and annually averaged surface temperatures, on whose link to GHG emissions there is broad agreement among scientists. The success of these simulations depends on thorough mixing of GHGs from all sources, so the individual characteristics and global distribution of different sources can be ignored. This same feature renders attribution of public welfare impacts to specific regulated activities subject entirely to elaborate schemes for accounting and allocating emissions on a global basis. Such attributions cannot be accomplished based on U.S. data alone. And the global atmospheric CO_2 budget is not simply the sum of all emissions – the Earth "breathes" seasonally in a striking pattern whose details depend on a mix of human behaviors (*e.g.* deforestation) and natural causes (*e.g.* volcanic activity). Consequently a useful model for assessing significance and attributing share of public welfare impacts will necessarily be extremely complicated. As the ANPR authors note: "Quantifying the *exact* (emphasis added) nature and timing of impacts due to climate change over the next few decades and beyond, and across all vulnerable elements of U.S. health, society and the environment, is currently not possible." Nor is it currently possible to quantify impacts even to a *less exact* standard that is needed to regulate GHGs through the Clean Air Act.

Overarching all these complexities is the unprecedented temporal quality of global climate change. Activities currently proposed for regulation will have no impact on public welfare for decades (except for possible beneficial side effects on traditional pollutants). Consequently, all approaches to the assessment of impacts necessarily involve forecasts. While the physical phenomena involved in anthropogenically induced global climate change are reasonably well understood, despite their complexity, the social phenomena that influence GHG producing activities are not at all well understood, which creates huge uncertainties in climate projections. All current forecasts of global warming that extend beyond roughly a decade are based on scenarios that assume a pattern of human behavior. These scenarios vary widely, but probably not widely enough given the very weak ability of science to predict how nations, markets, and individuals respond to their environments. Within its continually expanding limits, science can estimate the implications of social scenarios for anthropogenic global warming, but it has little power to assess the validity of the scenarios themselves.

Of all the effects that complicate the scientific analysis of GHG regulation, none is more profound and less tractable than the unpredictability of human behavior. Because the largest sources of anthropogenic CO_2 are linked to the use and production of energy, and because energy is an essential ingredient of all economically productive activity, GHG producing activities cannot be simply extracted from the tightly woven matrix of any economy. And economic globalization ensures that the matrix of anthropogenic climate influence is global. Regulation of specific GHG producing activities to achieve a specific target entails an analytical framework that gives some assurance that the targets can be reasonably met. No credible framework exists for this purpose. This fact seems to have been appreciated by political leaders who have endeavored to forge broad international agreements to reduce GHG emissions. As President Bush noted when launching a new U.S. policy for limiting emissions earlier this year, "The Clean Air Act, the Endangered Species Act, and the National Environmental Policy Act were never meant to regulate global climate." Given the long-term nature and global scale of climate change and the nature of the uncertainties inherent in its associated impacts, the machinery of the Acts' regulatory frameworks are clearly not adequate to the task.

Part II: Consequences of Proposed Remedies

Any attempt to use the Clean Air Act to regulate greenhouse gases efficiently is fraught with difficulties, for two reasons. First, the EPA, which is charged with overseeing the Clean Air Act, is unlikely to have the statutory authority to implement economically neutral approaches such as a carbon tax, a cap-and-trade with a safety valve, and/or technology-neutral subsidies. Such approaches, which are typically the centerpiece of economic mechanisms to GHG regulation, allow markets to choose the best and most cost-effective way to deal with GHGs and do the least harm to the economy. Limitations on authority are mentioned in EPA's Advanced Notice of Proposed Rule-Making (ANPR). Second, and perhaps as a consequence of such limitations, the regulations considered by the authors of the ANPR are a cumbersome set of rules and restrictions that are in some cases excessive, inadequate, redundant, inordinately burdensome to the economy, and almost certain to fail to produce the desired climate results. Because of specific limitations in the law, the Clean Air Act does not permit the EPA to attain economic efficiency while reducing GHG emissions, even in the narrow context of emissions by the United States. It is even less effective when viewed in the global context appropriate for greenhouse gases. We detail some of our concerns in what follows.

First, the Clean Air Act would result in excessive regulation. Under one likely scenario, the same standard for GHG emissions would be required from each state in the country, which might force the EPA to regulate GHGs much too stringently in some situations. To obtain economic efficiency, it is necessary to equalize marginal abatement costs across sources, which is extremely unlikely to occur if states are required to meet the same standard. Consequently, some states would be required to reduce emissions in an extremely expensive manner, while others that are better able to reduce emissions cheaply would have little incentive to do so. The consequence would be higher costs to the economy than necessary, borne disproportionately by specific industries, workers and consumers. Ann Klee, former General Counsel for the EPA, stated in her Senate testimony of April 24, 2007:

> "Although the argument could be made that CO_2 meets the statutory threshold for designation and regulation as a criteria pollutant, it is evident that this would make little sense from a regulatory perspective. If the standard were set at a level intended to force reductions in emissions, i.e., at some atmospheric concentration below current levels (approximately 370-380 parts per million CO_2), then the entire country would be designated as being in nonattainment. This would trigger the regulatory mechanisms of the NAAQS program … This should be of concern to States that face potentially significant penalties for persistent nonattainment."

An alternative scenario under the Clean Air Act would regulate GHG emissions by requiring every source to meet some average emissions standard, irrespective of costs. This means that each sector would be required to reduce emissions to a point that is considered technologically achievable rather than economically efficient.

The Clean Air Act also makes it very difficult to loosen constraints, once regulations have been promulgated. Because the inherent benefits of limiting emissions remain uncertain, it is important to retain the ability to adjust stringency up or down over time.

Second, the Clean Air Act may be inadequate. The ANPR recognizes that the Clean Air Act was designed to protect local and regional air quality by controlling emissions with a limited range of impacts. GHGs however, become relatively evenly distributed through the atmosphere, irrespective of their point of origin. The specific source of emission reduction has little or no bearing on the benefit of reduction, but the cost of reductions may vary greatly by source. However, the Clean Air Act generally precludes decision makers from considering costs, and does not permit regulations to depend on mitigation actions taken by other countries. The failure to allow for contingencies of this sort removes an important tool for inducing other countries to take actions that benefit Americans and the rest of the world.

Third, regulation of GHG through the Clean Air Act will prove inordinately burdensome. For instance, one section of the Act specifies threshold levels, which, for traditional pollutants, captures only the larger polluters. The same thresholds applied to GHGs would increase the number of affected sources by an order of magnitude, implying the regulation of sources that were not previously regulated nor intended to be regulated under the Clean air Act. The statute sets a "major source" threshold value of, at most, 100 tons per year of any air pollutant (or less in non-attainment areas.)[1] Small manufacturing facilities, schools, and shopping centers have potential emissions of 100 tons per year or more. If GHGs are regulated under the Clean Air Act, those sources will become a "major sources" and must undergo full major source permitting and would be required to adhere to EPA regulations.

Fourth, the Clean Air Act entails redundancy. The ANPR acknowledges that even if an economy-wide program were legally possible under the Clean Air Act, it would have to be accompanied by source-specific or sector-based requirements as a result of other Clean Air Act provisions. This could result in multiple, overlapping and perhaps conflicting incentives to reduce GHG emissions.

Finally, any GHG regulation imposed under the Clean Air Act is almost certain to fail. Even an economy-wide system will not be effective unless it is coupled with significant GHG reductions by all major economies. The Clean Air Act is not the appropriate vehicle to accomplish worldwide reductions in GHG emissions. Furthermore, acting in a globally uncoordinated fashion will put the United States at a competitive disadvantage, will induce economic distortions and may actually be counter productive in reducing GHGs. The most obvious example of this involves "leakage," where the U.S. imposes costs on businesses that emit greenhouse gases to which other countries are not subject. If businesses in other countries do not suffer the penalty for emitting GHGs, production has an incentive to move abroad, even when producing in the U.S. would be more economically efficient.

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[1] EPA. Advanced Notice of Proposed Rulemaking. Section VII, Part E.2.

We believe that the Clean Air Act is not the appropriate statutory framework for dealing with climate change. The Clean Air Act was never intended to address issues with the global complexity of GHG emissions. Challenges in addressing climate change under the Clean Air Act are compounded by intrinsic characteristics in both its science and its economics. Instead, Congress needs to examine this issue directly, make the difficult choices that are inherent in any regulatory policy, and come up with an approach that imposes the minimum economic distortion for the maximum climate change benefit.

Edward P. Lazear
Chairman
Council of Economic Advisers

John H. Marburger, III
Director
Office of Science and Technology Policy

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EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

CHAIRMAN

July 10, 2008

Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, DC 20503

Re: Environmental Protection Agency Draft Advance Notice of Proposed Rulemaking

Dear Administrator Dudley,

Thank you for the opportunity to provide comments on the Environmental Protection Agency's Draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gases Under the Clean Air Act" produced by agency staff for interagency review. Regrettably, the staff draft and supporting technical documents run several hundred pages in length and we have had a limited period of time to consider the material. Therefore, we are able to provide only a few preliminary and highly general comments, focusing on important areas of inquiry that the draft either does not address or does not adequately address as a basis for seeking public comment during the advanced notice of propose rulemaking stage. In the short time provided, we have not been able to work through specific questions and issues with the Agency, and therefore are not able to support or otherwise endorse the draft document in its present form.

Overarching Comment

In his Rose Garden speech on April 16, 2008, President Bush announced a new national goal for reducing greenhouse gas emissions and outlined the new federal mandates, incentives, and other programs now in place that will help us achieve the goal. Acknowledging that further policies for the power generation sector would be necessary to fully achieve the goal, the President outlined the right way and the wrong way to proceed with any new policies. The EPA staff draft ANPR demonstrates why unaccountable new regulation under the existing Clean Air is the wrong way to accomplish our goals.

The staff draft does not provide a full and meaningful discussion of the broader policy and economic context in which it is considering, in the event of an endangerment finding, triggering the prospect of essentially automatic and immediate regulation over a vast range of community and business activity and an equally vast range of potential discretionary regulations with respect to the same and additional activities. In Massachusetts v. EPA, the Supreme Court reaffirmed that "EPA no doubt has significant latitude as to the manner, timing, content and coordination of its regulations with those of other agencies." 127 S.Ct. 1438,1462 (2007). The staff draft, however, is long on "manner" and "content," and short on "timing," "coordination," and any meaningful sense of context. It myopically focuses on the Clean Air Act and ignores or understates major intended and unintended consequences that would flow from misapplying decades-old regulatory tools applicable to local and regional pollution that were never designed to address greenhouse gas emissions and the global nature of these emissions.

The staff draft employs a kitchen sink approach to the innumerable ways in which EPA would use the Clean Air Act to automatically or discretionarily regulate an unprecedented range of activities giving rise to greenhouse gas emissions. Yet the staff draft provides little or no discussion of the extent to which new EPA regulations would duplicate, contradict, or effectively countermand the numerous mandates, incentives, and public private partnerships that are already underway and producing real results in addressing greenhouse gas emissions. This concern is particularly acute to the extent EPA action would effectively override the deliberate, bi-partisan decisions of elected federal and state legislatures on certain policies, as well as overriding some of EPA's own successful programs.

For example, less than one year ago, the U.S. Congress passed the Energy Independence and Security Act of 2007 (EISA) which prescribes new mandatory programs and specifies targets for vehicle fuel efficiency, renewable fuels, lighting efficiency, appliance efficiency, and federal government vehicle and building operations. The Department of Transportation, in consultation with other agencies, including EPA, has already proposed an aggressive path to greater vehicle fuel efficiency in accordance with Congress' direction. EPA itself is already working to implement new renewable fuel requirements. And the Department of Energy is working on a new round of appliance efficiency standards and, in accordance with new EISA requirements, is embarking on a new round of standard-setting. These and other EISA requirements will prevent billions of tons of greenhouse gas emissions from entering the atmosphere. In order to better inform and guide appropriate public comment, EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they intersect with and obviate duplicative or contradictory approaches under the Clean Air Act.

In addition to the EISA mandates, the potential for duplication, conflict, and misplaced prioritization and methods can arise in a number of other contexts, including:

- The parties to the Montreal Protocol recently adopted a proposal advance by the United States and a number of other countries to accelerate the phaseout of HCFCs— producing emission reductions that could exceed those of the Kyoto Protocol. A statutory framework for such emissions is already in place.
- A significant number of states have already enacted renewable portfolio standards carefully tailored to each state's unique energy system and capacity.
- The Department of Energy has produced new model building energy efficiency codes, tailored to different geographic regions and circumstances, and is working constructively with states and localities interested in adopting the relevant model code.
- Through the Energy Policy Act of 2005 and other legislation, Congress has chosen to use an incentive-based, rather than mandatory approach to addressing energy security and greenhouse gas emissions in certain sectors through a broad range and billions of dollars of subsidies for commercial deployment of cleaner, more efficient technologies including, nuclear power, more efficient coal power, renewable power (wind, solar, biomass, etc.), bio-fuels, highly fuel efficient vehicles. And more than 40 billion dollars in loan guarantee authority is being made available this year alone for nuclear power plants, large scale renewable power, carbon capture and storage, and other large scale opportunities to avoid, reduce, or capture greenhouse gas emissions.
- Through its multi-billion dollar conservation programs, the Department of Agriculture is directly subsidizing farmers and other landowners to compete for funding for projects

that will help biologically sequester carbon dioxide emissions. The Department is also providing substantial incentives for biofuel and biomass production facilities.

- DOE's Climate Vision partnership, EPA's Climate Leaders Partnership, and numerous subject specific partnerships such as EPA's Natural Gas Star and the EPA/DOE Energy Star programs are successfully establishing and meeting targets for greenhouse gas mitigation through public-private commitments and programs that are producing measurable results.

These programs, and the numerous others comprising the federal government's comprehensive climate change strategy, should be the starting point for any discussion as to whether further legislation, let alone regulation should be considered. EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they intersect with and obviate duplicative or contradictory approaches under the Clean Air Act in order to better inform and guide appropriate public comment.

Endangerment Finding

EPA should include in the ANPR and the docket the material, analysis, and final agency determinations that formed the basis for the agency's original denial of the petition for rulemaking as to mobile sources of pollution and should take public comment on the implications of that analysis in the agency's decision as to whether it can or should make an endangerment finding at this time. In Massachusetts v. EPA, the Supreme Court did not address the substantive merits of EPA's original analysis ("We need not and do not reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding.") 127 S.Ct. at 1463. Instead, the court took issue with EPA reaching a "judgment" not to proceed with regulation without basing the reasons for its decision on the text of the Clean Air Act. The court held "only that EPA must ground its reasons for action or inaction in the statute" –in this case, running the analysis through the prism of the endangerment provisions of the Clean Air Act. (*Id.*). Doing so would seem to be the most immediate and essential response to the Court's remand. In this regard, however, the staff draft omits major elements and in some instances appears to be inconsistent with elements of the prior final agency determinations, signed by the EPA Administrator, concerning the state of the science, which are clearly relevant to the question of endangerment and which were not addressed one way or the other by the court.

EPA should take comment on the issues raised in the recent remarks by the Director of the Office of Science and Technology Policy concerning the current and future capability of the science with respect to predictions and projections of negative and positive climate impacts on a national, regional, and local scale. "Reflections on the Science and Policy of Energy and Climate Change," American Geophysical Union Fall Meeting, December 10, 2007. Any endangerment finding in the context of greenhouse gas emissions must draw from the emerging science of climate impacts. The Director's remarks provide helpful context for how to think through such issues and should be included in the docket.

EPA should take comment on the appropriate scope of activity that should be considered in making an endangerment decision in the context of greenhouse gas emissions. The remand from the Court focused on the issue of endangerment with respect to the relative contribution of emissions from new motor vehicles to associated health or welfare impacts. Yet, the staff draft suggests an unprecedented approach of aggregating emissions of all greenhouse gases from all sources as the basis of an endangerment determination.

EPA should take comment on the extent to which it should subtract from the emissions projections for a source, reductions that are substantially likely to occur as a result of existing mandatory and incentive-based policies. For example, with respect to mobile sources, the 2007 EISA contains new mandates for vehicle fuel efficiency and for renewable fuel, supported by substantial federal budgets incentives that will substantially reduce the greenhouse gas portfolio of such mobile sources.

EPA should also take comment on the extent to which its emissions projections for a source category should account for the problem of carbon leakage, occasioned by the current lack of meaningful and predictable international participation in greenhouse gas mitigation efforts. The IPCC has projected that most of the future increase in emissions will be produced by the major developing countries, whose cumulative emissions will also exceed those of the developed world relatively soon. Accordingly, EPA's assumptions about the relative benefits of reducing greenhouse gas emissions at a certain cost here in the U.S. would need to be offset by reasonable assumptions about 1) the growth in emissions in countries that are not taking comparable steps and 2) the prospect that increased costs in the U.S. will drive a certain amount of production and associated emissions to other countries not taking comparable steps, thereby increasing emissions in those countries. EPA provided relevant analysis when it modeled the impact of S. 2191 earlier this year and found that the economy-wide emissions reductions that would be required by that bill (approx. 70% reductions by covered entities) would have resulted in a miniscule 1-2% change in global greenhouse gas concentrations at a cost of trillions of dollars. The S.2191 analysis and other relevant analysis should be included in the docket.

Regulatory Content

EPA should provide for public comment a much more complete technical, institutional and economic analysis of the far reaching consequences that will arise from the automatic application of existing regulations that would occur in the event EPA makes an endangerment finding. The existing regulations as to conventional pollutants were never designed for the unique global characteristics and environmental aspects of greenhouse gas emissions. Also, the existing regulations were designed and implemented gradually over the course of more than thirty years, during which time states were able to build the capacity to implement, monitor and enforce an increasingly complex set of regulations, and entities subject to regulations were able to transition their activities to new levels of performance over time. In the event of an endangerment finding with respect to greenhouse gases, however, the cumulative impact of more than thirty years of regulation will immediately be imposed on the states and currently regulated entities in one fell swoop.

To complicate matters, the staff draft downplays the significance of the fact that applying regulations designed for relatively concentrated pollutants to relatively unconcentrated and voluminous emissions such as carbon dioxide will subject tens or even hundreds of thousands of community and business enterprises to Clean Air Act regulation for the first time. The administrative implications and costs of this alone would be daunting for and federal budgets and staff. But the novel, case-by-case application of old regulations to an entirely new set of circumstances and parties foreshadows unrelenting confusion, conflicts over compliance, and decades long litigation windfall for attornies, consultants, and activists, as communities and the courts strive to sort it all out.

Another issue that requires a full and complete analysis is the potential for the unintended consequences of conflicting efforts with respect to possible automatic regulation of substances for which we have existing obligations under the Montreal Protocol. For example, the successful acceleration of the phaseout of HCFCs in developed and developing countries depends on the accessibility of HFCs substitutes with zero-ozone depleting potential but are greenhouse gases. Any additional regulation on HFCs as a greenhouse gas could lead to a delay in the transition away from ozone-depleting compounds, which could increase risk to human health and undermine the significant domestic and global progress in protecting the ozone layer. EPA should give careful consideration and solicit comment on the potential for this consequence.

Yours sincerely,

James L. Connaughton

SBA
Office of Advocacy
www.sba.gov/advo

Advocacy: the voice of small business in government

July 8, 2008

BY ELECTRONIC MAIL

The Honorable Stephen L. Johnson
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U.S. Environmental Protection Agency
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The Honorable Susan E. Dudley
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RE: Docket ID No. EPA-HQ-OAR-2008-0318, Comments on EPA's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean *Air Act*"

Dear Administrator Johnson and Administrator Dudley:

The Office of Advocacy of the U.S. Small Business Administration (Advocacy) respectfully submits the following comments in response to the draft Advance Notice of Proposed Rulemaking (ANPR) prepared by the U.S. Environmental Protection Agency (EPA) entitled "Regulating Greenhouse Gas Emissions under the Clean *Air Act*."

Congress established the Office of Advocacy under Pub. L. No. 94-305 to advocate the views of small entities before Federal agencies and Congress. Because Advocacy is an independent body within the U.S. Small Business Administration (SBA), the views expressed by Advocacy do not necessarily reflect the position of the Administration or the SBA.[1]

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[1] 15 U.S.C. § 634a, et. seq.

Advocacy has reviewed the draft ANPR, and, based on our initial reading, we have serious concerns with how EPA's regulation of greenhouse gases (GHGs) through the Clean Air Act framework would negatively impact small entities.[2] We believe that the regulatory approaches outlined in the ANPR, taken in part or as a whole, would impose significant adverse economic impacts on small entities throughout the U.S. economy. The draft ANPR acknowledges that using existing Clean Air Act regulatory approaches to control GHGs would subject large numbers of firms to costly and burdensome new requirements.

Expanding the Prevention of Significant Deterioration/New Source Review (PSD/NSR) program to cover carbon dioxide (CO2) emissions, in and of itself, would make many small businesses that have not previously had to deal with the Clean Air Act subject to extensive new clean air requirements. Because relatively small facilities can generate substantial quantities of CO2 and exceed the PSD/NSR regulatory threshold,[3] small entities would be captured by the CO2 PSD/NSR permitting requirement when they are constructed or modified. These small entities would include small businesses operating office buildings, retail establishments, hotels, and other smaller buildings. Buildings owned by small communities and small non-profit organizations like schools, prisons, and private hospitals would also be regulated. It is difficult to overemphasize how potentially disruptive and burdensome such a new regulatory regime would be to small entities. In our view, those costs would likely be imposed on large numbers of small entities with little corresponding environmental benefit in terms of reduced GHG emissions.

I. THE CLEAN AIR ACT REGULATORY FRAMKWORK

The ANPR demonstrates that the Clean Air Act regulatory framework is poorly suited as a mechanism to control GHG emissions. Several key examples illustrate this:

A. Prevention of Significant Deterioration/New Source Review (PSD/NSR). The PSD/NSR program currently requires the owners and operators of major stationary sources of air pollutants[4] to obtain construction permits before they can build or modify their facilities. Issuance of permits to construct or modify these facilities is predicated upon the completion of measures designed to ensure that the facility will not degrade local air quality. Firms seeking PSD/NSR permits must install the most advanced emission controls, meet stringent emission standards, and provide data to show that their emissions will not harm air quality. Currently, obtaining a PSD/NSR permit for a coal-powered source typically requires at least a year of preparation time and costs up to $500,000, not including the cost of purchasing, installing, and maintaining control equipment.

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[2] Under the RFA, small entities are defined as (1) a "small business" under section 3 of the Small Business Act and under size standards issued by the SBA in 13 C.F.R. § 121.201, or (2) a "small organization" that is a not-for-profit enterprise which is independently owned and operated and is not dominant in its field, or (3) a "small governmental jurisdiction" that is the government of a city, county, town, township, village, school district or special district with a population of less than 50,000 persons. 5 U.S.C. § 601.

[3] For PSD, the thresholds are 100 tons per year of pollutant for 28 listed industrial source categories, 250 tons per year for other sources. See 40 C.F.R. §§ 51.166(b)(1) and 52.21(b)(1). For nonattainment NSR, the major source threshold is generally 100 tons per year.

[4] A "major stationary source" for PSD meets or exceeds the annual emission thresholds listed in the note 3, *supra*.

Today, EPA estimates that 200 to 300 of these permits are issued each year by federal, state, and local authorities. Processing PSD/NSR permits represents a major resource commitment for these permitting authorities, as well as for the permit applicant. As EPA has noted, "there have been significant and broad-based concerns about [PSD/NSR] implementation over the years due to the program's complexity and the costs, uncertainty, and construction delays that can sometimes result from the [PSD/NSR] permitting process."[5] This problem would be greatly exacerbated by regulating GHGs under the PSD/NSR program. EPA believes that "if CO2 becomes a regulated NSR pollutant, the number of [PSD/NSR] permits required to be issued each year would increase by more than a factor of 10 (i.e., more than 2,000 – 3,000 permits per year) . . . the additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings,[6] hotels, large retail establishments, and similar facilities."[7] Not only would many more facilities become subject to PSD/NSR permitting requirements, but smaller firms that have never been subject to Clean Air Act permitting requirements would become regulated for the first time. EPA has likely greatly underestimated the large number of sources that would be required to obtain PSD/NSR permits if GHGs were included in the program. Neither EPA nor state and local permitting authorities have the resources to administer such a large volume of PSD/NSR permit applications; as a result, construction and modification activities would virtually come to a standstill. Any marginal reductions in GHGs achieved would not justify the tremendous costs and regulatory burdens imposed. Even if EPA is correct in its estimate, and the increase in businesses that must obtain PSD/NSR permits is only a tenfold increase, and even if the cost and administrative burdens associated with obtaining a PSD/NSR permit were to be dramatically reduced, a substantial number of small entities can be expected to experience a significant adverse economic impact by having to obtain CO2 PSD/NSR permits.

B. Hazardous Air Pollutant (HAP) Standards. Section 112 of the Clean Air Act requires EPA to regulate air pollutants classified as hazardous under section 112(b).[8] While GHGs are not currently listed as hazardous air pollutants (HAPs), EPA has solicited comments on whether GHGs should be regulated as HAPs. Based on Advocacy's experience with rules designed to regulate HAPs, particularly the area source rules that regulate non-major sources of HAPs,[9] many of which are small entities, the section 112 framework would be a poor mechanism for regulating GHGs. Typically, HAPs are emitted at relatively low volumes and are known to have health effects, which are generally localized, at low thresholds. HAP emission rules often require very costly technologies to eliminate relatively small amounts of HAP from being emitted to the air. Because the HAPs are recognized as causing serious health effects, HAP regulations often impose control costs that are much higher on a per ton basis than any other type of air pollutant.

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[5] Draft ANPR (June 17, 2008) at 230.

[6] "Large residential buildings" presumably means homes. According to Office of Advocacy research, 53% of all small businesses are home-based businesses.

[7] Draft ANPR (June 17, 2008) at 225.

[8] 42 U.S.C. § 74129(b).

[9] Area sources are stationary sources of HAPs that emit less than 25 tons per year of any combination of HAPs and less than 10 tons per year of any single HAP. 42 U.S.C. § 112(a)(1),(2).

By contrast, GHGs (and CO2 in particular) are ubiquitous, are distributed uniformly throughout the atmosphere, and have no demonstrated adverse health effects at ordinary atmospheric concentrations. Using section 112 to control GHGs would not be a reasonable regulatory approach. Imposing high per-ton GHG control costs through a HAP standards-type regime would yield small reductions in GHG at enormous cost to sources, especially small entities.

C. Title V Permit Program. EPA also solicits comments on whether and how GHG requirements could be included in Title V operating permits. Based on the cost, complexity, and administrative burdens associated with obtaining Title V operating permits, Advocacy believes that Title V permits should not be required of sources on the basis of GHG emissions. Currently, federal, state, and local permitting authorities issue Title V operating permits to a limited subset of the stationary sources of air pollution in the United States. Applying for and obtaining a Title V permit is time-consuming and expensive. In the late 1990's, for example, many major stationary sources spent more than $100,000 to obtain initial Title V permits, when the cost of hiring consultants and technical personnel is considered. Again, even if EPA were able to dramatically decrease the cost of applying for and complying with GHG Title V permits, the cost and burden would be an enormous new impact, particularly on small entities.

EPA has taken steps to ensure that Title V permits are principally required for larger stationary sources. EPA initially administratively deferred Title V applicability for non-major sources, and, more recently, EPA has allowed area sources of HAPs to satisfy Title V compliance demonstrations through less burdensome means. EPA understands that administering Title V permits is a resource-intensive process for all parties, and that forcing smaller facilities to comply imposes great burden and cost for little commensurate environmental gain. Requiring small firms that would otherwise not be subject to Title V to obtain Title V permits on the basis of GHG emissions would not be worth the cost to companies or the heavy additional load placed on permitting authorities' resources.

D. National Ambient Air Quality Standards. EPA further solicits comments on whether it should develop a National Ambient Air Quality Standard (NAAQS) for CO2 and other GHGs. In Advocacy's view, EPA should not seek to develop a GHG NAAQS. GHGs are fundamentally different than any of the current NAAQS criteria pollutants. CO2, for example, is distributed broadly through the atmosphere and is ubiquitous, rendering geographic determinations useless in mitigating CO2 levels. The wide and uniform distribution of CO2 would mean that the entire country would either be classified as in attainment or out of attainment. Either way, small entities, in turn, would become subject to rigid new "one-size-fits-all" GHG requirements, regardless of local conditions or their actual emissions of GHGs.

Therefore, rather than merely serving as a useful vehicle to administer a national GHG cap and trade program, establishing a GHG NAAQS would set in motion a number of statutory control measures that would be costly, inefficient, and ineffective. Small entities could have to contend with new barriers to construction and expansion, new restrictions on operating cars and trucks, and the potential for having to retrofit their existing buildings with GHG controls or to purchase equivalent credits. These NAAQS control measures would subject vast numbers of small entities across the country to standardized, inflexible GHG control requirements for the very first time. The full impact of these new burdens on these small entities could be devastating.

E. Mobile Source Requirements. EPA also solicits comments on using the Mobile Source provisions of the Clean Air Act to control GHGs. EPA would impose new regulatory requirements on on-highway motor vehicles, as well as non-road vehicles and equipment. These GHG requirements would be imposed in addition to the renewable fuel standards contained in the Energy Independence and Security Act of 2007 (EISA),[10] which requires 36 billion gallons of renewable fuel to be blended into the nation's gasoline and diesel fuel supply by 2022. To a large degree, the goal of EISA was to address GHGs from mobile sources.

In Advocacy's view, using the mobile source provisions of the Clean Air Act to further impose new GHG requirements are likely to have serious adverse impacts on small entities that rely on vehicles and equipment. On-board GHG control measures such as speed limiters would have a major impact on small entities that operate trucks or other vehicle fleets. Other requirements designed to limit the use of vehicles will similarly impact small businesses that depend on being able to pick up and deliver goods, or to travel to and from their clients. These requirements could be a particular hardship for trucking companies, and the numerous small communities that depend entirely on long-haul trucks for delivery of their food supplies and other goods.

II. DISPROPORTIONATE IMPACTS ON SMALL ENTITIES

Our concerns about the advisability of regulating GHGs under a massive and unwieldy new environmental regulatory scheme that will capture hundreds of thousands of small businesses is motivated by our knowledge of how regulations often unfairly impact small entities.

A. Advocacy's Research. An Advocacy-funded report that details the $1.1 trillion cumulative regulatory burden on enterprise in the United States shows how the smallest businesses bear a 45 percent greater burden than their larger competitors.[11] The annual cost per employee for firms with fewer than 20 employees is $7,747 to comply with all federal regulations.[12] That cost is more, on a per-household basis, than what Americans pay for health insurance. When it comes to compliance with environmental requirements, small firms with fewer than 20 employees spend four times more, on a per-employee basis, than do businesses with more than 500 employees.[13]

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[10] Pub. L. No. 110-140 (2007).

[11] W. Mark Crain, *The Impact of Federal Regulations on Small Firms*, funded by the U.S. Small Business Administration, Office of Advocacy (2005).

B. Any GHG Rule Must Be Subject to a SBAR Panel. The owners of small businesses want to comply with applicable environmental rules. However, the growing thicket of clean air, solid waste, water quality, and other environmental requirements emanating from local, state, federal, and global authorities is daunting. If EPA chooses to go forward with plans to use the Clean Air Act to address climate change, the Office of Advocacy will insist that the views of small entities be considered in the pre-proposal stage as required by the Small Business Regulatory Enforcement Fairness Act (SBREFA).[14] The direct involvement of small entities has benefited over 30 EPA rulemakings since President Clinton signed SBREFA in 1996. The "Small Business Advocacy Review" (SBAR) panels required by SBREFA provide EPA with on-the-ground, real world, experienced views from small business representatives who are relied upon to provide practical solutions for regulatory challenges faced by EPA. Nine prior SBAR panels have dealt with planned EPA rules issued under the Clean Air Act and, because small entities were involved, the final rules reflect a better understanding of how the regulations would impact small business. Millions of dollars have been saved because poorly designed approaches and unintended consequences are filtered out of proposed regulations with the help of small entities and government officials.[15] These changes are accomplished without compromising valuable protections for human health and the environment.[16]

C. EPA Should Not Ignore the Impact of GHG Regulation on Small Entities. Unfortunately, EPA has ignored small business input when issuing Clean Air Act regulations in the past. In 1997, for example, EPA determined that the revision of the NAAQS for ozone and particulate matter did not "directly regulate" small entities and was, therefore, exempt from the SBAR panel requirement to consider small entity input. In Advocacy's view, any movement forward by EPA to capture small entities in a reinterpretation of the Clean Air Act designed to address climate change will properly constitute direct EPA regulatory action. Even if EPA were to construct a legal argument that claims GHG regulations do not significantly impact a substantial number of small entities,[17] EPA would be better served by carefully considering the impact of GHG regulations on small businesses, small organizations, and small communities.

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[12] *Id.*

[13] *Id.*

[14] 5 U.S.C. § 609.

[15] See the annual reports of the Regulatory Flexibility Act at: http://www.sba.gov/advo/laws/flex/

[16] 5 U.S.C. § 603 (c) explicitly requires that any alternatives to a regulatory proposal that would minimize the impact on small entities must "accomplish the stated objectives of applicable statutes."

[17] Under 5 U.S.C. § 605(b), EPA is not required to convene a SBAR panel if it certifies that the regulation will not have a significant economic impact on a substantial number of small entities.

We look forward to working with you to ensure that the impact on small entities is seriously considered prior to EPA moving ahead on regulating greenhouse gas emissions. Please do not hesitate to call me or Assistant Chief Counsel Keith Holman (keith.holman@sba.gov or (202) 205-6936) if we can be of further assistance.

Sincerely,

Thomas M. Sullivan
Chief Counsel for Advocacy

*44396 BILLING CODE 6560-50-C

General Information

What Should I Consider as I Prepare My Comments for EPA?

A. Submitting CBI

Do not submit this information to EPA through *www.regulations.gov* or e-mail. Clearly mark the part or all of the information that you claim to be confidential business information (CBI). For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

B. Tips for Preparing Your Comments

When submitting comments, remember to:

- Explain your views as clearly as possible.
- Describe any assumptions that you used.
- Provide any technical information and/or data you used that support your views.
- If you estimate potential burden or costs, explain how you arrived at your estimate.
- Provide specific examples to illustrate your concerns.
- Offer alternatives.
- Make sure to submit your comments by the comment period deadline identified.
- To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It would also be helpful if you provided the name, date, and Federal Register citation related to your comments.

Outline of This Preamble

I. Introduction
II. Background Information
III. Nature of Climate Change and Greenhouse Gases and Related Issues for Regulation
IV. Clean Air Act Authorities and Programs
V. Endangerment Analysis and Issues
VI. Mobile Source Authorities, Petitions and Potential Regulation
VII. Stationary Source Authorities and Potential Regulation
VIII. Stratospheric Ozone Protection Authorities, Background, and Potential Regulation

I. Introduction

Climate change is a serious global challenge. As detailed in section V of this notice, it is widely recognized that greenhouse gases (GHGs) have a climatic warming effect by trapping heat in the atmosphere that would otherwise escape to space. Current atmospheric concentrations of GHGs are significantly higher than pre-industrial levels as a result of human activities. Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. Future projections show that, for most scenarios assuming no additional GHG emission reduction policies, atmospheric concentrations of GHGs are expected to continue climbing for most if not all of the remainder of this century, with associated increases in average temperature. Overall risk to human health, society and the environment increases with increases in both the rate and magnitude of climate change.

Today's notice considers the potential use of the CAA to address climate change. In April 2007, the Supreme Court concluded in *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007), that GHGs meet the CAA definition of "air pollutant," and that section 202(a)(1) of the CAA therefore authorizes regulation of GHGs subject to an Agency determination that GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. The Court also ruled that in deciding whether to grant or deny a pending rulemaking petition regarding section 202(a)(1), EPA must decide whether new motor vehicle GHG emissions meet that endangerment test, or explain why scientific uncertainty is so profound that it prevents making a reasoned judgment on such a determination. If EPA finds that new motor vehicle GHG emissions meet the endangerment test, section 202(a)(1) of the CAA requires the Agency to set motor vehicle standards applicable to emissions of GHGs.

EPA is also faced with the broader ramifications of any regulation of motor vehicle GHG emissions under the CAA in response to the Supreme Court's decision. Over the past several months, EPA has received seven petitions from states, localities, and environmental groups to set emission standards under Title II of Act for other types of mobile sources, including nonroad vehicles such as construction and farm equipment, ships and aircraft. The Agency has also received public comments seeking the addition of GHGs to the pollutants covered by the new source performance standard (NSPS) for several industrial sectors under section 111 of the CAA. In addition, legal challenges have been brought seeking controls for GHG emissions in ***44397** preconstruction permits for several coal-fired power plants.

The interrelationship of CAA authorities and the broad array of pending and potential CAA actions concerning GHGs make it prudent to thoroughly consider how the various CAA authorities would or could work together if GHG controls were established under any provision of the Act. Since regulation of one source of GHG emissions would or could lead to regulation of other sources of GHG emissions, the Agency should be prepared to manage the consequences of CAA regulation of GHGs in the most effective and efficient manner possible under the Act.

Today's notice discusses our work to date in response to the Supreme Court's decision regarding an endangerment finding and vehicle standards under section 202 of the Act. It also includes a comprehensive examination of the potential effects of using various authorities under the Act to regulate other sources of GHG emissions. In addition, this notice examines and seeks public comment on the petitions the Agency has received for GHG regulation of additional mobile source categories. In light of the interrelationship of CAA authorities and the pending CAA actions concerning GHGs, the notice identifies and discusses possible approaches for controlling GHG emissions under the Act and the issues they raise.

Today's notice is also part of broader efforts to address the climate change challenge. Since 2001, President Bush has pursued a broad climate change agenda that has improved our understanding of climate change and its effects, spurred development of needed GHG control technologies, increased our economy's energy efficiency, and engaged other nations in efforts to foster sensible solutions to the global challenge of climate change. Building on that success, the President recently announced a new national goal: to stop the growth of U.S. GHG emissions by 2025. New actions will be necessary to meet this goal.

The President has identified several core principles for crafting any new GHG-specific legislation. EPA believes these principles are also important in considering GHG regulation under the CAA, to the extent allowed by law. These principles include addressing GHG emissions in a manner that does not harm the U.S. economy; encouraging the technological development that is essential to significantly reducing GHG emissions; and recognizing that U.S. efforts to reduce GHG emissions could be undermined if other countries with significant GHG emissions fail to control their emissions and U.S. businesses are put at a competitive disadvantage relative to their foreign competitors. Throughout this notice we discuss and seek comment on whether and how these principles can inform decisions regarding GHG regulation under the CAA.

In Congress, both the House and Senate are considering climate change legislation. A number of bills call for reducing GHG emissions from a wide variety of sources using a "cap-and-trade" approach. Many of the sources that would be subject to requirements under the bills are already subject to numerous CAA controls. Thus, there is potential for overlap between regulation under the CAA and new climate change legislation.

This ANPR performs five important functions that can help inform the legislative debate:

- First, in recognition of the Supreme Court's decision that GHGs are air pollutants under the CAA, the ANPR outlines options that may need to be exercised under the Act.
- Second, this notice provides information on how the GHG requirements under the CAA might overlap with control measures being considered for climate change legislation.

- Third, the notice discusses issues and approaches for designing GHG control measures that are useful in developing either regulations or legislation to reduce GHG emissions.
- Fourth, the ANPR illustrates the complexity and interconnections inherent in CAA regulation of GHGs. These complexities reflect that the CAA was not specifically designed to address GHGs and illustrate the opportunity for new legislation to reduce regulatory complexity. However, unless and until Congress acts, the existing CAA will be applied in its current form.
- Fifth, some sections of the CAA are inherently flexible and thus more capable of accommodating consideration of the President's principles. Other sections may not provide needed flexibility, raising serious concerns about the results of applying them. EPA believes that the presentation in this notice of the various potential programs of the CAA will help inform the legislative debate.

EPA is following the Supreme Court's decision in *Massachusetts v. EPA* by seriously considering how to apply the CAA to the regulation of GHGs. In light of the CAA's interconnections and other issues explored in this notice, EPA does not believe that all aspects of the Act are well designed for establishing the kind of comprehensive GHG regulatory program that could most efficiently achieve the GHG emission reductions that may be needed over the next several decades. EPA requests comment on whether well-designed legislation for establishing a broad GHG regulatory framework has the potential for achieving greater environmental results at lower cost for many sectors of the economy, with less concern about emissions leakage and more effective, clearer incentives for development of technology, than a control program based on the CAA alone.

II. Background Information

A. Background on the Supreme Court Opinion

On October 20, 1999, the International Center for Technology Assessment (ICTA) and 18 other environmental and renewable energy industry organizations filed a petition with EPA seeking regulation of GHGs from new motor vehicles under section 202 (a)(1) of the CAA. The thrust of the petition was that four GHGs—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs)—are air pollutants as defined in CAA section 302(g), that emissions of these GHGs contribute to air pollution which is reasonably anticipated to endanger public health or welfare, that these GHGs are emitted by new motor vehicles, and therefore that EPA has a mandatory duty to issue regulations under CAA section 202(a) addressing GHGs from these sources.

EPA denied the petition in a notice issued on August 8, 2003. The Agency concluded that it lacked authority under the CAA to regulate GHGs for purposes of global climate change. EPA further decided that even if it did have authority to set GHG emission standards for new motor vehicles, it would be unwise to do so at this time. More specifically, EPA stated that CAA regulation of CO_2 emitted by light-duty vehicles would interfere with fuel economy standards issued by the Department of Transportation (DOT) under the Energy Policy and Conservation Act (EPCA), because the principal way of reducing vehicle CO_2 emissions is to increase vehicle fuel economy. The Agency also noted in the 2003 notice that there was significant scientific uncertainty regarding the cause, extent and effects of climate change that ongoing studies would reduce. EPA further stated that regulation of climate change using the CAA would be inappropriate given the President's comprehensive climate ***44398** change policies, concerns about piecemeal regulation, and implications for foreign policy.

EPA's denial of the ICTA petition was challenged in a petition for review filed in the U.S. Court of Appeals for the D.C. Circuit. Petitioners included 12 states, local governments, and a variety of environmental organizations. Intervenors in support of respondent EPA included 10 states and several industry trade associations.

The D.C. Circuit upheld EPA's denial of the petition in a 2-1 opinion (*Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir. 2005)). The majority opinion did not decide but assumed, for purposes of argument, that EPA had statutory authority to regulate GHGs from new motor vehicles and held that EPA had reasonably exercised its discretion in denying the petition.

In a 5-4 decision, the Supreme Court reversed the D.C. Circuit's decision and held that EPA had improperly denied ICTA's petition (*Massachusetts v. EPA*, 127 S. Ct. 1438 (2007)). The Court held that GHGs are air pollutants under the CAA, and that the alternative denial grounds provided by EPA were "divorced from the statutory text" and hence improper.

Specifically, the Court held that CO_2, CH4, N_2O, and

HFCs fit the CAA's definition of "air pollutant" because they are " 'physical [and] chemical * * * substances which [are] emitted into * * * the ambient air.'" *Id.* at 1460. The Court rejected the argument that EPA could not regulate new motor vehicle emissions of the chief GHG, CO_2, under CAA section 202 because doing so would essentially regulate vehicle fuel economy, which is the province of DOT under EPCA. The Court held that EPA's mandate to protect public health and welfare is "wholly independent of DOT's mandate to promote energy efficiency," even if the authorities may overlap. *Id.* at 1462. The Court stated that "there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency." *Id.*

Turning to EPA's alternative grounds for denial, the Court held that EPA's decision on whether to grant the petition must relate to "whether an air pollutant 'causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.'" *Id.* Specifically, the Court held that generalized concerns about scientific uncertainty were insufficient unless "the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming." *Id.* at 1463.The Court further ruled that concerns related to piecemeal regulation and foreign policy objectives were unrelated to whether new motor vehicle GHG emissions contribute to climate change and hence could not justify the denial.

The Court remanded the decision to EPA but was careful to note that it was not dictating EPA's action on remand, and was not deciding whether EPA must find there is endangerment. Nor did the Court rule on "whether policy concerns can inform EPA's actions in the event that it makes such a finding." *Id.* The Court also observed that under CAA section 202(a), "EPA no doubt has significant latitude as to the manner, timing, content, and coordination of its regulations with those of other agencies." The Supreme Court sent the case back to the D.C. Circuit, which on September 14, 2007, vacated and remanded EPA's decision denying the ICTA petition for further consideration by the Agency consistent with the Supreme Court's opinion.

B. Response to the Supreme Court's Decision to Date

1. The President's May 2007 Announcement and Executive Order

In May 2007, President Bush announced that he was "directing the EPA and the Departments of Transportation and Energy (DOT and DOE) to take the first steps toward regulations that would cut gasoline consumption and GHG emissions from motor vehicles, using my 20-in-10 plan as a starting point."The 20-in-10 plan refers to the President's legislative proposal, first advanced in his 2007 State of the Union address, to reduce domestic gasoline consumption by 20% by 2017 through the use of renewable and alternative fuels and improved motor vehicle fuel economy.

On the same day, President Bush issued Executive Order (EO) 13432 "to ensure the coordinated and effective exercise of the authorities of the President and the heads of the [DOT], the Department of Energy, and [EPA] to protect the environment with respect to greenhouse gas emissions from motor vehicles, nonroad vehicles, and nonroad engines, in a manner consistent with sound science, analysis of benefits and costs, public safety, and economic growth."

In response to the Supreme Court's *Massachusetts* decision and the President's direction, EPA immediately began work with DOT and the Departments of Energy and Agriculture to develop draft proposed regulations that would reduce GHG emissions from motor vehicles and their fuels. In particular, EPA and DOT's National Highway Traffic Safety Agency (NHTSA) worked together on a range of issues related to setting motor vehicle GHG emission standards under the CAA and corporate average fuel economy (CAFE) standards under EPCA. As a prerequisite to taking action under the CAA, the Agency also compiled and reviewed the available scientific information relevant to deciding whether GHG emissions from motor vehicles, and whether GHG emissions from the use of gasoline and diesel fuel by motor vehicles and nonroad engines and equipment, cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

Sections V and VI of this notice provide further discussion and detail about EPA's work to date on an endangerment finding and new motor vehicle regulation under section 202 of the CAA.

2. Passage of a New Energy Law

At the same time as EPA was working with its federal partners to develop draft proposed regulations for reducing motor vehicle and fuel GHG emissions, Congress was considering broad new energy legislation that included provisions addressing the motor vehicle fuel economy and fuel components of the President's 20-in-10 legislative plan. By the end of 2007, Congress passed and the President signed the Energy Independence and Security Act (EISA). Title II of EISA amended the CAA provisions requiring a Renewable Fuels Standard (RFS) that were first established in the Energy Policy Act of 2005. EISA also separately amended EPCA with regard to the DOT's authority to set CAFE standards for vehicles.

With regard to the RFS, Congress amended section 211(o) of the CAA to increase the RFS from 7.5 billion gallons in 2012 to 36 billion gallons in 2022. There are a number of significant differences between the RFS provisions of EISA and the fuels program EPA was developing under the President's Executive Order. As a result, EPA is undertaking substantial new analytical work as part of its efforts to develop the regulations needed to implement the new RFS requirements. These regulations are subject to tight statutory deadlines.

With regard to motor vehicle regulations, EISA did not amend CAA section 202, which contains EPA's general authority to regulate motor vehicle emissions. However, EISA did substantially alter DOT's authority to set CAFE standards under EPCA. The ***44399** legislation directs the Department to set CAFE standards that achieve fleet-wide average fuel economy of at least 35 miles per gallon by 2020 for light-duty vehicles, and for the first time to establish fuel economy standards for heavy-duty vehicles after a period of study.

In view of this new statutory authority, EPA and DOT have reviewed the previous regulatory activities they had undertaken pursuant to the President's May 14 directive and EO 13432. While EPA recognizes that EISA does not change the Agency's obligation to respond to the Supreme Court's decision in Massachusetts v. EPA or the scientific basis for any decision, the new law has changed the context for any action EPA might take in response to the decision by requiring significant improvements in vehicle fuel economy that will in turn achieve substantial reductions in vehicle emissions of CO_2.[25]

3. Review of CAA Authorities

As part of EPA's efforts to respond to the Supreme Court's decision, the Agency conducted a thorough review of the CAA to identify and assess any other CAA provisions that might authorize regulation of GHG emission sources. That review made clear that a decision to control any source of GHG emissions could or would impact other CAA programs with potentially far-reaching implications for many industrial sectors. In particular, EPA recognized that regulation of GHG emissions from motor vehicles under section 202(a)(1) or from other sources of GHG emissions under many other provisions of the Act would subject major stationary sources to preconstruction permitting under the CAA. As discussed later in this notice, the Prevention of Significant Deterioration (PSD) program established in Part C of Title I of the Act requires new major stationary sources and modified stationary sources that significantly increase their emissions of regulated air pollutants to apply for PSD permits and put on controls to reduce emissions of those pollutants that reflect the best available control technology (BACT). Because CO_2 is typically emitted in much larger quantities relative to traditional air pollutants, CAA regulation of CO_2 would potentially extend PSD requirements to many stationary sources not previously subject to the PSD program, including large buildings heated by natural gas or oil, and add new PSD requirements to sources already subject to the program. This and other CAA implications of regulation of GHG emissions under the Act are explored later in this notice.

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[25] The Current Unified Agenda and Regulatory Plan (Regulatory Plan) available in May 2008 reflects that EPA is addressing its response to *Massachusetts v. EPA* as part of today's notice. The latest Regulatory Plan also contains a new entry for the renewable fuels standard program EPA is undertaking pursuant to Title II of EISA (RIN 2060-AO81). The current Regulatory Plan is available at *http://www.reginfo.gov/public/do/eAgendaMain.*

C. *Other Pending GHG Actions Under the CAA*

1. Additional Mobile Source Petitions

Since the Supreme Court's *Massachusetts* decision, EPA has received seven additional petitions requesting that the Agency make the requisite endangerment findings and undertake rulemaking under CAA sections 202(a)(3), 211, 213 and 231 to regulate GHG emissions[26] from (1) fuels and a wide array of mobile sources including ocean-going vessels; (2) all other types of nonroad engines and equipment, such as locomotives, construction equipment, farm tractors, forklifts, harbor crafts, and lawn and garden equipment; (3) aircraft; and (4) rebuilt heavy-duty highway engines. The petitioners represent state and local governments, environmental groups, and nongovernmental organizations. Copies of these seven petitions can be found in the docket for this notice.

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[26] While petitioners vary somewhat in their definition of GHGs, taken together they seek regulation of CO_2, CH_4, N2O, HFCs, PFCs, and SF_6, water vapor, and soot or black carbon.

These petitions have several common elements. First, the petitioners state that climate change is occurring and is driven by increases in GHG emissions; that the mobile sources described in the petitions account for a significant and growing portion of these emissions; and that those mobile sources must therefore be regulated under the CAA. Second, the petitioners assert that EPA should expeditiously regulate GHG emissions from those mobile sources because they are already harming the petitioners' health and welfare and further delay by the Agency will only increase the severity of future harms to public health and welfare. Lastly, the petitioners contend that technology is currently available to reduce GHG emissions from the mobile sources for which regulation is sought.

Section VI of this notice provides a brief discussion of these petitions. The section also summarizes information on the GHG emissions of each of the three mobile source categories, technologies and other strategies for reducing GHG emissions from those categories, and potential approaches for EPA to address their emissions. We request comment on all issues raised by the petitioners.

2. New Source Performance Standards

The *Massachusetts* decision also impacts several stationary source rulemakings. A group of state and local governments and environmental organizations petitioned the U.S. Court of Appeals for the D.C. Circuit to review a 2006 decision by EPA not to regulate the GHG emissions of several types of steam generating units when the Agency conducted the periodic review of the new source performance standard (NSPS) for those units as required by CAA section 111. EPA based its decision on the position it announced in denying the ICTA petition that the CAA does not authorize regulation of GHG emissions. After the Supreme Court ruled that the CAA does provide authority for regulating GHG emissions, the Agency filed a request with the D.C. Circuit to have the NSPS rule remanded to us for further actions consistent with the Supreme Court's opinion. Our motion was granted, and this ANPR represents the next step in our efforts to evaluate and respond to the court's decision.

Another NSPS affected by the Supreme Court's decision is the standard applicable to petroleum refineries. Pursuant to a consent decree deadline, EPA proposed revisions to the NSPS on April 30, 2007, less than one month following the Supreme Court decision. During the comment period for the review, EPA received comments calling for the NSPS to be revised to include limits on GHG emissions. In our final rule on April 30, 2008, we declined to adopt standards for GHGs at that time. First, we noted that, in the context of statutorily mandated 8-year reviews for NSPS, EPA has discretion regarding the adoption of standards for pollutants not previously covered by an NSPS. We also explained that the significant differences between GHGs and the other air pollutants for which we have previously established standards under section 111 require a more thorough and deliberate process to identify and fully evaluate the implications of a decision to regulate under this and other provisions of the CAA before deciding how to regulate GHGs under the Act. We pointed to this notice as the means for providing that process. We further noted that the time period available for proposing NSPS was too short for EPA to evaluate and develop proposed standards in light of the *Massachusetts* decision.

EPA also recently issued proposed revisions of the Portland cement NSPS in accordance with the schedule of a ***44400** consent decree. In its May 30, 2008 notice, EPA decided not to propose adding GHG emission requirements to the Portland cement NSPS for essentially the same reasons the Agency gave in deciding against adding GHG controls to the refinery NSPS.

3. Prevention of Significant Deterioration Permitting

As noted previously, the CAA's PSD program requires new major stationary sources and modified major stationary sources that significantly increase emissions to obtain air pollution permits before construction can begin. As part of the permit issuance process, the public can comment on drafts of these permits. Since the *Massachusetts* decision, the number and scope of issues raised by public comments on draft permits has increased.[27] The main issue that has been raised is whether EPA should be establishing facility-specific emission limits for CO_2 in these permits as a result of the Court's decision. EPA's interpretation, discussed in more detail later in this notice, is that CO_2 is not a regulated pollutant under the Act and that we therefore currently lack the legal authority to establish emission limits for this pollutant in PSD permits. That interpretation has been challenged to EPA's Environmental Appeals Board, and we anticipate a decision in this case later this year.[28] The Appeals Board's decision could also affect several other permits awaiting issuance by EPA, and may have significant implications for the entire PSD program. The broader consequences of CO_2 and other GHGs being classified as a regulated pollutant are discussed later in this notice.

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[27] Most PSD permits are issued by states under EPA-approved state rules. Other states without approved rules can also issue permits on behalf of EPA under delegation agreements. EPA is the permitting authority in New York, Massachusetts, Washoe Co (Nevada), Puerto Rico, Guam, American Samoa, and the Virgin Islands. EPA also issues PSD permits for sources on tribal lands.

EPA has also received other GHG related comments related to other elements of the PSD program, such as the consideration of GHG emissions in establishing controls for other pollutants, the consideration of alternatives to the proposed project, and related issues. EPA is currently considering these comments in the context of evaluating each PSD permit application on a case-by-case basis, applying current law.

4. GHG Reporting Rule

In EPA's most recent appropriations bill, Congress called on EPA to develop and issue a mandatory GHG emissions reporting rule by the middle of 2009.[29]

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[28] See, In Re Deseret Power Electric Cooperative, PSD Appeal No. 07-03 (*http://www.epa.gov/region8/air/permitting/deseret.html*).

Accordingly, EPA is now developing a proposed rule that would collect emissions and emissions-related information from stationary and mobile sources. The overall purpose of the rule is to obtain comprehensive and accurate GHG data relevant to future climate policy decisions, including potential regulation under the CAA. EPA expects the rule to provide valuable additional information on the number and types of U.S. GHG sources and on the GHG emission levels of those sources.

D. Today's Action

In view of the interrelationship of CAA authorities and the many pending CAA actions concerning GHGs before the Agency, EPA decided to issue this ANPR to elicit information that will assist us in developing and evaluating potential action under the CAA. In this ANPR, we review the bases for a potential endangerment finding in the context of the pending petition concerning new motor vehicles, explore interconnections between CAA provisions that could lead to broader regulation of GHG emissions, and examine the full range of potential CAA regulation of GHGs, including a discussion of the issues raised by regulation of GHG emissions of mobile and stationary sources under the Act. The ANPR will help us shape an overall approach for potentially addressing GHG emissions under the CAA as part of a broader set of actions to address GHG emissions taken by Congress, EPA, other federal departments and agencies, state and local governments, the private sector, and the international community.

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[29] The fiscal year 2008 Consolidated Appropriations Act states that "not less than $3,500,000 shall be provided for activities to develop and publish a draft rule not later than 9 months after the date of enactment of this Act, and a final rule not later than 18 months after the date of enactment of this Act, to require mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy * * *."

III. Nature of Climate Change and Greenhouse Gases and Related Issues for Potential Regulation

Much of today's notice is devoted to a detailed examination of the various CAA authorities that might be used to regulate GHG emissions and the scientific and technical bases for potentially exercising those authorities. A key question for EPA is whether and how potentially applicable CAA provisions could be used to regulate GHG emissions in an effective and efficient manner in light of the terms of those provisions. The global nature of climate change, the unique characteristics of GHGs, and the ubiquity of GHG emission sources present special challenges for regulatory design. In this section of the notice, we identify and discuss these and several other important considerations that we believe should inform our examination and potential use of CAA authorities. Throughout this notice we ask for comment on whether particular CAA authorities would allow EPA to develop regulations that address those considerations in an effective and appropriate manner.

A. Key Characteristics of Greenhouse Gases

The six major GHGs of concern are those directly emitted by human activities. These are CO_2, CH_4,

N_2O, HFCs, perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). GHGs have a climatic warming effect by trapping heat in the atmosphere that would otherwise escape to space.

Global emissions of these six GHGs have grown since pre-industrial times and particularly over recent decades, having increased by 70% between 1970 and 2004.[30] In 2000, U.S. GHG emissions accounted for approximately 21% of the global total. Other major emitting countries include China, the Russian Federation, Japan, Germany, India and Brazil. Future projections show that, for most scenarios assuming no additional GHG emission reduction policies, global atmospheric concentrations of GHGs are expected to continue climbing for most if not all of the remainder of this century and to result in associated increases in global average temperature. The Intergovernmental Panel on Climate Change (IPCC) projects an increase of global GHG emissions by 25 to 90% between 2000 and 2030 under a range of different scenarios. For the U.S., under a business as usual scenario, total gross GHG emissions are expected to rise 30 percent between 2000 and 2020.[31]

A significant difference between the major GHGs and most air pollutants regulated under the CAA is that GHGs have much longer atmospheric *44401 lifetimes.[32] Once emitted, GHG can remain in the atmosphere for decades to centuries while traditional air pollutants typically remain airborne for days to weeks. The fact that GHGs remain in the atmosphere for such long periods of time has several important and related consequences:

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[30] The data provided here come from "Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)"—Summary for Policymakers.

[31] Fourth U.S. Climate Action Report, 2007. *http://www.state.gov/g/oes/rls/rpts/car/.*

(1) Unlike most traditional air pollutants, GHGs become well mixed throughout the global atmosphere so that the long-term distribution of GHG concentrations is not dependent on local emission sources. Instead, GHG concentrations tend to be relatively uniform around the world.

(2) As a result of this global mixing, GHGs emitted anywhere in the world affect climate everywhere in the world. U.S. GHG emissions have climatic effects not only in the U.S. but in all parts of the world, and GHG emissions from other countries have climatic effects in the U.S.

(3) Emissions of the major GHGs build up in the atmosphere so that past, present and future emissions ultimately contribute to total atmospheric concentrations. While concentrations of most traditional air pollutants can be reduced relatively quickly (over months to several years) once emission controls are applied, atmospheric concentrations of the major GHGs cannot be so quickly reversed. Once applied, GHG emission controls would first reduce the rate of build-up of GHGs in the atmosphere and, depending on the degree of controls over the longer term, would

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[32] Some pollutants regulated under the CAA have long atmospheric lifetimes, including those regulated for protection of stratospheric ozone and mercury.

gradually result in stabilization of atmospheric GHG concentrations at some level.

(4) GHG emissions have long-term consequences. Once emitted, the major GHGs exert their climate changing effects for a long period of time. Past and current GHG emissions thus lead to some degree of commitment to climate change for decades or even centuries. According to the IPCC, past GHG emissions have already resulted in an increase in global average temperature and associated climatic changes. Much of those past emissions will continue to contribute to temperature increases for some time to come, while current and future GHG emissions contribute to climate change over a similarly long period. See section V for a fuller discussion of the effects of GHG emissions as they relate to making an endangerment finding under the CAA.[33]

The large temporal and spatial scales of the climate change challenge introduce regulatory issues beyond those typically presented for most traditional air pollutants. Decision makers are faced with many uncertainties over long time frames and across national boundaries, such as population and economic growth, technological change, the exact rate and magnitude of climate change in response to different emissions pathways, and the associated effects of that climate change. These uncertainties increase the complexity of designing an effective long-term regulatory strategy.

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[33] Another important difference between CO_2 and traditional air pollutants is the high volume of CO_2 emissions relative to other pollutants for most sources. The significance of this difference is discussed later in this section and in section VII of this notice.

Acknowledging that overall risk increases with increases in both the rate and magnitude of climate change, the United Nations Framework Convention on Climate Change (UNFCCC), signed and ratified by the U.S. in 1992, states as its ultimate objective the "* * * stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." In 2007, the U.S. and other Parties to the UNFCCC recognized that "* * * deep cuts in global emissions will be required to achieve the ultimate objective of the Convention * * *" and emphasized "* * * the urgency to address climate change as indicated * * *" by the IPCC.

Determining what constitutes "dangerous anthropogenic interference" is not a purely scientific question; it involves important value judgments regarding what level of climate change may or may not be acceptable. It is not the purpose of this ANPR to make any judgment regarding what an appropriate stabilization goal may be. In the absence of further policy action, the IPCC notes that, "With current climate change mitigation policies and related sustainable development practices, global GHG emissions will continue to grow over the next few decades."

As indicated above, to stabilize GHGs at any level in the atmosphere, emissions would need to peak and decline thereafter. A decision to stabilize at lower concentrations and associated temperature increases would necessarily advance the date by which emissions would need to peak, and would therefore require greater emissions reductions earlier in time. According to the IPCC, mitigation efforts over the next two to three decades will have a large impact on the ability of the world to achieve lower stabilization levels. For illustration, IPCC projected that, in order to prevent long-term global temperatures from exceeding 2.8 °C (approximately 5 °F) relative to pre-industrial temperatures, atmospheric CO_2 concentrations would need to be stabilized at 440 parts per million (ppm) (current levels stand at about 379 ppm), translating into global CO_2 emission reductions by 2050 of up to 60% (relative to emissions in the year 2000). Stabilization targets that aim to prevent even more warming would require steeper and earlier emission reductions, whereas stabilization targets that allow for more warming (with higher associated risks and impacts) would require less steep and later emission reductions.

B. Types and Relative Emissions of GHG Emission Sources

1. Background

Each year EPA prepares a complete inventory of the anthropogenic emissions and sinks of all six major GHGs in the United States.[34] Anthropogenic in this context means that emissions result from human activities. "Sinks" are the opposite of emissions in that they are activities or processes that remove GHGs from the atmosphere (e.g., CO_2 uptake by plants through photosynthesis). EPA prepares the inventory in cooperation with numerous federal agencies as part of the U.S. commitment under the UNFCCC.[35] This inventory is derived largely from top-down national energy and statistical data. As mentioned previously, EPA is currently developing a proposed GHG reporting rule that will provide bottom-up data from covered reporters and thus provide greater detail on the emissions profile of specific source categories.

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[34] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006, (April 2008) USEPA #430-R-08-005. *http:// www.epa.gov/climatechange/emissions/usinventoryreport.html.*

2. Emissions by Gas

In 2006, total U.S. GHG emissions were 7,054 million metric tons of CO_2 equivalent ($MMTCO_2e$).[36] Overall, total U.S. GHG emissions have risen by 14.7% from 1990 to 2006. GHG emissions decreased from 2005 to 2006 by 1.1 percent (or 76 $MMTCO_2e$). Figure III-1 illustrates the relative share of each ***44402** gas, and trend since 1990, weighted by global warming potential.[37] All GHG units and percentage changes provided in this section are based on CO_2-equivalency.

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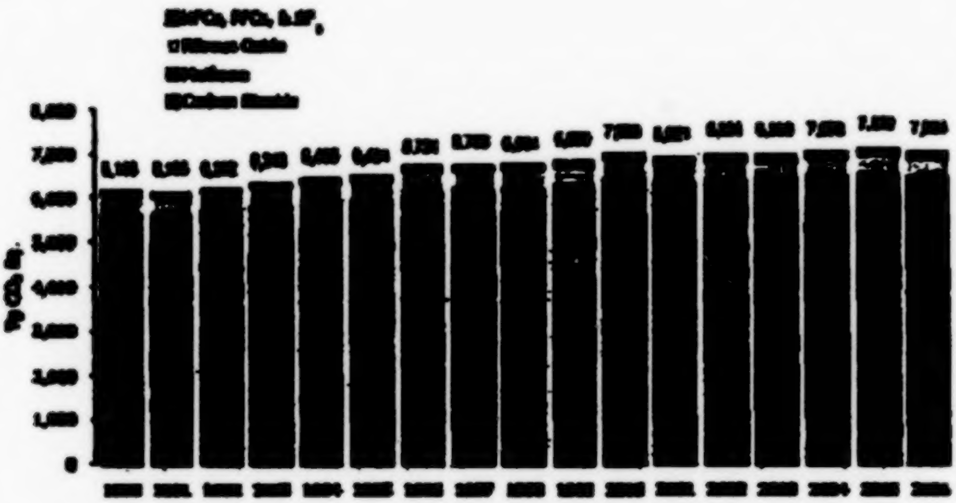
[35] See Articles 4 and 12 of the UNFCCC treaty. *http://www.unfccc.int*. Parties to the Convention "shall develop, periodically update, publish and make available * * * national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies * * *"

[36] International standards for reporting are established by the IPCC, which uses metric units. 1 MMTCO—T22 e is equal to 1 teragram (Tg) or 10 —T112 grams. 1 metric ton is equal to 1.1023 short tons.

[37] Emissions of different GHGs are compared using global warming potentials (GWPs). The GWP of a GHG is the ratio of heat trapped by one unit mass of the GHG compared to that of one unit mass of CO_2 over a specified time period, which is 100 years for the GWPs estimated by the IPCC used here. The reference gas is CO_2, and therefore GWP-weighted emissions are measured in teragrams of CO_2 equivalent (Tg

Figure III-1



Carbon Dioxide: The primary GHG emitted as a result of human activities in the United States is CO_2, representing approximately 85% of total GHG emissions. CO_2 results primarily from fossil fuel combustion to generate electricity, power vehicles and factories, heat buildings, etc. Fossil fuel-related CO_2 emissions accounted for approximately 79% of CO_2 emissions since 1990, and increased at an average annual rate of 1.1% from 1990 to 2006. Changes in CO_2 emissions from fossil fuel combustion are influenced by many long-term and short-term factors, including population and economic growth, energy price fluctuations, technological changes, and seasonal tempera-

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CO_2 Eq.). The GWP values used in this analysis come from the IPCC Second Assessment report, consistent with the UNFCCC reporting requirements for Parties listed in Annex I.

tures.

Methane: According to the IPCC, CH4 is more than 20 times as effective as CO_2 at trapping heat in the atmosphere. By 2006, CH4 emissions had declined from 1990 levels by just under 9%, and now make up approximately 8% of total U.S. GHG emissions. Enteric fermentation (22.7%) is the largest anthropogenic source of CH4 emissions in the United States, followed by landfills (22.6%), natural gas systems (18.4%), coal mining (10.5%), and manure management (7.5%). Smaller sources such as rice cultivation and incomplete fossil fuel combustion account for the remainder.

Nitrous Oxide: While total N_2O emissions are much lower than CO_2 emissions in terms of mass, N_2O is approximately 300 times more powerful than CO_2 at trapping heat in the atmosphere. U.S. emissions of N_2O are just over 5% of total U.S. GHG emissions, and have declined by 4% since 1990. The main anthropogenic activities producing N_2O in the United States are agricultural soil management (72%), and fuel combustion in motor vehicles (9%). A variety of chemical production processes and liquid waste management sources also emit N_2O.

HFCs, PFCs, and SF_6: These GHGs are often grouped together because they contain fluorine, typically have large global warming potentials, and are produced only through human activities (there are no natural sources), either intentionally for use or unintentionally as an industrial byproduct. HFCs and some PFCs are increasingly being used—and therefore emitted—as substitutes for the ozone depleting substances controlled under the Montreal Protocol and Title VI of the CAA. The largest source is the use of HFCs in air conditioning and refrigeration systems. Other sources include HFC-23 emitted during the production of HCFC-22, electrical transmission and distribution systems (SF_6), and PFC emissions from semiconductor manufacturing and primary aluminum production. U.S. HFC emissions have increased 237% over 1990 levels, while emissions of PFCs and SF_6 have decreased by 71 and 47%, respectively, from 1990 levels. Combined, these GHGs made up 2.1% of total U.S. GHG emissions in 2006.

3. Emissions by Sector

An alternative way to look at GHG emissions is by economic sector. All U.S. GHG sources can be grouped into the electricity, industrial, commercial, residential, transportation and agriculture sectors. Additionally, there are changes in carbon stocks that result in emissions and sinks associated with land-use and land-use change activities. Figure III-2 illustrates the relative contributions and historical trends of these economic sectors.

Electricity Generation: The electricity generation sector includes all facilities that generate electricity primarily for sale rather than for use on site (e.g., most large-scale power plants). Electricity generators emitted 33.7% of all U.S. GHG emissions in 2006. The type of fuel combusted by electricity generators has a significant effect on ***44403** their emissions. For example, some electricity is generated with low or no CO_2 emitting energy technologies, particularly non-fossil options such as nuclear, hydroelectric, or geothermal energy. However, over half of the electricity in the U.S. is generated by burning coal, accounting for 94% of all coal consumed for energy in the U.S. in 2006.

Transportation Sector: The transportation sector includes automobiles, airplanes, railroads and a variety of other sources. Transportation activities (excluding international bunker fuels) accounted for approximately 28% of all GHG emissions in 2006, primarily through the combustion of fossil fuels.[38] Virtually all of the energy consumed in this end-use sector came from petroleum products. Over 60% of the CO_2 emissions resulted from gasoline consumption for personal vehicle use.

Industrial Sector: The industrial sector includes a wide variety of facilities engaged in the production and sale of goods. The largest share of emissions from industrial facilities comes from the combustion of fossil fuels. Emissions of CO_2 and other GHGs from U.S. industry also occur as a result of specialized manufacturing processes (e.g., calcination of limestone in cement manufacturing). The largest emitting industries tend to be the most energy intensive: Iron and steel, refining, cement, lime, chemical manufacturing, etc. Overall, 19.4% of total U.S. GHG emissions came from the industrial sector in 2006.

Residential and Commercial Sectors: These two sectors directly emit GHGs primarily through operation and maintenance of buildings (i.e., homes, offices, universities, etc.). The residential and commercial end-use sectors accounted for 4.8 and 5.6% of total emissions, respectively, with CO_2 emissions from consumption of natural gas and petroleum for heating and cooking making up the largest share.

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[38] International bunker fuels are used in aviation and marine trips between countries.

Agriculture Sector: The agriculture sector includes all activities related to cultivating soil, producing crops, and raising livestock. Agricultural GHG emissions result from a variety of processes, including: Enteric fermentation in domestic livestock, livestock manure management, rice cultivation, agricultural soil management, and field burning of agricultural residues. Methane and N_2O are the primary GHGs emitted by agricultural activities.[39] In 2006, agriculture emission sources were responsible for 6.4% of total U.S. GHG emissions.

Land Use, Land-Use Change, and Forestry: Land use is not an economic sector per se but affects the natural carbon cycle in ways that lead to GHG emissions and sinks. Included in this category are emissions and sequestration of CO_2 from activities such as deforestation, afforestation, forest management and management of agricultural soils. Emissions and sequestration depend on local conditions, but overall land use in the U.S. was a net sink in 2006 equivalent to 12.5% of total GHG emissions.

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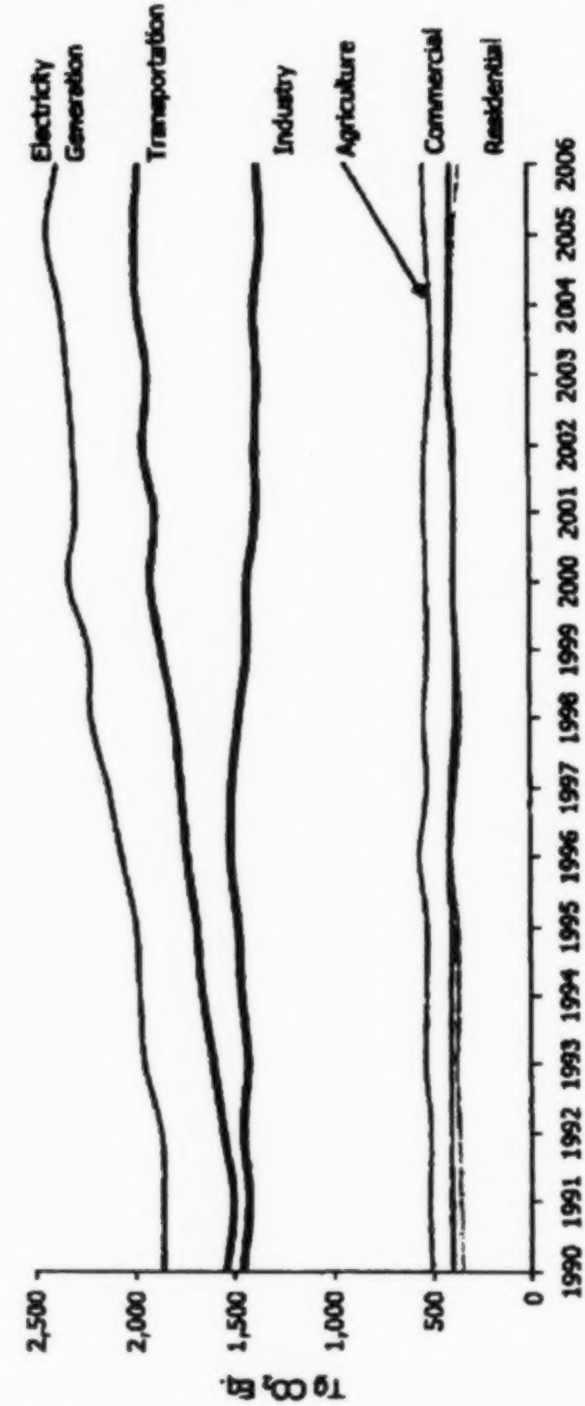
[39] Agricultural soils also emit CO_2 and sequester carbon. The fluxes are discussed under the Land-Use, Land-Use Change and Forestry section because of the integrated nature of methodological approaches to the carbon cycle, and international reporting conventions.

Figure III-2



***44404** *C. Advancing Technology*

President Bush, the IPCC, and many other private and public groups have spotlighted the critical importance of technology to reducing GHG emissions and the risks of climate change. International, U.S., and private studies have identified a broad range of potential strategies that can reduce emissions from diverse economic sectors. Many strategies, such as increasing energy efficiency and conservation and employing hybrid and diesel vehicle technologies, are available today. There is also broad consensus that for many sectors of the economy new technologies will be ***44405** needed to achieve deep reductions in GHG emissions at less cost than today's technologies alone can achieve.

In developing potential CAA (or other) controls, one important question is the extent to which needed technological development can be expected to occur as a result of market forces alone (e.g., as a result of increasing prices for oil and other fossil fuels), and the extent to which government or other action may be needed to spur development. There are several different pathways for technological change, including investment in research and development (private and public), spillovers from research and development in other sectors (e.g., advances in computing made hybrid vehicles possible), learning by doing (i.e., efficiency gains through repetition), and scale economies (i.e., aggregate cost reductions from improved process efficiencies). As further discussed later in this section, market-based incentives that establish a price (directly or indirectly through a limit) for carbon and/or other GHGs could continuously spur technological innovation that could lower the cost of reducing emissions. However, even with such a policy, markets tend to under-invest in development of new technologies when investors can only capture a portion of the returns. This is particularly true at the initial stages of research and development when risks are high and market potential is not evident. In such cases, policies to encourage the development and diffusion of technologies that are complements to pollution control policies may be warranted.[40]

This section draws insights from IPCC and other reports on available and needed technologies. In later sections of this notice, we explain each potentially applicable CAA provision and consider the extent to which that provision authorizes regulatory actions and approaches that could spur needed technology development.

1. The Role of Existing and New Technology in Addressing Climate Change

The 2007 IPCC report on mitigation of climate change examined the availability of current technologies and the need for new technologies to mitigate climate change.[41] Among its conclusions, the IPCC states:

> - The range of stabilization levels assessed [by the IPCC] can be achieved by deployment of a portfolio of technologies that are currently available and those that are expected to be commercialized in coming

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[40] Economic Report of the President, February 2007.

[41] IPCC, 2007, "Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change," [B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyers (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY.

> decades. This assumes that appropriate and effective incentives are in place for development, acquisition, deployment and diffusion of technologies and for addressing related barriers.[42]

According to one study, five groups of strategies that could substantially reduce emissions between now and 2030 include (1) improving energy efficiency in buildings and appliances; (2) increasing fuel efficiency and reducing GHG emissions from vehicles and the carbon intensity of transportation fuels; (3) industrial equipment upgrades and process changes to improve energy efficiency; (4) increasing forest stocks and improving soil management practices; and (5) reducing carbon emissions from electric power production through a shift toward renewable energy, expanded nuclear capacity, improved power plant efficiency, and use of carbon capture and storage technology on coal-fired generation.[43] (Note that EPA is not rank-ordering these technologies by their relative cost effectiveness.) As noted elsewhere in this notice, there is federal regulatory or research and development activity ongoing in most of these areas.

Many energy efficiency technologies exist that appear to be extremely cost-effective in reducing fuel costs compared to other alternatives. However, they have yet to be adopted as widely as expected because of market barriers. Such barriers include lack of knowledge or confidence in the technology by potential users, uncertainty in the return on investment (potentially due to uncertainty in either input prices or output prices), concerns about effects of energy efficiency technologies on the quality of inputs or outputs, size of the initial capital investment (coupled with potential liquidity constraints), and requirements for specialized human capital investments. Some of these costs are lower in larger firms, due to the increased availability of financial resources and human capital.[44] Vendor and other projections of cost-savings for energy efficiency technologies are often based on average pay-back and thus do not reflect differences among firms that can affect the costs and benefits of these technologies and therefore the likelihood of adoption. Over time, as firms gain more experience with these technologies, the rate of adoption will likely increase if significant cost-savings are realized by early adopters.

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[42] Ibid, "Summary for Policymakers," p. 25.

[43] See McKinsey & Company, "Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?", U.S. Greenhouse Gas Abatement Mapping Initiative, Executive Report, December 2007. This study performed an economic assessment of potential control methods based on a "bottom-up" partial equilibrium model, which does not account for interactions among economic sectors. Bottom-up models include many more specific technologies than "top-down" general equilibrium models, which account for cross-sector interactions.

The IPCC report on mitigation identified technologies that are currently available and additional technologies that are expected to be commercialized by 2030, as shown in the following table.[45] These include technologies and practices in the energy supply, transportation, buildings, industry, agriculture, forest, and waste sectors:

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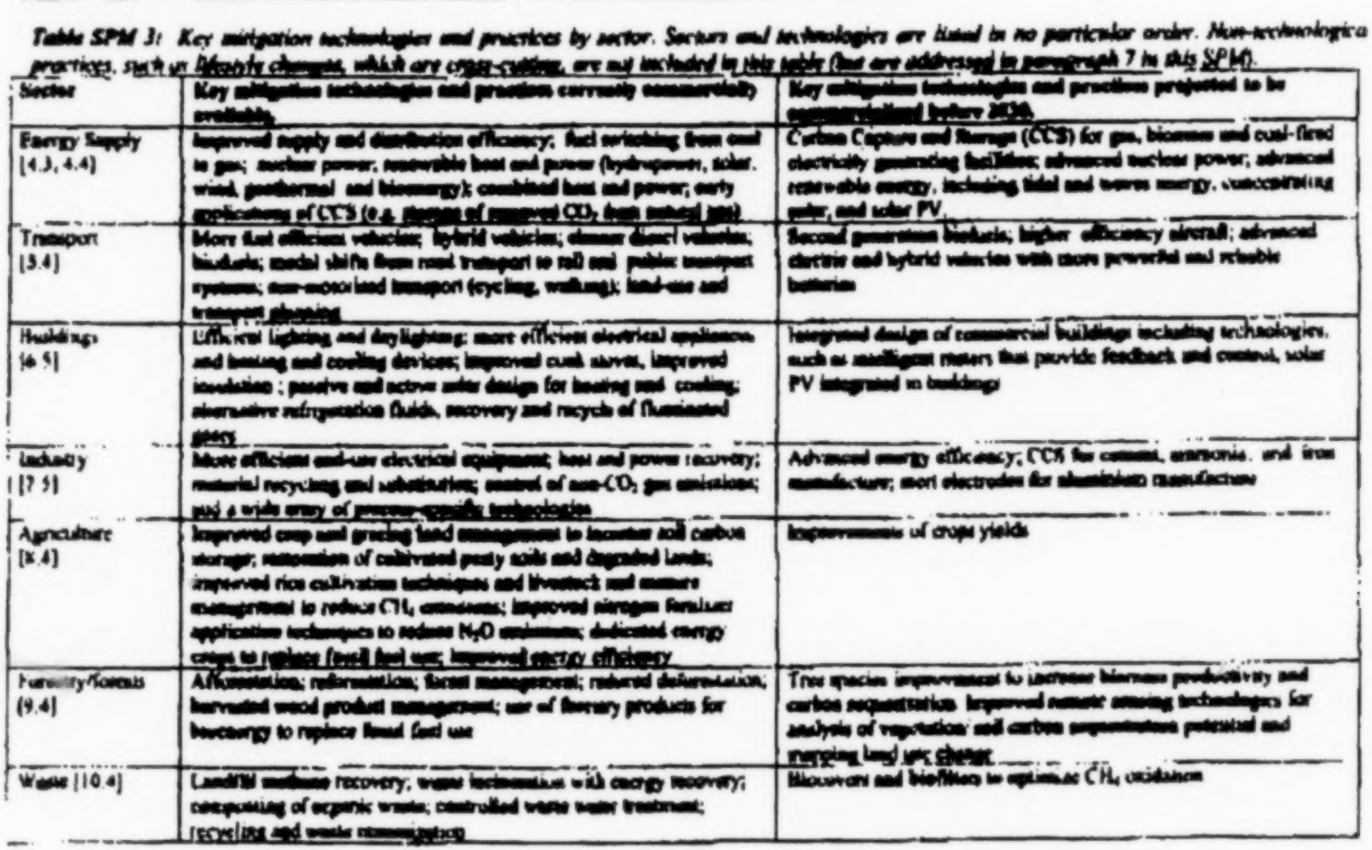
[44] Pizer, et al., "Technology Adoption and Aggregate Energy Efficiency," December 2002, December 2002 Resources for the Future Discussion Paper 02-52.

[45] IPCC 2007, "Summary for Policymakers," p. 14. Figure III-3

Figure III-3



Summary for Policymakers

Table SPM 3: Key mitigation technologies and practices by sector. Sectors and technologies are listed in no particular order. Non-technological practices, such as lifestyle changes, which are cross-cutting, are not included in this table (but are addressed in paragraph 7 in this SPM).

Sector	Key mitigation technologies and practices currently commercially available.	Key mitigation technologies and practices projected to be commercialized before 2030.
Energy Supply [4.3, 4.4]	Improved supply and distribution efficiency; fuel switching from coal to gas; nuclear power; renewable heat and power (hydropower, solar, wind, geothermal and bioenergy); combined heat and power; early applications of CCS (e.g. storage of removed CO_2 from natural gas)	Carbon Capture and Storage (CCS) for gas, biomass and coal-fired electricity generating facilities; advanced nuclear power; advanced renewable energy, including tidal and waves energy, concentrating solar, and solar PV.
Transport [5.4]	More fuel efficient vehicles; hybrid vehicles; cleaner diesel vehicles; biofuels; modal shifts from road transport to rail and public transport systems; non-motorised transport (cycling, walking); land-use and transport planning	Second generation biofuels; higher efficiency aircraft; advanced electric and hybrid vehicles with more powerful and reliable batteries
Buildings [6.5]	Efficient lighting and daylighting; more efficient electrical appliances and heating and cooling devices; improved cook stoves, improved insulation ; passive and active solar design for heating and cooling; alternative refrigeration fluids, recovery and recycle of fluorinated gases	Integrated design of commercial buildings including technologies, such as intelligent meters that provide feedback and control; solar PV integrated in buildings
Industry [7.5]	More efficient end-use electrical equipment; heat and power recovery; material recycling and substitution; control of non-CO_2 gas emissions; and a wide array of process-specific technologies	Advanced energy efficiency; CCS for cement, ammonia, and iron manufacture; inert electrodes for aluminium manufacture
Agriculture [8.4]	Improved crop and grazing land management to increase soil carbon storage; restoration of cultivated peaty soils and degraded lands; improved rice cultivation techniques and livestock and manure management to reduce CH_4 emissions; improved nitrogen fertilizer application techniques to reduce N_2O emissions; dedicated energy crops to replace fossil fuel use; improved energy efficiency	Improvements of crops yields
Forestry/forests [9.4]	Afforestation; reforestation; forest management; reduced deforestation; harvested wood product management; use of forestry products for bioenergy to replace fossil fuel use	Tree species improvement to increase biomass productivity and carbon sequestration. Improved remote sensing technologies for analysis of vegetation/ soil carbon sequestration potential and mapping land use change
Waste [10.4]	Landfill methane recovery; waste incineration with energy recovery; composting of organic waste; controlled waste water treatment; recycling and waste minimization	Biocovers and biofilters to optimize CH_4 oxidation

***44406** How much any of the mitigation strategies identified by these studies would actually be deployed to address climate change is an open question. It is possible that unanticipated technologies could play a significant role in reducing emissions. The point of these studies is to illustrate that potentially feasible technologies exist that could be employed to mitigate GHG emissions, not to predict the precise role they will play or to suggest sectors or methods for regulation. The particular policies pursued by governments, including the U.S. under the CAA or other authorities, will influence the way in which these technologies are deployed as well as incentives for developing and deploying new technologies.

2. Federal Climate Change Technology Program

The U.S. government is investing in a diverse portfolio of technologies with ***44407** the potential to yield substantial reductions in emissions of GHGs. The Climate Change Technology Program (CCTP) is a multi-agency planning and coordination entity that assists the government in carrying out the President's National Climate Change Technology Initiative. Managed by the Department of Energy, the program is organized around five technology areas for which working groups were established. EPA participates in all of the working groups and chairs the group focused on non-CO_2 GHGs.

The CCTP strategic plan, released in September 2006, provides strategic direction and organizes approximately $3 billion in federal spending for climate change-related technology research, development, demonstration, and deployment.[46] The plan sets six complementary goals, including five aimed at developing technologies to:

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[46] U.S. Climate Change Technology Program Strategic Plan, September 2006; *http://www.climatetechnology.gov/stratplan/final/index.htm.*

- Reduce emissions from energy end-use and infrastructure;
- Reduce emissions from energy supply, particularly through development and commercialization of no- or low-emission technologies;
- Capture, store and sequester CO_2 ;
- Reduce emissions of non-CO_2 GHGs; and
- Enhance the measurement and monitoring of CO_2 emissions.

The first four of these goals focus on GHG emissions reduction technologies, and the fifth addresses a key need for developing comprehensive GHG control strategies. The sixth CCTP goal is to strengthen the contributions of basic science to climate change technology development.

3. Potential for CAA Regulation to Encourage Technology Development

Past EPA efforts to reduce air pollution under the CAA demonstrate that incentives created by regulation can help encourage technology development and deployment. As noted in a recent EPA regulatory analysis, the history of the CAA provides many examples in which technological innovation and "learning by doing" have made it possible to achieve greater emissions reductions than had been feasible earlier, or have reduced the costs of emission control in relation to original estimates.[47] Among the examples are motor vehicle emission controls, diesel fuel and engine standards to reduce NO_X and particulate matter emissions, engine idle-reduction technologies, selective catalytic reduction and ultra-low NO_X burners for NO_X emissions, high-efficiency scrubbers for SO_2 emissions from boilers, CFC-free air conditioners and refrigerators, low or zero VOC paints, and idle-reduction technologies for engines.[48]

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[47] See section 5.4 of *Final Ozone NAAQS Regulatory Impact Analysis, March 2008*, EPA-HQ-OAR-2007-0225. The RIA is

One of the issues raised by potential CAA regulation of GHGs is whether the CAA can help spur needed technological development for reducing GHG emissions and the costs of those reductions. The regulatory authorities in the CAA vary in their potential for encouraging new technology. As discussed later in this notice, some provisions offer little flexibility in standard-setting criteria, emission control methods, compliance deadlines and potential for market-oriented regulation. Other provisions offer more potential to encourage new technology through market incentives or to establish standards based on anticipated advances in technology. EPA requests comment on the extent to which various CAA provisions could be used to help spur technological development, and on the need for federally conducted or funded research to promote technological development.

D. Relationship to Traditional Air Pollutants and Air Pollution Controls

An issue for any regulation of GHGs under the CAA

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available at *http://www.epa.gov/ttn/ecas/ria.html#ria 2007.*

[48] Ibid.

or other statutory authority is how a GHG control program would and should interact with existing air quality management programs. This section describes the relationships between climate change and air quality and between GHG emissions and traditional air pollution control programs. As explained below, those relationships suggest the need for integrated approaches to climate change mitigation and air quality protection. Differences between GHGs and traditional air pollutants should also be taken into account in considering how CAA authorities could be employed for GHG regulation.

1. Connections Between Climate Change and Air Quality Issues

Climate change affects some types of air pollution, and some traditional air pollutants affect climate. According to the IPCC, climate change can be expected to influence the concentration and distribution of air pollutants through a variety of direct and indirect processes. In its recent review of the NAAQS for ozone, EPA examined how climate change can increase ozone levels and how ozone, itself a GHG, can contribute to climate change. Similarly, in its reviews of the NAAQS for particulate matter, the Agency examined the extent to which some particles help absorb solar energy in the earth's atmosphere and others help reflect it back to space.[49] How EPA regulates those pollutants under the CAA is potentially part of an overall strategy for addressing climate change, and how GHGs are regulated is potentially an important component of protecting air quality. For example, it is likely to become more difficult and expensive to attain the ozone NAAQS in a future, warmer climate.

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[49] EPA did not have adequate information in these reviews for impacts on climate change to change the Agency's decision on whether or how to revise the standards. *See*, e.g., 71 FR 61144, 61209-10 (October 17, 2006) (PM NAAQS review).

Most of the largest emitters of GHGs are also large emitters of traditional air pollutants and therefore are already regulated under the CAA. The electricity generation, transportation and industrial sectors, the three largest contributors to GHG emissions in the U.S., are subject to CAA controls to help meet NAAQS, control acid rain, and reduce exposures to toxic emissions. Some manufacturers of the GHGs that are fluorinated gases are subject to CAA regulations for protection of the stratospheric ozone layer.

Many measures for controlling GHG emissions also contribute to reductions in traditional air pollutants, and some measures for controlling traditional air pollutants result in reductions in GHGs.[50] Co-benefits from reduced air pollution as a result of actions to reduce GHG emissions can be substantial.[51] In general, fossil fuel combustion results in emissions not only of CO_2 but also of many traditional air pollutants, including SO_2, NO_X, CO and various toxic air pollutants. For many types of sources, to the extent fossil fuel combustion is reduced, emissions of all those pollutants are reduced as well. Some control measures reduce GHGs and traditional air pollutants, including leak detection and fuel switching. However, some measures for controlling traditional air pollutants increase GHGs, and some measures for controlling GHGs may increase traditional air pollutants. For example, controls to decrease SO_2 emissions from industrial sources require energy to operate and result in reduced process efficiencies and increases in GHGs, and changing ***44408** the composition of transportation fuels to reduce GHGs may affect traditional air pollutant emissions.

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[50] EPA, OAP, Clean Energy-Environmental Guide to Act, *http:// www.epa.gov/cleanenergy/documents/gta/guide—action—full.pdf.*

[51] IPCC, 2007, Working Group III, Summary for Policymakers.

By considering policies for addressing GHGs and traditional air pollutants in an integrated manner, EPA and the sectors potentially subject to GHG emission controls would also have the opportunity to consider and pursue the most effective way of accomplishing emission control across pollutants. For example, adoption of some air quality controls could result in a degree of "technology lock-in" that restricts the ability to implement GHG control technologies for significant periods of time because of the investment in capital and other resources to meet the air quality control requirements. Sections VI and VII below discuss technologies and opportunities for controlling GHGs in more detail from various sectors, including transportation, electricity generation, and manufacturing. EPA requests comment on strategies and technologies for simultaneously achieving reductions in both traditional air pollutants and GHG emissions.

In light of the connections between climate change and air quality, the large overlap of GHG and traditional air pollution sources, and the potential interactions of GHG and traditional air pollution controls, it makes sense to consider regulation of GHGs and traditional air pollutants in an integrated manner. Indeed, the National Academy of Sciences recommends that development of future policies for air pollution control be integrated with climate change considerations.[52] GHG control measures implemented today could have immediate impacts on air pollution and air quality. Similarly, air pollution controls implemented today could have near term impacts on GHG emissions and thus long term impacts on climate. Ideally, any GHG control program under the Act, or other statutory authority would address GHGs in ways that simultaneously reduce GHGs and traditional air pollutants as needed to mitigate climate change and air pollution.[53]

2. Issues in Applying CAA Controls to GHGs

One important issue for regulation of GHGs under some CAA provisions concerns the emissions thresholds established by the Act for determining the applicability of those provisions. Several CAA provisions require stationary sources that emit traditional air pollutants above specific emission thresholds to comply with certain requirements. Applying the same thresholds to GHGs could result in numerous sources, such as space heaters in large residential and commercial buildings, becoming newly subject to those requirements. Currently regulated sources could become subject to additional requirements. This would occur in part because most sources typically emit CO_2, the predominant GHG, in much larger quantities than traditional air pollutants. Issues related to threshold levels are discussed in more detail in Section VII below.

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[52] National Academy of Sciences, "Radiative Forcing of Climate Change: Expanding the Concept and Addressing Uncertainties," October 2005.

[53] Integration of planning efforts related to air quality, land use, energy efficiency, and transportation to improve air quality and reduce GHG emissions is in line with the CAA Advisory Committee Air Quality Management Subcommittee's Phase II recommendations (June 2007), and the recommendations of the National Research Council of the National Academy of Sciences in its January 2004 report, "Air Quality Management in the United States."EPA has initiated several programs to encourage integrated planning efforts, including the Sustainable Skylines Initiative, a public-private partnership to reduce air emissions and promote sustainability in urban environments, and the Air Quality Management Plan pilot program for testing a comprehensive, multipollutant planning approach.

Other important issues for CAA regulation of GHGs are raised by the different temporal and spatial scope of GHGs compared to traditional pollutants. Air pollutants currently regulated under the CAA tend to have local (a few kilometers) or regional (hundreds to thousands of kilometers) impacts and relatively short atmospheric lifetimes (days to a month). Historically, this has meant that EPA could identify and differentiate between affected and unaffected areas and devise control strategies appropriate for each area. Controls applied within an area with high concentrations of traditional air pollutants generally have been effective in achieving significant reductions in air pollution concentrations within that area in a relatively short amount of time. The spatial nature of traditional air pollution also has made it appropriate to place the primary responsibility for planning controls on state, tribal, or local governments.

In the years since the CAA was enacted, we have learned that some traditional air pollutants (e.g., ozone, particulates and their precursors) are transported across regions of the country and thus have geographically broader impacts than individual states can address on their own. Our control strategies for those pollutants have evolved accordingly. The Nitrogen Oxides (NO_X) SIP Call Rule and the Clean Air Interstate Rule (CAIR) are examples of regional control programs that significantly supplement local control measures. NSPS and motor vehicle controls are examples of national measures that also help improve air quality locally and regionally.

The global nature and effect of GHG emissions raise questions regarding the suitability of CAA provisions that are designed to protect local and regional air quality by controlling local and regional emission sources.[54] As noted above, GHGs are relatively evenly distributed throughout the global atmosphere. As a result, the geographic location of emission sources and reductions are generally not important to mitigating global climate change. Instead, total GHG emissions in the U.S. and elsewhere in the world over time determine cumulative global GHG concentrations, which in turn determine the extent of climate change. As a result, it will be the total emission reductions achieved by the U.S. and the other countries of the world that will determine the extent of climate change mitigation. The global nature of GHGs suggests that the programmatic and analytical tools used to address local and regional pollutants under the CAA (e.g., SIPs, monitoring networks, and models) would need to be adapted to inventory, analyze, control effectively and evaluate progress in achieving GHG reductions.

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[54] It should be noted that international transport of ozone and particulate matter precursors contributes to NAAQS nonattainment in some areas of the U.S. Nevertheless, most traditional air pollution problems are largely the result of local and regional emission sources, while for GHGs, worldwide emissions determine the extent of the problem.

EPA seeks information about how differences in pollutant characteristics should inform regulation of these pollutants under the CAA. EPA also requests comment on the types of effective programs at all levels (local, regional, national and international) that may be feasible to design and implement under existing CAA authorities.

E. Relationship to Other Environmental Media

An effective GHG control program may require application of many technologies and approaches that may in turn result in increased discharges to water, generation of solid materials that require appropriate disposal, or have other impacts to the environment that may not be addressed under the CAA. Examples of these impacts include the potential for groundwater contamination from geological ***44409** sequestration of CO_2, the generation of spent sorbent material from carbon capture systems, or the depletion of water resources and increased nutrient runoff into surface waters from increased production of bioenergy feedstocks. EPA and other regulatory agencies at the tribal, state, and local level may need to respond to such impacts to prevent or minimize their impact to the environment and public health under authorities other than the CAA.

Since the nature and extent of these impacts would depend upon the technologies and approaches that are implemented under a GHG control program, an important consideration in designing GHG controls is minimizing or mitigating such impacts EPA seeks comment on how different regulatory approaches to

GHG control under the CAA could result in environmental impacts to water or land that could require response under the CAA or EPA's other legislative authorities.

F. Other Key Policy and Economic Considerations for Selecting Regulatory Approaches

This section identifies general policy considerations relevant to developing potential regulatory approaches for controlling GHG emissions. In developing approaches under the CAA, EPA must first consider the Act's provisions as well as the Agency's previous interpretation of the provisions and relevant and controlling court opinions. Provisions of the CAA vary in terms of the degree of flexibility afforded EPA in designing implementing regulations under the Act. To the extent particular provisions permit, EPA believes the following considerations should guide its choice among available regulatory approaches. This section also discusses three selected issues in greater depth because of their importance to designing effective GHG controls: advantages of market-oriented regulatory approaches, economy-wide and sector-based regulation under the CAA, and emissions leakage and international competitiveness. In discussing these and other policy and economic considerations, EPA is not directly or indirectly implying that it possesses the requisite statutory authority in all areas.

1. Overview of Policy and Economic Considerations

The following considerations are useful in developing potential regulatory approaches to the extent permissible under the CAA. These considerations are also generally applicable to the design of GHG control legislation. EPA is in the process of evaluating the CAA options described later in this notice in light of these considerations.

Effectiveness of health and environmental risk reduction: How much would the approach reduce negative health and environmental impacts (or the risk of such impacts), relative to other potential approaches?

Certainty and transparency of results: How do the potential regulatory approaches balance the trade-off between certainty of emission reductions and costs? To what extent can compliance flexibility be provided for regulated entities while maintaining adequate accountability for emission reductions?

Cost-effectiveness and economic efficiency considerations: To what extent does the approach allow for achieving health and environmental goals, determined in a broader policy process, in a manner that imposes the least cost? How do the societal benefits compare to the societal costs? To what extent are there non-monetizable or unquantifiable benefits and costs? Given the uncertainties associated with climate change, to what extent can economic efficiency be judged?

Equity considerations (i.e., distributional effects): Does the approach by itself or in combination with other programs result in a socially acceptable apportionment of the burden of emission reduction across groups in our society? Does the approach provide adequate protection for those who will experience the adverse effects of emissions, including future generations?

Policy flexibility over time: Does the approach allow for updating of environmental goals and mechanisms for meeting those goals as new information on the costs and benefits of GHG emission reductions becomes available?

Incentives for innovation and technology development: Does the approach provide incentives for development and deployment of new, cleaner technologies in the United States and transfer abroad? Does the approach create incentives for individual regulated entities to achieve greater-than-required emissions reductions?

Competitiveness/emissions shifts: Can the approach be designed to reduce potential adverse impacts and consequent shifts in production and emissions to other sectors or geographic areas? Can the policy be designed to minimize the shifting, or "leakage," of emissions to other sectors or other countries, which would offset emission reduction benefits of the policy? To what extent can the approach consider the degree and nature of action taken by other countries?

Administrative feasibility: How complex and resource-intensive would the approach be for federal, state, and local governments and for regulated entities? Do personnel in the public and private sectors have sufficient expertise, or can they build sufficient expertise, to successfully implement the approach?

Enforceability: Is the approach enforceable in practice? Do available regulatory options differ regarding whether the government or the regulated entity bears the burden of demonstrating compliance?

Unintended consequences: Does the approach result in unintended consequences or unintended effects for other regulations? Does the approach allow for consideration of, and provide tools to address, any perverse incentives?

Suitability of tool for the job: Overall, is the approach well-suited to the environmental problem, or the best-suited among imperfect alternatives? For example, does the regulatory approach fit the characteristics of the pollutant in question (e.g., the global and long-lived nature of GHGs, high volume of CO_2 emissions)?

2. Market-Oriented Regulatory Approaches for GHGs

EPA believes that market-oriented regulatory approaches, when well-suited to the environmental problem, offer important advantages over non-market-oriented approaches. A number of theoretical and empirical studies have shown these advantages.[55] In general, market-oriented approaches include ways of putting a price on emissions through a fixed price (e.g., a tax) or exchangeable quantity-based instrument (e.g., a cap-and-trade program), while non-market-oriented approaches set performance standards limiting the rate at which individual entities can emit, or prescribe what abatement behaviors or technologies they should use.[56] The primary regulatory advantage of a market-oriented approach is that it can achieve a particular emissions target at a lower ***44410** social cost than a non-market-oriented[57] approach (Baumol and Oates, 1971; Tietenberg, 1973).[58] This is because market-oriented approaches leave the method for reducing pollution to the emitter, and emitters have an incentive to find the least cost way of achieving the regulatory requirement. Efficient market-oriented regulatory systems provide a common emissions price for all emitters that contribute to a particular harm, either through the tax on emissions or the price of an exchangeable right to emit. As a result, the total abatement required by the policy can theoretically be distributed across all emitters in such a way that the marginal cost of control is equal for all emitters and the cost of reducing emissions is minimized.[59] Non-market-oriented policies offer emitters fewer choices on how to reduce emissions, which can lead to higher costs than are necessary to achieve the overall environmental objective (i.e. emission level).

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[55] See EPA (2000), Baumol and Oates (1988), Tietenberg (2006) and Burtraw et al. (2005) for a detailed description of the advantages of market-oriented policies, such as the Title IV sulfur dioxide trading program, over non-market-oriented approaches.

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[56] Performance standards provide a source flexibility to use any emission reduction method that meets the performance standard; they can be coupled with market-oriented approaches such as emissions trading to promote lower costs and technology innovation, as described later in this section.

[57] Many studies use the term "command-and-control" to refer to non-market-oriented approaches. Here we use the term "non-marketed-oriented" because the term "command and control" may be misleading when used to refer to performance-based emission limits that allow the regulated entity to choose the control technology or strategy for compliance.

[58] It is important to note that judgments about the appropriate mitigation approach also may consider important societal values not fully captured in economic analysis, such as political, legal, and ethical considerations. For example, different regulatory forms may result in different distributions of costs and benefits across individuals and firms. This is a particularly sensitive issue with policies that raise energy costs, which are known to be regressive. However, these issues are not discussed at length here.

As noted previously, it is especially important that any GHG emission reduction policy encourage the innovation, development and diffusion of technologies to provide a steady decline in the costs of emission reductions. Another advantage of market-oriented approaches is that they generally provide a greater incentive to develop new ways to reduce pollution than non-market-oriented approaches (Malueg 1989; Milliman and Prince 1989; Jung et al., 1996). Polluters not only have an incentive to find the least cost way of adhering to a standard but they also have an incentive to continually reduce emissions beyond what is needed to comply with the standard. For every unit of emissions reduced under a market-oriented policy, the emitter either has a lower tax burden or can sell an emissions permit (or buy one less emissions permit). Also, there are more opportunities under a market-oriented approach for developers of new control technologies to work directly with polluters to find less expensive ways to reduce emissions, and polluters are faced with less compliance risk if a new pollution control technique does not work as expected. This is because they can either pay for their unanticipated emissions through the tax or by purchasing emission rights instead of being subject to enforcement action (Hahn, 1989).

There are a number of examples of CAA rules in which market-oriented approaches have been used for groups of mobile or stationary sources. Usually this has taken the form of emissions trading within a sector or subsector of a source category, although there are some examples of broader trading programs. Differences in implications of sector-specific and economy-wide market-oriented systems are discussed in subsection below.

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[59] For a standard textbook treatment supporting this finding see Tietenberg (2006) or Callan and Thomas (2007).

The cost advantage of market-oriented policies can be extended when emitters are allowed to achieve a particular environmental objective across multiple pollutants that affect environment quality in the same way but differ in the magnitude of that effect (e.g., different GHGs have different global warming potentials). Either a cap-and-trade or a tax approach could be designed so that the effective price per unit of emissions is higher for those pollutants that have a greater detrimental effect. Under a cap, the quantity of emissions reductions is fixed but not the price; under a tax, the price is fixed but not the emissions reductions. Some current legislative proposals include flexible multiple-pollutant market-oriented policies for the control of GHG emissions.

Market-oriented approaches are relatively well-suited to controlling GHG emissions. Since emissions of the major GHGs are globally well-mixed, a unit of GHG emissions generally has the same effect on global climate regardless of where it occurs. Also, while policies can control the flow of GHG emissions, what is of ultimate concern is the concentration of cumulative GHGs in the atmosphere. Providing flexibility on the method, location and precise timing of GHG reduction would not significantly affect the global climate protection benefits of a GHG control program (assuming effective enforcement mechanisms), but could substantially reduce the cost and encourage technology innovation.[60] However, it should be noted that for GHG control strategies that also reduce emissions of traditional pollutants, the timing and location of those controls could significantly affect air quality in local or regional areas. There is the potential for positive air quality effects from strategies that reduce both GHGs and traditional pollutants, and for adverse air quality effects that may be avoidable through complementary measures to address air quality. For example, when the acid rain control program was instituted, existing sulfur dioxide control programs were left in place to ensure that trading under the acid rain program did not undermine achievement of local air quality objectives.

As noted previously, broad-based market-oriented approaches include emissions taxes and cap-and-trade programs with and without cost containment mechanisms. While economists disagree on which of these approaches—emissions taxes or cap-and-trade programs—may be particularly well-suited to the task of mitigating GHG emissions, they do agree that attributes such as flexibility, cost control, and broad incentives for minimizing abatement costs and developing new technologies are important policy design considerations.[61] For a description of various market-oriented approaches, see section VII.G.

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[60] We say "precise" timing because the qualifier is important: The IPCC and others have noted that lower GHG stabilization targets would require steeper and earlier emission reductions, whereas stabilization targets that allow for more warming (with higher associated risks and impacts) would require less steep and later emission reductions.

3. Legal Authority for Market-Oriented Approaches Under the Clean Air Act

The ability of each CAA regulatory authority potentially applicable to GHGs to support market-oriented regulatory approaches is discussed in sections VI and VII of this notice. To summarize, some CAA provisions permit or require market-oriented approaches, and others do not. Trading programs within sectors or subsectors have been successfully implemented for a variety of mobile and stationary source categories under the Act, including the Acid Rain Control Program (58 FR 3590 (Jan. 11, 1993)) and a variety of on-road and non-road vehicle and fuel rules. Multi-sector trading programs, though not economy-wide, have been successfully implemented under section 110(a)(2)(D) for nitrogen oxides (i.e. the NO_X SIP Call Rule) and under Title VI for ozone-depleting substances, and may be *44411 possible among stationary source sectors under section 111. An economy-wide system might be legally possible under CAA section 615 (if the two-part test unique to that section were met) or if a NAAQS were established for GHGs. However, any economy-wide program under either provision would not stand alone; it would be accompanied by source-specific or sector-based requirements as a result of other CAA provisions (e.g., PSD permitting under section 165).

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[61] These approaches also raise the issue of the potential use of revenues from collecting a tax or auctioning allowances to emit GHGs at levels that do not exceed the cap. See Chapter 4 of U.S. EPA (2000), "Guidelines for Preparing Economic Analyses," EPA 240-R-00-003.

The CAA does not include a broad grant of authority for EPA to impose taxes, fees or other monetary charges specifically for GHGs and, therefore, additional legislative authority may be required if EPA were to administer such charges (which we will refer to collectively as fees). EPA may promulgate regulations that impose fees only if the specific statutory provision at issue authorizes such fees, whether directly or through a grant of regulatory authority that is written broadly enough to encompass them. For example, CAA section 110(a)(2)(A) allows for the use of "economic incentives such as fees, marketable permits, and auctioning allowances."Under this provision, some states intend to auction allowances under CAIR (70 FR 25162 (May 12, 2005)) and some have under the NO_X SIP Call Rule (63 FR 57356 (Oct. 27, 1998)). By the same token, states have authority to impose emissions fees as economic incentives as part of their SIPs and collect the revenues. Similarly, section 110(a)(2)(A) authorizes EPA to impose fees as economic incentives as part of a Federal Implementation Plan (FIP) under section 110(c), although EPA has never done so.[62]

Section 111 authorizes EPA to promulgate "standards of performance," which are defined as "standard[s] for emissions of air pollutants."EPA has taken the position that this term authorizes a cap-and-trade program under certain circumstances. A fee program differs from a cap and trade because it does not establish an overall emission limitation, and we have not taken a position on whether, given this limitation, a fee program fits the definition of a "standard of performance." Even so, under section 111 costs may be considered when establishing NSPS regulations, and a fee may balance the consideration of assuring emissions are reduced but not at an unacceptably high cost. Also, there may be advantages of including an emission fee feature into a cap-and-trade program (i.e., as a price ceiling). The use of a price ceiling that is not expected to be triggered except in the case of unexpectedly high (or low) control costs may be viewed differently under the auspices of the CAA than a stand-alone emissions fee.

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[62] Any such revenues from a FIP would be deposited in the Federal Treasury under the Miscellaneous Receipts Act, and not retained and disbursed by EPA.

We request comment on what CAA provisions, if any, would authorize emissions fees to control GHG emissions, and whether there are other approaches that could be taken under the CAA that would approximate a fee. Furthermore, we request comments on the use of emission fee programs under other sections of the Act. We also seek comment on whether sector-specific programs, or inter-sector programs where emission fees on a CO_2 equivalent basis are harmonized, might be more appropriate as possible regulatory mechanisms under the Act.

4. Economy-Wide and Sector-Based Regulation in a Clean Air Act Context

Several legislative cap-and-trade proposals for reducing GHG emissions are designed to be nearly economy wide, meaning that they attempt to reduce GHG emissions in most economic sectors through a single regulatory system. By contrast, many CAA authorities are designed for regulations that apply to a sector, subsector or source category, although broader trading opportunities exist under some authorities. This section discusses the relative merits of economy-wide systems and sector-based market-oriented approaches. These considerations may also be relevant in considering the use of CAA provisions in tandem with any climate change legislation.

i. Economy-Wide Approach

Economic theory suggests that establishing a single price for GHG emissions across all emitters through an economy-wide, multiple GHG, market-oriented policy would promote optimal economic efficiency in pursuing GHG reductions. According to the economics literature, economy-wide GHG trading or GHG emissions taxes could offer significantly greater cost savings than a sector-by-sector approach for GHGs because the broader the universe of sources covered by a single market-oriented approach (within a sector, across sectors, and across regions), the greater the potential for finding lower-cost ways to achieve the emissions target. If sources of pollution are compartmentalized into different sector-specific or pollutant-specific approaches, including the relatively flexible cap-and-trade approaches, each class of polluter may still face a different price for their contribution to the environmental harm, and therefore some trading opportunities that reduce pollution control costs will be unrealized (Burtraw and Evans, 2008).[63] Taking a sector-by-sector approach to controlling GHG emissions is likely to result in higher costs to the economy. For example, limiting a market-oriented

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[63] With traditional pollutants there are geographic issues to consider.

GHG policy to the electricity and transportation sectors could double the welfare cost of achieving a five percent reduction in carbon emissions compared to when the industrial sector is also included.[64]

A second factor that favors making the scope of a market-oriented system as broad as possible is that the incentive for development, deployment and diffusion of new technologies would be spread across the economy. In contrast to an approach targeting a few key sectors, an economy-wide approach would affect a greater number of diverse GHG-emitting activities, and would influence a larger number of individual economic decisions, potentially leading to innovation in parts of the economy not addressed by a sector-by-sector approach.

As stated at the outset of this section, there are, first and most important, CAA authority issues as well as other policy and practical considerations in addition to economic efficiency that must be weighed in evaluating potential CAA approaches to GHG regulation. An economy-wide, market-oriented environmental regulation has never been implemented before in the U.S. The European Union, after encountering difficulties in early years of implementation, recently adopted major revisions to its broad multi-sector cap-and-trade system; this illustrates that some time and adjustments may be needed for such a program to achieve its intended effect. Although EPA has successfully designed and implemented market-oriented systems of narrower scope, a single economy-side system would involve new design and implementation challenges, should the CAA make possible such a system. For example —

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[64] William Pizer, Dallas Burtraw, Winston Harrington, Richard Newell, and James Sanchirico (2006), "Modeling Economywide versus Sectoral Climate Policies Using Combined Aggregate-Sectoral Models," The Energy Journal, Vol. 27, No. 3: 135-168.

- Administrative costs may be a concern, because more sources and sectors would have to be subject to ***44412** reporting and measurement, monitoring, and verification requirements.
- Some sources and sectors are more amenable to market-oriented approaches than others. The feasibility and cost of accurate monitoring and compliance assurance needed for trading programs (whether economy-wide or sector-based) varies among sectors and source size. As a result, there are potential tradeoffs between trading program scope and level of assurance that required emissions reductions will be achieved.
- To broaden the scope of cap-and-trade systems, covered sources could be allowed to purchase GHG emission reductions "offsets" from non-covered sources. However, offsets raise additional accountability issues, including how to balance cost efficiency against certainty of emissions reductions, how to quantify resulting emissions reductions, and how to ensure that the activities generating the offsets are conducted and maintained over time.
- Allocating allowances or auction revenues for an economy-wide GHG trading system would be very challenging for an executive branch agency because of high monetary stakes and divergent stakeholder views on how to distribute the allowances or revenues to promote various objectives. For example, many economists believe that auctioning allowances under a cap-and-trade system and using the proceeds to re-

duce taxes that distort economic incentives would be economically efficient, but regulated entities typically favor free allowance allocations to offset their compliance costs.[65] [66]

ii. Sector-Based and Multi-Sector Trading Under the Clean Air Act

As mentioned above, EPA has implemented multi-sector, sector and subsector-based cap-and-trade approaches in a number of CAA programs, including the Acid Rain (SO_2) Program, the NO_X SIP Call Rule, the Clean Air Interstate Rule (CAIR), and the stratospheric ozone-depleting substances (ODS) phase-out rule. In the case of the acid rain and ODS rules, the CAA itself called for federal controls. By contrast, the NO_X SIP Call rule and CAIR were established by EPA through regulations under CAA section 110(a)(2)(d) to help states attain various NAAQS. The two rules and EPA's accompanying model rules enable states to adopt compatible cap-and-trade programs that form regional interstate trading programs. The power sector and a few major industrial source categories are included in the trading system for the NO_X SIP Call, and the trading system for CAIR focuses on the electricity generation sector.

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[65] Many economists also suggest that an emissions tax with proceeds used to decrease distortionary taxes would be economically efficient; however, the CAA does not authorize such a program.

[66] Bovenberg and Goulder (2001) find that freely allocating 20% of allowances to fossil fuel suppliers is enough to keep profits from falling. When all allowances are freely allocated, profits are found to be higher than in the absence of the carbon cap-and-trade policy. Free allocation of allowances or an approach that exempts particular sectors also raises the specter of "rent-seeking," the notion that sectors or particular source categories will lobby to gain preferential treatment and, in essence, be subject to less regulatory oversight than other sectors or competitors.

In addition to creating cap-and-trade systems, EPA has often incorporated market-oriented emissions trading elements into the more traditional performance standard approach for mobile and stationary sources. Coupling market-oriented provisions with performance standards provides some of the cost advantages and market flexibility of market-oriented solutions while also directly incentivizing technology innovation within the particular sector, as discussed below. For example, performance standards for mobile sources under Title II have for many years been coupled with averaging, banking and trading provisions within a subsector. In general, averaging allows covered parties to meet their emissions obligation on a fleet- or unit-wide basis rather than requiring each vehicle or unit to directly comply. Banking provides direct incentives for additional reductions by giving credit for over-compliance; these credits can be used toward future compliance obligations and, as such, allow manufacturers to put technology improvements in place when they are ready for market, rather than being forced to adhere to a strict regulatory schedule that may or may not conform to industry or company developments. Allowing trading of excess emission reductions with other covered parties provides an incentive for reducing emissions beyond what is required.

Based on our experience with these programs, EPA believes that sector and multi-sector trading programs for GHGs—relative to non-market regulatory approaches—could offer substantial compliance flexibility, cost savings and incentives for innovation to regulated entities. In addition, as discussed below, in some sectors there may be a need to more directly incentivize technology development because of market barriers that a sector-specific program might help to overcome. To the extent sector-based approaches could provide for control of multiple pollutants (e.g., traditional pollutants and GHGs), they could provide additional cost savings relative to multiple single-pollutant, sector-based regulations. Another consideration is that it may be simpler and thus faster to move forward with cap-and-trade programs for sectors already involved in, and thus familiar with, cap-and-trade programs. This raises the question of whether it would make sense to phase in an economy-wide system over time.

Sector and multi-sector approaches would not offer the relative economic efficiency of the economy-wide model for the reasons explained above. To the extent the program sets more stringent requirements for new sources than for existing source, a sector or multi-sector approach could also pose the vintage issues discussed below. It is also important to keep in mind that the economic efficiency of any CAA cap-and-trade approach for GHGs, sector- or economy-wide, could be reduced to a significant extent by the application of other GHG control requirements (e.g., PSD permitting) to the sources covered by the cap-and-trade program, if the result were to restrict compliance options.

iii. Combining Economy-Wide and Sector-Based Approaches

It is worth noting that market-oriented approaches may not incentivize the most cost-effective reductions when information problems, infrastructure issues, technological issues or other factors pose barriers that impeded the market response to price incentives. In such instances, there may be economic arguments for combining an economy-wide approach with complementary sector-based requirements unless these problems can be directly addressed, for instance by providing the information needed or directly subsidizing the creation of needed infrastructure.

For instance, given the relative inelasticity of demand for transportation, even a relative high permit price for carbon may not substantially change consumer vehicle purchases or travel demand, although recent reports indicate that the current price of gasoline and diesel are inducing an increasing number of consumers to choose more fuel efficient vehicles and drive less. Some have expressed concern that this relatively inelastic demand may be related to undervaluation by consumers of fuel economy when making vehicle purchasing decisions. If consumers adequately value fuel economy, fuel saving technologies will come online as a result of market forces. However, if ***44413** consumers undervalue fuel economy, vehicle or engine manufacturers may need a more direct incentive for making improvements or the technology innovation potential may well be delayed or not fully realized. Beyond this consumer valuation issue, questions have been raised as to whether a carbon price alone (especially if the impact is initially to raise gasoline prices by pennies a gallon) will provide adequate incentives for vehicle manufacturers to invest now in breakthrough technologies with the capability to achieve significantly deeper emissions reductions in the future, and for fuel providers to make substantial investments in a new or enhanced delivery infrastructure for large-scale deployment of lower carbon fuels.[67]

EPA requests comment on how to balance the different policy and economic considerations involved in selecting potential regulatory approaches under the CAA, and on how the potential enactment of legislation should affect EPA's deliberations on how to use CAA authorities.

5. Other Selected Policy Design Issues

Another policy and legal issue in regulatory design is whether requirements should differentiate between new and existing sources. Because it is generally more costly to retrofit pollution control equipment than to incorporate it into the construction or manufacture of a new source, environmental regulations, including under the CAA, frequently apply stricter standards to new or refurbished sources than to "grandfathered" sources that pre-date the regulation. New sources achieve high-percentage reductions and over time existing high-emitting sources are replaced with much cleaner ones. For example, emissions from the U.S. auto fleet have been dramatically reduced over time through new vehicle standards. However, some suggest that stricter pollution control requirements for new or refurbished sources may retard replacement of older sources, discouraging technology investment, innovation and diffusion while encouraging older and less efficient sources to remain in operation longer, thereby reducing the environmental effectiveness and cost-effectiveness of the regulation. Others believe that economic factors other than differences in new and existing source requirements (e.g., capital outlay, power prices and fuel costs) have the most impact on rate of return, and that differences in regulatory stringency generally do not drive business decisions on when to build new capacity.

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[67] See Kopp and Pizer, "Assessing U.S. Climate Policy Options," Chapter 12, RFF Press: Washington, DC (2007).

A 2002 EPA report on new source review requirements found that NSR "appears to have little incremental impact on construction of new electricity generation," but also found that "there were credible examples of cases in which uncertainty over the [NSR] exemption for routine activities has resulted in delay or cancellation of projects [at existing plants]" that would have increased energy capacity, improved energy efficiency and reduced air pollution.[68] To the extent that a gap in new and existing source requirements affects business decisions, regulating existing as well as new sources can diminish or eliminate that gap. In the power sector, the gap has narrowed over time, in part as a result of CAA national and regional cap-and-trade systems that do not discriminate between new and existing facilities (i.e., both new and old power plants must hold allowances to cover their NO_X and SO_2 emissions). Another consideration is that equity issues can arise when applying retroactive requirements to existing sources. For GHGs, EPA requests comment on the concept of a market-oriented approach that does not differentiate between new and existing source controls and, by avoiding different marginal costs of control at new and existing sources, would promote more cost-effective emissions reductions. In addition, EPA requests comment on whether GHG regulations should differentiate between new and existing sources for various sectors, and whether there are circumstances in which requirements for stringent controls on new sources would have policy benefits despite the existence of a cap-and-trade system that also would apply to those sources.

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[68] "New Source Review: Report to the President, June 2002,"U.S. EPA, pp. 30-31.

Another possible design consideration for a GHG program is whether and how lifecycle approaches to controlling GHG emissions could or should be used. Lifecycle (LC) analysis and requirements have been proposed for determining and regulating the entire stream of direct and indirect emissions attributable to a regulated source. Indirect emissions are emissions from the production, transportation, and processing of the inputs that go into producing that good. Section VI.D describes possible CAA approaches for reducing GHG emissions from transportation fuels through lifecycle analysis and includes a brief discussion of a potential lifecycle approach to reducing fuel-related GHG emissions. In that context, displacing petroleum-based fuels with renewable or alternative fuels can reduce fuel-related GHGs to the extent the renewable or alternative fuels are produced in ways that result in lower GHG emissions than the production of an equivalent amount of fossil-based fuels. Tailpipe GHG emissions typically do not vary significantly across conventional and alternative or renewable fuels.

EPA recognizes that other programs, such as stationary source or area source programs described in this notice, could potentially address at least some of the indirect GHG emissions from producing fuels. We note that the technology and fuel changes that may result from an economy-wide cap-and-trade approach would likely be different from the technology and fuel changes that may result from a lifecycle approach.

EPA asks for comment on how a lifecycle approach for fuels could be integrated with other stationary source approaches and whether there are potentially overlapping incentives or disincentives. EPA also asks for comments on whether a lifecycle approach to reducing GHG emissions may be appropriate for other sectors and types of sources, and what the implications for regulating other sectors would be if a lifecycle approach is taken for fuels.

6. "Emissions Leakage" and International Competitiveness

A frequently raised concern with domestic GHG regulation unaccompanied by comparable policies abroad is that it might result in emissions leakage or adversely affect the international competitiveness of certain U.S. industries. The concern is that if domestic firms faced significantly higher costs due to regulation, and foreign firms remained unregulated, this could result in price changes that shift emissions, and possibly some production capacity, from the U.S. to other countries. Emissions leakage also could occur without being caused by a competitiveness issue: for instance, if a U.S. GHG policy raised the domestic price of petroleum-based fuels and led to reduced U.S. demand for those fuels, the resulting world price decline could spur increased use of petroleum-based fuels abroad, leading to increased GHG emissions abroad that offset U.S. reductions.

The extent to which international competitiveness is a potential concern varies substantially by sector. This issue is mainly raised for industries with high energy use and substantial potential *44414 foreign competition. Even for vulnerable sectors, the concern would depend on the actual extent which a program would raise costs for an energy intensive firm facing international competition, and on whether policies to address the competitiveness issue were adopted (either as part of the rule or in another venue).

Leakage also could occur within the U.S. if emissions in one sector or region are controlled, but other sources are not. In this case, the market effects could lead to increased activity in unregulated sectors or regions, offsetting some of the policy's emissions reductions. In turn, this would raise the cost of achieving the environmental objective. The more uniform the price signal for an additional unit reduction in GHG emissions across sectors, states, and countries, the less potential there is for leakage to occur.

A recent report has identified and evaluated five conceptual options for addressing competitiveness concerns in a legislative context; some options might also be available in a regulatory context.[69] The first option, weaker program targets, would affect the entire climate protection policy. Four other options also could somewhat decrease environmental stringency but would allow for the targeting of industries or sectors particularly vulnerable to adverse economic impacts:

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[69] Morgenstern, Richard D., "Issue Brief 8: Addressing Competitiveness Concerns in the Context of a Mandatory Policy for Reducing U.S. Greenhouse Gas Emissions," in *Assessing U.S. Climate Policy Options: A report summarizing work at RFF [Resources for the Future] as part of the inter-industry U.S. Climate Policy Forum*, November 2007, Raymond J. Kopp and William A. Pizer, eds.

- Exemptions
- Non-market regulations to avoid direct energy price increases on an energy-intensive industry
- Distribution of free allowances to compensate adversely affected industries in a cap-and-trade system
- Trade-related policies such as import tariffs on carbon or energy content, export subsidies, or requirements for importers to submit allowances to cover the carbon content of certain products.

Significantly, the report noted that identifying the industries most likely to be adversely affected by domestic GHG regulation, and estimating the degree of impact, is complex in terms of data and analytical tools needed.

We request comment on the extent to which CAA authorities described in this notice could be used to minimize competitiveness concerns and leakage of emissions to other sectors or countries, and which approaches should be preferred.

G. Analytical Challenges for Economic Analysis of Potential Regulation

In the event that EPA pursues GHG emission reduction policies under the CAA or as a result of legislative action, we are required by Executive Order 12866 to analyze and take into account to the extent permitted by law the costs and benefits of the various policy options considered. Economic evaluation of GHG mitigation is particularly challenging due to the temporal and spatial dimensions of the problem discussed previously: GHG emissions have extremely long-run and global climate implications. Furthermore, changes to the domestic economy are likely to affect the global economy. In this section, we discuss a few overarching analytical challenges that follow from these points. Many of the issues discussed are also relevant when valuing changes in GHGs associated with non-climate policies.

1. Time Horizon and International Considerations in General

As discussed earlier in this section, changes in GHG emissions today will affect environmental, ecological, and economic conditions for decades to centuries into the future. In addition, changes in U.S. GHG emissions that result from U.S. domestic policy will affect climate change everywhere in the world, as will changes in the GHG emissions of other countries. U.S. domestic policy could trigger emissions changes across the U.S. economy and across regions globally, as production and competitiveness change among economic activities. Similarly, differences in the potential impacts of climate change across the world can also affect competitiveness and production. Capturing these effects requires long-run, global analysis in addition to traditional domestic and sub-national analyses.

2. Analysis of Benefits and Costs Over a Long Time Period

Since changes in emissions today will affect future generations in the U.S. and internationally, costs and benefits of GHG mitigation options need to be estimated over multiple generations. Typically, federal agencies discount future costs or benefits back to the present using a discount rate, where the discount rate represents how society trades-off current consumption for future consumption. With the benefits of GHG emissions reductions distributed over a very long time horizon, benefit and cost estimations are likely to be very sensitive to the discount rate. For policies that affect a single generation of people, the analytic approach used by EPA is to use discount rates of three and seven percent at a minimum.[70] According to the Office of Management and Budget (OMB), a three percent rate is consistent with what a typical consumer might expect in the way of a risk free market return (e.g., government bonds). A seven percent rate is an estimate of the average before-tax rate of return to private capital in the U.S. economy. A key challenge facing EPA is the appropriate discount rate over the longer timeframe relevant for GHGs.

There are reasons to consider even lower discount rates in discounting the costs of benefits of policy that affect climate change. First, changes in GHG emissions—both increases and reductions—are essentially long-run investments in changes in climate and the potential impacts from climate change. When considering climate change investments, they should be compared to similar alternative investments (via the discount rate). Investments in climate change are investments in infrastructure and technologies associated with mitigation; however, they yield returns in terms of avoided impacts over a period of one hundred years and longer. Furthermore, there is a potential for significant impacts from climate change, where the exact timing and magnitude of these impacts are unknown. These factors imply a highly uncertain investment environment that spans multiple generations.

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[70] EPA (U.S. Environmental Protection Agency), 2000. Guidelines for Preparing Economic Analyses. EPA 240-R-00-003. See also OMB (U.S. Office of Management and Budget), 2003. Circular A-4. September 17, 2003.

When there are important benefits or costs that affect multiple generations of the population, EPA and OMB allow for low but positive discount rates (e.g., 0.5-3% noted by U.S. EPA, 1-3% by OMB).[71] In this multi-generation context, the three percent discount rate is consistent with observed interest rates from long-term investments available to current generations (net of risk premiums) as well as current estimates of the impacts of climate change that reflect potential impacts on consumers. In addition, rates of three percent or lower are consistent with long-run uncertainty in economic growth and interest rates, considerations of issues associated with the transfer of wealth between generations, and the risk of *44415 high impact climate damages. Given the uncertain environment, analysis could also consider evaluating uncertainty in the discount rate (e.g., Newell and Pizer, 2001, 2003).[72] EPA solicits comment on the considerations raised and discounting alternatives for handling both benefits and costs for this long term, inter-generational context.

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[71] OMB (2003). EPA (2000). These documents are the guidance used when preparing economic analyses for all EPA rulemakings.

[72] Newell, R. and W. Pizer, 2001. Discounting the benefits of climate change mitigation: How much do uncertain rates increase valuations? PEW Center on Global Climate Change, Washington, DC. Newell, R. and W. Pizer, 2003. Discounting the distant future: how much do uncertain rates increase

3. Uncertainty in Benefits and Costs

The long time horizon over which benefits and costs of climate change policy would accrue and the global relationships they involve raise additional challenges for estimation. The exact benefits and costs of virtually every environmental regulation is at least somewhat uncertain, because estimating benefits and costs involves projections of future economic activity and the future effects and costs of reducing the environmental harm. In almost every case, some of the future effects and costs are not entirely known or able to be quantified or monetized. In the case of climate change, the uncertainly inherent in most economic analyses of environmental regulations is magnified by the long-term and global scale of the problem and the resulting uncertainties regarding socio-economic futures, corresponding GHG emissions, climate responses to emissions changes, the bio-physical and economic impacts associated with changes in climate, and the costs of reducing GHG emissions. For example, uncertainties about the amount of temperature rise for a given amount of GHG emissions and rates of economic and population growth over the next 50 or 100 years will result in a large range of estimates of potential benefits and costs. Lack of information with regard to some important benefit categories and the potential for large impacts as a result of climate exceeding known but uncertain thresholds compound

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valuations? Journal of Environmental Economics and Management 46: 52-71.

this uncertainty. Likewise, there are uncertainties regarding the pace and form of future technological innovation and economic growth that affect estimates of both costs and benefits. These difficulties in predicting the future can be addressed to some extent by evaluating alternative scenarios. In uncertain situations such as that associated with climate, EPA typically recommends that analysis consider a range of benefit and cost estimates, and the potential implications of non-monetized and non-quantified benefits.

Given the substantial uncertainties in quantifying many aspects of climate change mitigation and impacts, it is difficult to apply economic efficiency criteria, or even positive net benefit criteria.[73] Identifying an efficient policy requires knowing the marginal benefit and marginal cost curves for GHG emissions reductions. If the marginal benefits are greater than the marginal costs, then additional emissions reductions are merited (i.e., they are efficient and provide a net benefit). However, the curves are not precise lines; instead they are wide and partially unknown bands. Similarly, estimates of total benefits and costs can be expressed only as ranges. As a result, it is difficult to both identify the efficient policy and assess net benefits.

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[73] IPCC WGI. (2007). Climate Change 2007—The Physical Science Basis Contribution of Working Group I to the Fourth Assessment Report of the IPCC, *http://www.ipcc.ch/*. IPCC WGII. (2007). Climate Change 2007—Impacts, Adaptation and Vulnerability Contribution of Working Group II to the Fourth Assessment Report of the IPCC, *http://www.ipcc.ch/*. IPCC WGIII (2007). Climate Change 2007—Mitigation Contribution of Working Group III to the Fourth Assessment Report of the IPCC, *http://www.ipcc.ch/*. U.S. Congressional Budget Office (2005). Uncertainty in Analyzing Climate Change: Policy Implications. The Congress of the United States, January 2005.

In situations with large uncertainties, the economic literature suggests a risk management framework as being appropriate for guiding policy (Manne and Richels, 1992; IPCC WGIII, 2007).[74] In this framework, the policymaker selects a target level of risk and seeks the lowest cost approach for reaching that goal. In addition, the decision-making process is an iterative one of acting, learning, and acting again (as opposed to there being a single decision point). In this context, the explicit or implicit value of changes in risk is important. Furthermore, some have expressed concern in the economics literature that standard deterministic approaches (i.e., approaches that imply there is only one known and single realization of the world) do not appropriately characterize the uncertainty and risk related to climate change and may lead to a substantial underestimation of the benefits from taking action (Weitzman, 2007a, 2007b).[75] Formal uncertainty analysis may be one approach for at least partially addressing this concern. EPA solicits comment on how to handle uncertainty in benefits and costs calculations and application, given the quantified and unquantified uncertainties.

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[74] Manne, A. and R. Richels (1992)."Buying Greenhouse Insurance—the Economic Costs of Carbon Dioxide Emission Limits", MIT Press book, Cambridge, MA, 1992. IPCC WGIII (2007).

[75] Weitzman, M., 2007a, "The Stern Review of the Economics of Climate Change," *Journal of Economic Literature*. Weitzman, M., 2007b, "Structural Uncertainty and the Statistical Life in the Economics of Catastrophic Climate Change," Working paper *http:// econweb.fas.harvard.edu/faculty/weitzman/papers/ValStatLifeClimate.pdf*.

4. Benefits Estimation Specific Issues—Scope, Estimates, State-of-the-art

Another important issue in economic analysis of climate change policies is valuing domestic and international benefits. U.S. GHG reductions are likely to yield both domestic and global benefits. Typically, because the benefits and costs of most environmental regulations are predominantly domestic, EPA focuses on benefits that accrue to the U.S. population when quantifying the impacts of domestic regulation. However, OMB's guidance for economic analysis of federal regulations specifically allows for consideration of international effects.[76]

GHGs are global pollutants. Economic principles suggest that the full costs to society of emissions should be considered in order to identify the policy that maximizes the net benefits to society, i.e., achieves an efficient outcome (Nordhaus, 2006).[77] Estimates of global benefits capture more of the full value to society than domestic estimates and can therefore help guide policies towards higher global net benefits for GHG reductions.[78] Furthermore, international effects of climate change may also affect domestic benefits directly and indirectly to the extent U.S. citizens value international impacts (e.g., for tourism reasons, concerns for the existence of ecosystems, and/or concern for others); U.S. international interests are affected (e.g., risks to U.S. national security, or the U.S. economy from potential disruptions in other nations); and/or domestic mitigation decisions affect the level of mitigation and emissions changes in general in other countries (i.e, the benefits realized in the U.S. will depend on emissions changes in the U.S. and internationally). The economics literature also suggests that policies based on direct domestic benefits will result in little appreciable ***44416** reduction in global GHGs (e.g., Nordhaus, 1995).[79]

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[76] OMB (2003), page 15.

[77] Nordhaus, W., 2006, "Paul Samuelson and Global Public Goods," in M. Szenberg, L. Ramrattan, and A. Gottesman (eds), *Samuelsonian Economics*, Oxford.

[78] Both the United Kingdom and the European Commission following these economic principles in consideration of the global social cost of carbon (SCC) for valuing the benefits of GHG emission reductions in regulatory impact assessments and cost-benefit analyses (Watkiss et al, 2006).

These economic principles suggest that global benefits should also be considered when evaluating alternative GHG reduction policies.[80] In the literature, there are a variety of global marginal benefits estimates (see the Tol, 2005, and Tol, 2007, meta analyses).[81] A marginal benefit is the estimated monetary benefit for each additional unit of carbon dioxide emissions reduced in a particular year.[82]

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[79] Nordhaus, William D. (1995)."Locational Competition and the Environment: Should Countries Harmonize Their Environmental Policies?" in Locational Competition in the World Economy, Symposium 1994, ed., Horst Siebert, J. C. B. Mohr (Paul Siebeck), Tuebingen, 1995.

[80] Recently, the National Highway Traffic Safety Administration (NHTSA) proposed a new rulemaking for average fuel economy standards for passenger cars and light trucks that is based on domestic marginal benefit estimates for carbon dioxide reductions. See section V.A.7.1.(iii) "Economic value of reductions in CO—T22 emissions" (p. 24413) of Vol. 73 of the Federal Registry. Department of Transportation, National Highway Traffic Safety Administration, 49 CFR Parts 523, 531, 533, 534, 536 and 537 [Docket No. NHTSA-2008 -0089], RIN 2127-AK29, Average Fuel Economy Standards: Passenger Cars and Light Trucks, Model Years 2011-2015, *http:// www.regulations.gov/fdmspublic/component/main?main=DocumentDetail&; o=090000648054 1adc.*

Based on the characteristics of GHGs and the economic principles that follow, EPA developed ranges of global and U.S. marginal benefits estimates. The estimates were developed as part of the work evaluating potential GHG emission reductions from motor vehicles and their fuels under Executive Order 13432. However, it is important to note at the outset that the estimates are incomplete since current methods are only able to reflect a partial accounting of the climate change impacts identified by the IPCC (discussed more below). Also, as noted above, domestic estimates omit potential impacts on the United States (e.g., economic or national security impacts) resulting from climate change impacts in other countries. The global estimates were developed from a survey analysis of the peer reviewed literature (i.e. meta analysis). U.S.

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[81] Tol, Richard, 2005. The marginal damage costs of carbon dioxide emissions: an assessment of the uncertainties. Energy Policy 33: 2064-2074. Tol, Richard, 2007. The Social Cost of Carbon: Trends, Outliers and Catastrophes. *Economics Discussion Papers* Discussion Paper 2007-44, September 19, 2007. Tol (2007) has been published on-line with peer review comments (*http://www.economics-ejournal.org/economics/discussionpapers/2007-44*).

[82] This is sometimes referred to as the social cost of carbon, which specifically is defined as the net present value of the change in climate change impacts over the atmospheric life of the greenhouse gas and the resulting climate inertia associated with one additional net global metric ton of carbon emitted to the atmosphere at a particular point in time.

estimates, and a consistent set of global estimates, were developed from a single model and are highly preliminary, under evaluation, and likely to be revised.

The range of estimates is wide due to the uncertainties described above relating to socio-economic futures, climate responsiveness, impacts modeling, as well as the choice of discount rate. For instance, for 2007 emission reductions and a 2% discount rate the global meta analysis estimates range from \$-3 to \$159/tCO_2, while the U.S. estimates range from \$0 to \$16/tCO_2. For 2007 emission reductions and a 3% discount rate, the global meta-estimates range from \$-4 to \$106/tCO_2, and the U.S. estimates range from \$0 to \$5/tCO_2.[83] The global meta analysis mean values for 2007 emission reductions are \$68 and \$40/tCO_2 for discount rates of 2% and 3% respectively (in 2006 real dollars) while the domestic mean value from a single model are \$4 and \$1/tCO_2 for the same discount rates. The estimates for future year emission changes will be higher as future marginal emissions increases are expected to produce larger incremental damages as physical and economic systems become more stressed as the magnitude of climate change increases.[84]

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[83] See the Technical Support Document on Benefits of Reducing GHG Emissions for global estimates consistent with the U.S. estimates in the text and for a comparison to the Tol (2005) meta analysis peer reviewed estimates. Tol (2005) estimates were cited in NHTSA's proposed rule and by the 9th U.S. Circuit Court (Center for Biodiversity v. NHTSA, F. 3d. 9th Cir., Nov. 15, 2007).

[84] Note that, except for illustrative purposes, marginal benefits estimates in the peer reviewed literature do not use consumption discount rates as high as 7%.

The current state-of-the-art for estimating benefits is also important to consider when evaluating policies. There are significant partially unquantified and omitted impact categories not captured in the estimates provided above. The IPCC WGII (2007) concluded that current estimates are "very likely" to be underestimated because they do not include significant impacts that have yet to be monetized.[85] Current estimates do not capture many of the main reasons for concern about climate change, including non-market damages (*e.g.*, species existence value and the value of having the option for future use), the effects of climate variability, risks of potential extreme weather (*e.g.*, droughts, heavy rains and wind), socially contingent effects (such as violent conflict or humanitarian crisis), and potential long-term catastrophic events. Underestimation is even more likely when one considers that the current trajectory for GHG emissions is higher than typically modeled, which when combined with current regional population and income trajectories that are more asymmetric than typically modeled, imply greater climate change and vulnerability to climate change.

Finally, with projected increasing changes in climate, some types of potential climate change impacts may occur suddenly or begin to increase at a much faster rate, rather than increasing gradually or smoothly. In this case, there are likely to be jumps in the functioning of species and ecosystems, the frequency and intensity of extreme conditions (*e.g.*, heavy rains, forest fires), and the occurrence of catastrophic events (*e.g.*, collapse of the West Antarctic Ice Sheet). As a result, different approaches are necessary for quantifying the benefits of "small" (incremental) versus "large" (non-incremental) reductions in global GHGs. Marginal benefits estimates, like those presented above, can be useful for estimating benefits for small changes in emissions. However, for large changes in emissions, a more comprehensive assessment of impacts would be needed to capture changes in economic and biophysical dynamics and feedbacks in response to the policy. Even small reductions in global GHG emissions are expected to reduce climate change risks, including catastrophic risks.

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[85] IPCC WGII, 2007. In the IPCC report, "very likely" was defined as a greater than 90% likelihood based on expert judgment.

EPA solicits comment on the appropriateness of using U.S. and global values in quantifying the benefits of GHG reductions and the appropriate application of benefits estimates given the state of the art and overall uncertainties. We also seek comment on our estimates of the global and U.S. marginal benefits of GHG emissions reductions that EPA has developed, including the scientific and economic foundations, the methods employed in developing the estimates, the discount rates considered, current and proposed future consideration of uncertainty in the estimates, marginal benefits estimates for non-CO_2 GHG emissions reductions, and potential opportunities for improving the estimates. We are also interested in comments on methods for quantifying benefits for non-incremental reductions in global GHG emissions.

5. Energy Security

In recent actions, both EPA and NHTSA have considered other benefits of a regulatory program that, though not directly environmental, can result from compliance with the program and may *44417 be quantified.[86] One of these potential benefits, related to the transportation sector, is increased energy security due to reduced oil imports. It is clear that both financial and strategic risks can result within the U.S. economy if there is a sudden disruption in the supply or a spike in the costs of petroleum. Conversely, actions that promote development of lower carbon fuels that can substitute for petroleum or technologies that more efficiently combust petroleum during operation can result in reduced U.S. oil imports, and can therefore reduce these financial and strategic risks. This reduction in risks is a measure of improved energy security and represents a benefit to the U.S. As the Agency evaluates potential actions to reduce GHGs from the U.S. economy, it intends to also consider the energy security impacts associated with these actions.

6. Interactions With Other Policies

Climate change and GHG mitigation policies will likely affect most biophysical and economic systems, and will therefore affect policies related to these systems. For example, as previously mentioned, climate change will affect air quality and GHG mitigation will affect criteria pollutant emissions. These effects will need to be evaluated, both in the context of economic costs and benefits, as well as policy design in order to exploit synergies and avoid inefficiencies across policies. Non-climate policies, whether focused on traditional air pollutants, energy, transportation, or other areas, can also affect baselines and mitigation opportunities for climate policies. For instance, energy policies can change baseline GHG emissions and the development path of particular energy technologies, potentially affecting the GHG mitigation objectives of climate policies as well as changing the relative costs of mitigation technologies. EPA seeks comment on important policy interactions.

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[86] The EPA has worked with Oak Ridge National Laboratory to develop a methodology that quantifies energy security benefits associated with the reduction of imported oil. This methodology was used to support the EPA's 2007 Renewable Fuels Standards Rulemaking and NHTSA's 2008 proposed Average Fuel Economy Standards for Passenger Cars and Light Trucks Rulemaking for Model Years 2001—2015.

7. Integrating Economic and Noneconomic Considerations

While economics can answer questions about the cost effectiveness and efficiency of policies, judgments about the appropriate mitigation policy, potential climate change impacts, and even the discount rate can be informed by economics and science but also involve important policy, legal, and ethical questions. The ultimate choice of a global climate stabilization target may be a policy choice that incorporates both economic and non-economic factors, while the choice of specific implementation strategies may be based on effectiveness criteria. Furthermore, other quantitative analyses are generally used to support the development of regulations. Distributional analyses, environmental justice analyses, and other analyses can be informative. For example, to the extent that climate change affects the distribution of wealth or the distribution of environmental damages, then climate change mitigation policies may have significant distributional impacts, which may in some cases be more important than overall efficiency or net benefits. EPA seeks comment on how to adequately inform economic choices, as well as the broader policy choices, associated with GHG mitigation policies.

IV. Clean Air Act Authorities and Programs

In developing a response to the *Massachusetts* decision, EPA conducted a thorough review of the CAA to identify and assess all of the Act's provisions that might be applied to GHG emissions. Although the *Massachusetts* decision addresses only CAA section 202(a)(1), which authorizes new motor vehicle emission standards, the Act contains a number of provisions that could conceivably be applied to GHGs emissions. EPA's review of these provisions and their interconnections indicated that a decision to regulate GHGs under section 202(a) or another CAA provision could or would lead to regulation under other CAA provisions. This section of the notice provides an overview of the CAA and examines the various interconnections among CAA provisions that could lead to broad regulation of GHG emission sources under the Act.

A. Overview of the Clean Air Act

The CAA provides broad authority to combat air pollution. Cars, trucks, construction equipment, airplanes, and ships, as well as a broad range of electric generation, industrial, commercial and other facilities, are subject to various CAA programs. Implementation of the Act over the past four decades has resulted in significant reductions in air pollution at the same time the nation's economy has grown.

As more fully examined in Section VII of this notice, the CAA provides three main pathways for regulating stationary sources of air pollutants. They include, in order of their appearance in the Act, national ambient air quality standards (NAAQS) and state plans for implementing those standards (SIPs); performance standards for new and existing stationary sources; and hazardous air pollutant standards for stationary sources. In addition, the Prevention of Significant Deterioration (PSD) program requires preconstruction permitting and emission controls for certain new and modified major stationary sources, and the Title V program requires operating permits for all major stationary sources.

Section 108 of the CAA authorizes EPA to list air pollutants that are emitted by many sources and that cause or contribute to air pollution problems such as ozone (smog) and particulate matter (soot). For every pollutant listed, EPA is required by section 109 to set NAAQS that are "requisite" to protect public health and welfare. EPA may not consider the costs of meeting the NAAQS in setting the standards. Under section 110, every state develops and implements plans for meeting the NAAQS by applying enforceable emission control measures to sources within the state. The Act's requirements for SIPs are more detailed and stringent for areas not meeting the standards (nonattainment areas) than for areas meeting the standards (attainment areas). Costs may be considered in implementing the standards. States are aided in their efforts to meet the NAAQS by federal emissions standards for mobile sources and major categories of stationary sources issued under other sections of the Act.

Under CAA section 111, EPA establishes emissions performance standards for new stationary sources and modifications of existing sources for categories of sources that contribute significantly to harmful air pollution. These new source performance standards (NSPS) reduce emissions of air pollutants addressed by NAAQS, but can be issued regardless of whether there is a NAAQS for the pollutants being regulated. NSPS requirements for new sources help ensure that when large sources of air pollutants are built or modified, they apply available emission control technologies and strategies.

When EPA establishes a NSPS for a pollutant, section 111(d) calls upon states to issue a standard for existing sources in the regulated source category except in two circumstances. First, section 111(d) prohibits regulation of a NAAQS pollutant. Second, "where a source category is being regulated under section 112, a section 111(d) standard of performance cannot be established to ***44418** address any HAP listed under section 112(b) that may be emitted from that particular source category."[87] In effect, existing source NSPS provides a "regulatory safety net" for pollutants not otherwise subject to major regulatory programs under the CAA. Section 111 provides EPA and states with significant discretion concerning the sources to be regulated and the stringency of the standards, and allows consideration of costs in setting NSPS.

CAA section 112 provides EPA with authority to list and issue national emissions standards for hazardous air pollutants (HAPs) from stationary sources. HAPs are broadly defined as pollutants that present, or may present, a threat of adverse human or environmental effects. HAPs include substances which are, or may reasonably be anticipated to be, carcinogenic, mutagenic, neurotoxic or acutely or chronically toxic. Section 112 contains low emissions thresholds for regulation in view of its focus on toxic pollutants, and requires regulation of all major sources of HAPs. Section 112 also provides for "maximum achievable control technology" (MACT) standards for major sources, limiting consideration of cost.

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[87] *See* 70 FR 15994, 16029-32 (Mar. 29, 2005).

The PSD program under Part C of Title I of the Act is triggered by regulation of a pollutant under any other section of the Act except for sections 112 and 211(o). As mentioned previously in this notice, under this program, new major stationary sources and modifications at existing major stationary sources undergo a preconstruction permitting process and install best available control technology (BACT) for each regulated pollutant. These basic requirements apply regardless of whether a NAAQS exists for the pollutant; additional PSD requirements apply in the event of a NAAQS. The PSD program's control requirements help prevent large new and modified sources of air pollutants from significantly degrading the air quality in clean air areas. A similar program, called "new source review," ensures that new or modified large sources in areas not meeting the NAAQS do not make it more difficult for the areas to eventually attain the air quality standards.

Title II of the CAA provides comprehensive authority for regulating mobile sources of air pollutants. As more fully described in Section VI of this notice, Title II authorizes EPA to address all categories of mobile sources and take an integrated approach to regulation by considering the unique aspects of each category, including passenger vehicles, trucks and nonroad vehicles, as well as the fuels that power them. Title II requires EPA to consider technological feasibility, costs, safety and other factors in setting standards, and gives EPA discretion to set technology-forcing standards as appropriate. In addition, section 211(o) of the Act establishes the renewable fuel standard (RFS) program, which was recently strengthened by EISA to require substantial increases in the use of renewable fuels, including renewable fuels with significantly lower lifecycle GHG emissions than the fossil fuel-based fuels they replace.[88] The CAA's mobile source authorities work in tandem with the Act's stationary source authorities to help protect public health and the environment from air pollution.

Title VI of the CAA authorizes EPA to take various actions to protect stratospheric ozone, a layer of ozone high in the atmosphere that helps protect the Earth from harmful UVB radiation. As discussed in Section VIII of this notice, section 615 provides broad authority to regulate any substance, practice, process or activity that may reasonably be anticipated to affect the stratosphere and that effect may reasonably be anticipated to endanger public health or welfare.

B. Interconnections Among Clean Air Act Provisions

The provisions of the CAA are interconnected in multiple ways such that a decision to regulate one source category of GHGs could or would lead to regulation of other source categories of GHGs. As described in detail below, there are several provisions in the CAA that contain similar endangerment language. An endangerment finding for GHGs under one provision of the Act could thus have ramifications under other provisions of the Act. In addition, CAA standards applicable to GHGs for one category of sources could trigger PSD requirements for other categories of sources that emit GHGs. How a term is interpreted for one part of the Act could also affect other provisions using the same term.

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[88] As explained further below, EISA provides that regulation of renewable fuels based on lifecycle GHG emissions does not trigger any other regulation of GHGs under the CAA.

These CAA interconnections are by design. As described above, the Act combats air pollutants in several ways that reflect the nature and effects of the particular air pollutant being addressed. The Act's approaches are in many cases complementary and reinforcing, ensuring that air pollutants emitted by various types of emission sources are reduced in a manner and to an extent that reflects the relative contribution of particular categories of sources. The CAA's authorities are intended to work together to achieve air quality that protects public health and welfare.

For GHGs, the CAA's interconnections mean that careful attention needs to be paid to the consequences and specifics of decisions regarding endangerment and regulation of any particular category of GHG sources under the Act. In the case of traditional air pollutants, EPA and States have generally regulated pollutants incrementally over time, adding source categories or program elements as evolving circumstances make appropriate. In light of the broad variety and large number of GHG sources, any decision to regulate under the Act could lead, relatively quickly, to more comprehensive regulation of GHG sources under the Act. A key issue to consider in examining the Act's provisions and their interconnections is the extent to which EPA may choose among and/or tailor the CAA's authorities to implement a regulatory program that makes sense for GHGs, given the unique challenges and opportunities that regulating them would present.

This section of the notice explores these interconnections, and later sections explain how each CAA provision might apply to GHGs.

1. Similar Endangerment Language Is Found in Numerous Sections of the Clean Air Act

The Supreme Court's decision in *Massachusetts v. EPA* requires EPA to address whether GHG emissions from new motor vehicles meet the endangerment test of CAA section 202(a)(1). That section states:

> [t]he Administrator shall by regulation prescribe (and from time to time revise) * * * standards applicable to the emissions of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

CAA section 202(a)(1). If the Administrator makes a positive endangerment determination for GHG emissions from new motor vehicles, he must regulate those GHG emissions under section 202(a) of the Act.

Similar endangerment language is found in numerous sections of the CAA, including sections 108, 111, 112, 115, 211, 213, 231 and 615. For example, CAA section 108(a)(1) (regarding listing pollutants to be regulated by NAAQS) ***44419** states, "[T]he Administrator shall * * * publish, and shall from time to time thereafter revise, a list which includes each air pollutant (A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare * * *" CAA section 111(b)(1)(A) (regarding listing source categories to be regulated by NSPS) states: "[The Administrator] shall include a category of sources in such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."[89]

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[89] Other CAA endangerment provisions read as follows:

CAA section 115 (regarding international air pollution) states: "Whenever the Administrator, upon receipt of reports, surveys or studies from any duly constituted international agency has reason to believe that any air pollutant or pollutants emitted in the United States cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country or whenever the Secretary of State requests him to do so with respect to such pollution which the Secretary of State alleges is of such a nature, the Administrator shall give formal notification thereof to the Governor of the State in which such emissions originate."

CAA section 211(c)(1) (regarding regulating fuels and fuel additives) states: "The Administrator may, * * * [regulate fuels or fuel additives] (A) if in the judgment of the Administrator any emission product of such fuel or fuel additive causes, or contributes, to air pollution which may reasonably be anticipated to endanger public health or welfare, (B) * * *"

CAA section 213(a)(4) (regarding regulating nonroad engines) states: "If the Administrator determines that any emissions not referred to in paragraph 2 [regarding CO, NOx and VOC emissions] from new nonroad engines or vehicles

While no two endangerment tests are precisely the same, they generally call on the Administrator of EPA to exercise his or her judgment regarding whether a particular air pollutant or source category causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare. For provisions containing endangerment language, a positive finding of endangerment is a prerequisite for regulation under that provision.[90] The precise effect

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significantly contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, the Administrator may promulgate * * * standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution, * * *".

CAA section 231 (regarding setting aircraft standards) states: "The Administrator shall * * * issue proposed emissions standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in his judgment causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare."

CAA section 615 (regarding protection of stratospheric ozone) states: "If, in the Administrator's judgment, any substance, practice, process, or activity may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, and such effect may reasonably be anticipated to endanger public health or welfare, the Administrator shall promptly promulgate regulations respecting the control of such substance, practice, process, or activity * * *"

[90] As defined by the CAA, "air pollutant" includes virtually any substance or material emitted into the ambient air. Given the breadth of that term, many CAA provisions require the Administrator to determine whether a particular air pollutant

of a positive or negative finding depends on the specific terms of the provision under which it is made. For some provisions, a positive endangerment finding triggers an obligation to regulate (e.g., section 202(a)(1)), while for other provisions, a positive finding allows the Agency to regulate in its discretion (e.g., section 213). In some cases, other criteria must also be met to authorize or require regulation (e.g., section 108). Each of these sections is discussed in more detail later in this notice.

2. Potential Impact Cross the Clean Air Act From a Positive or Negative Endangerment Finding or Regulation of GHGs Under the Act

a. Potential Impact on Sections Containing Similar Endangerment Language

One important issue is whether a positive or negative endangerment finding under one section of the CAA (e.g., under section 202(a) in response to the ICTA petition remand) would necessarily or automatically lead to similar findings under other provisions of the Act containing similar language. Even though CAA endangerment tests vary to some extent, an endangerment finding under one provision could have some bearing on whether endangerment could or should be found under other CAA provisions, depending on their terms and the facts at issue. EPA request comment on the extent to which an endangerment finding under any section of the CAA would lead EPA to make a similar endangerment finding under another provision.

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causes or contributes to an air pollution problem as a prerequisite to regulating emissions of that pollutant.

In discussing the implications of making a positive endangerment finding under any CAA section, we use the actual elements of the endangerment test in section 202(a) for new motor vehicles as an example. The section 202(a) endangerment test asks two distinct questions—

(1) whether the air pollution at issue may reasonably be anticipated to endanger public health or welfare, and

(2) whether emissions from new motor vehicles cause or contribute to that air pollution. The first question is generic and looks at whether the type of air pollution at issue endangers public health or welfare. The second question is specific to motor vehicles, and considers the contribution of motor vehicle emissions to the particular air pollution problem. EPA must answer both questions in the affirmative for the Agency to regulate under section 202(a) of the Act.

A finding of endangerment under one section of the Act would not by itself constitute a complete finding of endangerment under any other section of the CAA. How much of a precedent an endangerment finding under one CAA provision would be for other CAA provisions would depend on the basis for the finding, the statutory tests for making findings, and the facts. For example, the two-part endangerment test in section 202(a) (motor vehicles) is similar to that in sections 211(c)(1) (highway and nonroad fuels) and 231(a)(2) (aircraft). An affirmative finding under section 202(a) on the first part of the test—whether the air pollution at issue endangers public health or welfare—would appear to satisfy the first part of the test for the other two provisions as well. However, an affirmative finding on the second part of the test, regarding the contribution of the particular source category to that air pollution, would not satisfy the test for the other provisions, which apply to different source categories. Still, a finding that a particular source category's emissions cause or contribute to the air pollution problem would likely establish some precedent for what constitutes a sufficient contribution for purposes of making a positive endangerment finding for other source categories.

Other similarities and differences among endangerment tests are also relevant. While the first part of the test in sections 213(a)(4) (nonroad engines and vehicles) and 111(b) (NSPS) is similar to that in other sections (i.e., whether the air pollution at issue endangers public health or welfare), the second part of the test in sections 213(a)(4) and 111(b) requires a finding of "significant" contribution. In addition, the test under section 111(b) applies to source categories, not to a particular air pollutant.[91] Sections 112 and 615 have somewhat different tests.

The extent to which an endangerment finding would set precedent would also depend on the pollutants at issue. For example, the ICTA petition to regulate motor vehicles under section 202(a) ***44420** addresses CO_2, CH_4, N_2O, and HFCs, while the petitions to regulate GHGs from other mobile source categories collectively address water vapor, NO_X and black carbon, as well as CO_2, CH_4, and N_2O. As further discussed below, the differences in the GHGs emitted by different types of sources may be relevant to the issue of how to define "air pollutant" for purposes of applying the endangerment tests.

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[91] As discussed below, EPA has already listed a very wide variety of source categories under section 111(b)(1)(A).

In addition, some CAA sections require EPA to act following a positive endangerment finding, while others do not. In the case of section 202(a)(1), if we make a positive endangerment finding, we are required to issue standards applicable to motor vehicle emissions of the GHGs covered by the finding. Section 231(a) (aircraft) uses similar mandatory language, while sections 211(c)(1) (highway and nonroad fuel) and 213(a)(4) (nonroad engines and vehicles) authorize but do not require the issuance of regulations. Section 108 (NAAQS pollutants) requires that EPA list a pollutant under that section if a positive endangerment finding is made and two other criteria are met.

In sum, a positive or negative endangerment finding for GHG emissions under one provision of the Act could have a significant and direct impact on decisions under other CAA sections containing similar endangerment language. EPA requests comment on the interconnections between the CAA endangerment tests and the impact that a finding under one provision of the Act would have for other CAA provisions.

b. Potential Impact on PSD Program

Another important issue is the potential for a decision to regulate GHGs for mobile or stationary sources to automatically trigger additional permitting requirements for stationary sources under the PSD program. As explained previously and in detail in Section VII of this notice, the main element of the PSD program under Part C of Title I of the Act is the requirement that a PSD permit be obtained prior to construction of any new major source or any major modification at an existing major source. Such a permit must contain emissions limitations based on BACT for each pollutant subject to regulation under the Act. EPA does not interpret the PSD program provisions to apply to GHG at this time, but any requirement to control CO_2 or other GHGs promulgated by EPA under other provisions of the CAA would make parts of the PSD program applicable to any additional air pollutant(s) that EPA regulates in this manner.

The PSD program applies to each air pollutant (other than a HAP) that is "subject to regulation under the Act" within the meaning of sections 165(a)(4) and 169(3) of the Clean Air Act and EPA's regulations.[92] As a practical matter, the identification of pollutants subject to the PSD program is driven by the BACT requirement because this requirement applies to the broadest range of pollutants. Under EPA's PSD program regulations, BACT is required for "each regulated NSR pollutant." 40 CFR 52.21(j)(2)-(3). EPA has defined this term to include pollutants that are regulated under a NAAQS or NSPS, a class I or II substance under Title VI of the Act, or "[a]ny pollutant otherwise subject to regulation under the Act."See

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[92] Section 112(b)(6) precludes listed HAPs from the PSD program. Section 210(b) of EISA provides that nothing in section 211(o) of the Act, or regulations issued pursuant to that subsection, "shall affect or be construed to affect the regulatory status of carbon dioxide or any other greenhouse gas, or to expand or limit regulatory authority regarding carbon dioxide or any other greenhouse gas, for purposes of other provisions (including section 165) of this Act."

52.21(b)(50).[93] Similarly, the determination of whether a source is a major source subject to PSD is based on whether the source emits more than 100 or 250 tons per year (depending on the type of source) of one or more regulated pollutants.[94]

EPA has historically interpreted the phrase "subject to regulation under the Act" to describe air pollutants subject to CAA statutory provisions or regulations that require actual control of emissions of that pollutant.[95] PSD permits have not been required to contain BACT emissions limit for GHGs because GHGs (and CO_2 in particular) have not been subject to any CAA provisions or EPA regulations issued under the Act that require actual control of emissions.[96] Although

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[93] This definition reflects EPA's interpretation of the phrase "each pollutant subject to regulation under the Act" that is used in the provisions in the Clean Air Act that establish the BACT requirement. Since this statutory language (as implemented in the definition of "regulated NSR pollutant") can apply to additional pollutants that are not also subject to a NAAQS, the scope of the BACT requirement determines the overall range of pollutants that are subject to the PSD permitting program.

[94] Under the relevant regulations, a major stationary source is determined by its emissions of "any regulated NSR pollutant." See 40 CFR 52.21(b)(1)(i). Thus, the emissions that are considered in identifying a major source are determined on the basis of the same definition that controls the applicability of the BACT.

[95] 43 FR 26388, 26397 (June 19, 1978); Gerald E. Emison, Director, Office of Air Quality Planning and Standards, *Implementation of North County Resource Recovery PSD Remand (Sept. 22, 1987)* (footnote on the first page).

[96] See briefs filed before the Environmental Appeal Board on behalf of specific EPA offices in challenges to the PSD permits for Deseret Power Electric Cooperative (PSD Appeal No.

CAA section 211(o) now targets GHG emissions, EISA provides that neither it nor implementing regulations affect the regulatory status of GHGs under the CAA. In the absence of statutory or regulatory requirements to control GHG emissions under the Act, a stationary source need not consider those emissions when determining its major source status.

The Supreme Court's conclusion that GHGs are "air pollutants" under the CAA did not automatically make these pollutants subject to the PSD program. A substance may be an "air pollutant" under the Act without being regulated under the Act. The Supreme Court directed the EPA Administrator to determine whether GHG emissions from motor vehicles meet the endangerment test of CAA section 202(a). A positive finding of endangerment would require the Administrator to then set standards applicable to GHG emis-

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07-03) and Christian County Generation LLC (PSD Appeal No. 07-01), as well as the Response to Public Comments on Draft Air Pollution Control Prevention of Significant Deterioration (PSD) Permit to Construct [for Deseret Power Electric Cooperative], Permit No. PSD-OU-0002-04.00 (August 30, 2007), at 5-6, available at *http://www.epa.gov/region8/air/permitting/deseret.html.* EPA has not previously interpreted the BACT requirement to apply to air pollutants that are only subject to requirements to monitor and report emissions. See, 67 FR 80186, 80240 (Dec. 31, 2002); 61FR 38250, 38310 (July 31, 1996); In Re Kawaihae Cogeneration Project 7 E.A.D. 107, 132 (EAB 1997); *Inter-power of New York*, 5 E.A.D. 130, 151 (EAB 1994); Memorandum from Jonathan Z. Cannon, General Counsel to Carol M. Browner, Administrator, entitled *EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources* (April 10, 1998) (emphasis added); Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, entitled *Definition of Regulated Air Pollutant for Purposes of Title V*, at 5 (April 26, 1993).

sions from motor vehicles under the Act. The positive finding itself would not constitute a regulation requiring actual control of emissions. GHGs would become regulated pollutants under the Act if and when EPA subjects GHGs to control requirements under a CAA provision other than sections 112 and 211(o).

c. Definition of "Air Pollutant"

Another way in which a decision to regulate GHGs under one section of the Act could impact other sections of the Act involves how the term "air pollutant" is defined as part of the endangerment analysis. As described above, many of the Act's endangerment tests require a two-part analysis: Whether the air pollution at issue may reasonably be anticipated to endanger public health or welfare, and whether emissions of particular air pollutants cause or contribute to that air pollution. ***44421** As discussed in more detail in the following sections, what GHGs might be defined as an "air pollutant" and whether those GHGs are treated individually or as a group could impact EPA's flexibility to define the GHGs as air pollutants elsewhere in the CAA.

For example, as noted above, how EPA defines GHGs as air pollutants in making any positive endangerment finding could carry over into implementation of the PSD program. If EPA defines each individual GHG as a separate air pollutant in making a positive endangerment finding, then each GHG would be considered individually as a "regulated NSR pollutant" in the PSD program. On the other hand, if EPA defines the group of GHGs as an air pollutant, then the PSD program would need to treat the GHGs in the same manner—as a group. As discussed in more detail below, there are flexibilities and considerations under various approaches. One question is whether we could or should define GHGs as an "air pollutant" one way under one section of the Act (e.g., section 202) and another way under another section (e.g., section 231). See, e.g., *Environmental Defense v. Duke Energy Corp.*, 127 S.Ct. 1423, 1432 (2007) (explaining that the general presumption that the same term has the same meaning is not rigid and readily gives way to context). Another question is whether having different definitions of "air pollutant" would result in both definitions applying to the PSD program, and whether that result would mean that any flexibilities gained under one definition would be lost with the application of the second.

Another consideration, noted above, is that different source categories emit different GHGs. This fact could impact the definition of "air pollutant" more broadly. EPA requests comment on the issues raised in this section, to assist the Agency as it considers the implications of how to define a GHG "air pollutant" for the first time under any section of the Act.

2. Relationships Among Various Stationary Source Programs

As a result of other interactions among various CAA sections, a decision to act under one part of the CAA may preclude action under another part of the Act. These interactions reflect the Act's different regulatory treatment of pollutants meeting different criteria, and prevent duplicative regulation. For instance, listing a pollutant under section 108(a), which leads to setting a NAAQS and developing SIPs for the pollutant, generally precludes listing the same air pollutant as a HAP under section 112(b), which leads to every major source of a listed HAP having to comply with MACT standards for the HAP. CAA section 112(b)(2).[97] Listing an air pollutant under section 108(a) also preludes regulation of that air pollutant from existing sources under section 111(d), which is intended to provide for regulation of air pollutants not otherwise subject to the major regulatory programs under the Act. CAA section 111(d)(1)(A).

Similarly, regulation of a substance under Title VI precludes listing that substance as a HAP under section 112(b) based solely on the adverse effects on the environment of that air pollutant. CAA section 112(b)(2). Moreover, listing an air pollutant as a HAP under section 112(b) generally precludes regulation of that air pollutant from existing sources under section 111(d). CAA section 111(d)(1)(A).[98] Finally, section 112(b)(6) provides that the provisions of the PSD program "shall not apply to pollutants listed under [section 112]." CAA section 112(b)(6), 42 U.S.C. 7412(b)(6)

V. Endangerment Analysis and Issues

In this section, we present our work to date on an endangerment analysis in response to the Supreme Court's decision in *Massachusetts v. EPA*. As explained previously, the Supreme Court remanded EPA's denial of the ICTA petition and ruled that EPA must either decide whether GHG emissions from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or explain why scientific uncertainty is so profound that it prevents making a reasoned judgment on such a determination.

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[97] "No air pollutant which is listed under section 108(a) may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which independently meets the listing criteria of this paragraph and is a precursor to a pollutant which is listed under section 108(a) or to any pollutant which is in a class of pollutants listed under such section."

[98] However, see 70 FR 15994, 16029-32 (2005) (explaining EPA's interpretation of the conflicting amendments to section 111(d) regarding HAPs).

In response to the remand, EPA analyzed synthesis reports and studies on how elevated concentrations of GHGs in the atmosphere, and other factors, contribute to climate change, and how climate change is affecting, and may affect in the future, human health and welfare, primarily within the United States. We also analyzed direct GHG effects on human health and welfare, i.e., those effects from elevated concentrations of GHGs that do not occur via climate change. This information, summarized briefly below, is contained in the Endangerment Technical Support Document found in the docket for today's notice. In addition, we compiled information concerning motor vehicle GHG emissions to assess whether motor vehicles cause or contribute to elevated concentrations of GHGs in the atmosphere. Information on motor vehicle emissions is contained in the Section 202 Technical Support Document, also found in the docket.

As discussed above, making an endangerment finding under one section of the CAA has implications for other sections of the Act. In this ANPR, we consider, and seek comment on these implications and other questions relevant to making an endangerment finding regarding GHG emissions.

This section is organized as follows. Section A discusses the legal framework for the endangerment analysis. Section B provides information on how "air pollution" could be defined for purposes of the endangerment analysis, as well as a summary of the science regarding GHGs and climate change and their effects on health and welfare. Section C uses the information on emissions of GHGs from the mobile source categories relevant to the ICTA Petition to frame a discussion about whether GHGs as "air pollutants" "cause or contribute" to "air pollution" which may reasonably be anticipated to endanger public health or welfare.

A. Legal Framework

The endangerment language relevant to the ICTA petition is contained in section 202(a) of the CAA. As explained previously, it is similar to endangerment language in many other provisions of the Act and establishes a two-part test. First, the Administrator must decide if, in his judgment, air pollution may reasonably be anticipated to endanger public health or welfare. Second, the Administrator must decide whether, in his judgment, emissions of any air pollutant from new motor vehicles or engines cause or contribute to this air pollution.

1. Origin of Current Endangerment and Cause or Contribute Language

The endangerment language in section 202(a) and other provisions of the CAA share a common legislative history that sheds light on the meaning of this language. As part of the 1977 amendments to the

CAA, Congress added or revised endangerment language in various sections of the Act. The legislative history of those amendments, particularly the report by the House Committee on Interstate and Foreign Commerce, provides important information regarding Congress' intent ***44422** when it revised this language. *See* H.R. Rep. 95-294 (1977), *as reprinted in* 4 A Legislative History of the Clean Air Act Amendments of 1977 at 2465 (hereinafter "LH").

a. *Ethyl Corp.* v. *EPA*

In revising the endangerment language, Congress relied heavily on the approach discussed in a federal appeals court opinion interpreting the pre-1977 version of CAA section 211. In *Ethyl Corp* v. *EPA*, 541 F.2d 1 (D.C. Cir. 1976), the en banc (i.e. full) court reversed a 3-judge panel decision regarding an EPA rule restricting the content of lead in leaded gasoline.[99] The en banc court began its opinion by stating:

> Man's ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations.

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[99] At the time of the 1973 rules requiring the reduction of lead in gasoline, section 211(c)(1)(A) of the CAA stated that the Administrator may promulgate regulations that control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle or motor vehicle engine (A) if any emissions product of such fuel or fuel additive *will endanger the public health or welfare* * * * . CAA section 211(c)(1)(A) (1970) (emphasis added). The italicized language in the above quote is the relevant language revised by the 1977 amendments.

541 F.2d at 6. After reviewing the relevant facts and law, the full-court evaluated the statutory language at issue to see what level of "certainty [was] required by the Clean Air Act before EPA may act." *Id.*

By a 2-1 vote, the 3-judge panel had held that the statutory language "will endanger" required proof of actual harm, and that the actual harm had to come from fuels "in and of themselves." *Id.* at 12. The en banc court rejected this approach, finding that the term "endanger" allowed the Administrator to act when harm is threatened, and did not require proof of actual harm. *Id.* at 13. "A statute allowing for regulation in the face of danger is, necessarily, a precautionary statute." *Id.* Optimally, the court held, regulatory action would not only precede, but prevent, a perceived threat. *Id.*

The court also rejected petitioners' argument that any threatened harm must be "probable" before regulation was authorized. Specifically, the court recognized that danger "is set not by a fixed probability of harm, but rather is composed of reciprocal elements of risk and harm, or probability or severity." *Id.* at 18. Next, the court held that EPA's evaluation of risk is necessarily an exercise of judgment, and that the statute did not require a factual finding. *Id.* at 24. Thus, ultimately, the Administrator must "act, in part on 'factual issues,' but largely on choices of policy, on an assessment of risks, [and] on predictions dealing with matters on the frontiers of scientific knowledge * * * ." *Id.* at 29 (citations omitted). Finally, the en banc court agreed with EPA that even without the language in section 202 regarding "cause or contribute to," section 211 authorized EPA to consider the cumulative impact of lead from numerous sources, not just the fuels being regulated under section 211. *Id.* at 29-31.

b. The 1977 Clean Air Act Amendments

The dissent in the original *Ethyl Corp* decision and the en banc opinion were of "critical importance" to the House Committee which proposed the revisions to the endangerment language in the 1977 amendments to the CAA. H.R. Rep. 95-294 at 48, 4 LH at 2515. In particular, the Committee believed the *Ethyl Corp* decision posed several "crucial policy questions" regarding the protection of public health and welfare." *Id.*[100] The Committee addressed those questions with the endangerment language that now appears in section 202(a) and several other CAA provisions—"which in [the Administrator's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

The Committee intended the language to serve several purposes consistent with the en banc decision in *Ethyl Corp.*[101] First, the phrases "in his judgment" and "in the judgment of the Administrator" call for the Administrator to make comparative assessment of risks and projections of future possibilities, consider uncertainties, and extrapolate from limited data. Thus, the Administrator must balance the likelihood of effects with the severity of the effects in reaching his judgment. The Committee emphasized that "judgment" is different from a factual "finding." Importantly, projections, assessments and estimates must be reasonable, and cannot be based on a "crystal ball inquiry." Moreover, procedural safeguards apply (e.g., CAA 307(d)) to the exercise of judgment, and final decisions are subject to judicial review. Also, the phrase "in his judgment" modifies both phrases "cause and contribute" and "may reasonably be anticipated" discussed below. H.R. Rep. 95-294 at 50-51, 4 LH at 2517-18.

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[100] The Supreme Court recognized that the current language in section 202(a)(1) is "more-protective" than the 1970 version that was similar to the section 211 language before the D.C. Circuit in Ethyl Corp. 127 S.Ct. at 1447, fn 1.

[101] Specifically, the language (1) emphasizes the precautionary or preventive purpose of the CAA; (2) authorizes the Administrator to reasonably project into the future and weigh risks; (3) requires the consideration of the cumulative impact of all sources; (4) instructs that the health of susceptible individuals, as well as healthy adults, should be part of the analysis; and (5) indicates an awareness of the uncertainties and limitations in information available to the Administrator. H.R.

As the Committee further explained, the phrase "may reasonably be anticipated" builds upon the precautionary and preventative goals already provided in the use of the term "endanger." Thus, the Administrator is to assess current and future risks rather than wait for proof of actual harm. This phrase is also intended to instruct the Administrator to consider the limitations and difficulties inherent in information on public health and welfare. H.R. Rep. 95-294 at 51, 4 LH at 2518.

Rep. 95-294 at 49-50, 4 LH at 2516-17. Congress also wanted to standardize this language across the various sections of the CAA which address emissions from both stationary and mobile sources which may reasonably be anticipated to endanger public health or welfare. H.R. Rep. 95-294 at 50, 4 LH at 2517; Section 401 of CAA Amendments of 1977.

Finally, the phrase "cause or contribute" ensures that all sources of the contaminant which contribute to air pollution be considered in the endangerment analysis (e.g., not a single source or category of sources). It is also intended to require the Administrator to consider all sources of exposure to a pollutant (e.g., food, water, air) when determining risk. *Id.*

3. Additional Considerations for the "Cause or Contribute" Analysis

While the legislative history sheds light on what should be considered in making an endangerment finding, it is not clear regarding what constitutes a sufficient "contribution" for purposes of making a finding. The CAA does not define the concept "cause or contribute" and instead requires that the Administrator exercise his judgment when determining whether emissions of air pollutants cause or contribute to air pollution. As a result, the Administrator has the discretion to interpret "cause or contribute" in a reasonable manner when applying it to the circumstances before him.

The D.C. Circuit has discussed the concept of "contribution" in the context of a CAA section 213 rule for nonroad vehicles. In *Bluewater Network v. EPA*, 370 F.3d 1 (2004), industry argued that section 213(a)(3) requires a finding of a significant contribution before EPA could regulate, but EPA argued that the CAA requires a finding only of "contribution."[102] *Id.* at 13.

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[102] The relevant language in section 213(a)(3) reads "[i]f the Administrator makes an affirmative determination under paragraph (2) the Administrator shall, * * * promulgate (and from time to time revise) regulations containing standards applicable to emissions from those classes or categories of

The court *44423 looked at the "ordinary meaning of 'contribute'" when upholding EPA's reading. After referencing dictionary definitions of contribute,[103] the court also noted that "[s]tanding alone, the term has no inherent connotation as to the magnitude or importance of the relevant 'share' in the effect; certainly it does not incorporate any 'significance' requirement." *Id.*[104] The court also found relevant the fact that section 213(a) uses the term "significant contributor" in some places and the term "contribute" elsewhere, suggesting that the "contribute" language invests the Administrator with discretion to exercise his judgment regarding what constitutes a sufficient contri-

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new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution." Notably, CAA section 213(a)(2), which is referenced in section 213(a)(3), requires that the "Administrator shall determine * * * whether emissions of carbon monoxide, oxides of nitrogen, and volatile organic compounds from new and existing nonroad engines or nonroad vehicles (other than locomotives or engines used in locomotives) are *significant contributors* to ozone or carbon monoxide concentrations in more than 1 area which has failed to attain the national ambient air quality standards for ozone or carbon monoxide" (emphasis added).

[103] Specifically, the decision noted that "'contribute' means simply 'to have a share in any act or effect,' Webster's Third New International Dictionary 496 (1993), or 'to have a part or share in producing,' 3 *Oxford English Dictionary* 849 (2d ed. 1989)."370 F.3d at 13.

[104] The court explained, "The repeated use of the term 'significant' to modify the contribution required for all nonroad vehicles, coupled with the omission of this modifier from the 'cause, or contribute to' finding required for individual categories of new nonroad vehicles, indicates that Congress did not intend to require a finding of 'significant contribution' for individual vehicle categories." *Id.*

bution for the purpose of making an endangerment finding. *Id.* at 14

In the past the Administrator has looked at emissions of air pollutants in various ways to determine whether they "cause or contribute" to the relevant air pollution. For instance, in some mobile source rulemakings, the Administrator has looked at the percent of emissions from the regulated mobile source category compared to the total mobile source inventory for that air pollutant. *See, e.g.*, 66 FR 5001 (2001) (heavy duty engine and diesel sulfur rule). In other instances the Administrator has looked at the percent of emissions compared to the total nonattainment area inventory of the air pollution at issue. *See, e.g.*, 67 FR 68,242 (2002) (snowmobile rule). EPA has found that air pollutant emissions that amount to 1.2% of the total inventory "contribute." *Bluewater Network*, 370 F.3d at 15 ("For Fairbanks, this contribution was equivalent to 1.2% of the total daily CO inventory for 2001.").

We solicit comment on these prior precedents, including their relevance to contribution findings EPA may be considering regarding GHG emissions. Where appropriate, may the Administrator determine that emissions at a certain level or percentage contribute to air pollution in one instance, while also finding that the same level or percentage of another air pollutant and involving different air pollution, and different overall circumstances, does not contribute? When exercising his judgment, is it appropriate for the Administrator to consider not only the cumulative impact, but also the totality of the circumstances (e.g., the air pollutant, the air pollution, the type of source category, the number of sources in the source category, the number and type of other source categories that may emit the air pollutant) when determining whether the emissions "justify regulation" under the CAA? See *Ethyl Corp.*, 541 F.2d at 31, n62 ("Moreover, even under a cumulative impact theory emissions must make more than a minimal contribution to total exposure in order to justify regulation under § 211(c)(1)(A).").

B. Is the Air Pollution at Issue Reasonably Anticipated to Endanger Public Health or Welfare?

This section discusses options for defining, with respect to GHGs, the "air pollution" that may or may not be reasonably anticipated to endanger public health or welfare, the first part of the two part endangerment test. It also summarizes the state of the science on GHGs and climate change, and relates that science to the endangerment question. We solicit comment generally on the information and issues discussed below.

1. What is the Air Pollution?

As noted above, in applying the endangerment test in section 202(a) or other sections of the Act to GHG emissions, the Administrator must define the scope and nature of the relevant "air pollution" that may or may not be reasonably anticipated to endanger public health or welfare. The endangerment issue discussed in today's notice involves, primarily, anthropogenic emissions of GHGs, the accumulation of GHGs in the atmosphere, the resultant impacts including climate change, and the risks and impacts to human health and welfare associated with those impacts.

a. The Six Major GHGs of Concern

The six major GHGs of concern are CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. The IPCC focuses on these six GHGs for both scientific assessments and emissions inventory purposes because these are the six long-lived, well-mixed GHGs not controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer. These six GHGs are directly emitted by human activities, are reported annually in EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks, and are the common focus of the climate change research community. The ICTA petition addresses the first four of these GHGs, and the President's Executive Orders 13423 and 13432 define GHGs to include all six of these GHGs.

Carbon dioxide is the most important GHG directly emitted by human activities, and is the most significant driver of climate change. The anthropogenic combined heating effect (referred to as forcing) of CH_4, N_2O, HFCs, PFCs and SF_6 is about 40% as large as the CO_2 cumulative heating effect since pre-industrial times, according to the Fourth Assessment Report of the IPCC.

b. Emissions and Elevated Concentrations of the Six GHGs

As mentioned previously, these six GHGs can remain in the atmosphere for decades to centuries. Therefore, these GHGs, once emitted, become well mixed throughout the global atmosphere regardless of their emission origin, such that their average concentrations over the U.S. are roughly the same as the global average. This also means that current GHG concentrations are the cumulative result of both historic and current emissions, and that future concentrations will be the cumulative result of historic, current and future emissions.

Greenhouse gases trap some of the Earth's heat that would otherwise escape to space. The additional heating effect caused by the buildup of anthropogenic GHGs in the atmosphere enhances the Earth's natural greenhouse effect and causes global temperatures to increase, with associated climatic changes (e.g., change in precipitation patterns, rise in sea levels, and changes in the frequency and intensity of extreme weather events). Current atmospheric concentrations of all of these GHGs are significantly higher than pre-industrial (~1750) levels as a result of human activities. Atmospheric concentrations of CO_2 and other GHGs ***44424** are projected to continue to climb over the next several decades.

The scientific literature that assesses the potential risks and end-point impacts of climate change (driven by the accumulation of atmospheric concentrations of GHGs) does not assess these impacts on a gas-by-gas basis. Observed climate change and associated effects are driven by the buildup of all GHGs in the atmosphere, as well as other natural and anthropogenic factors that influence the Earth's energy balance. Likewise, the future projections of climate change that have been done are driven by emission scenarios of all six GHGs, as well as other pollutants, many of which are already regulated in the U.S. and other countries.

For these reasons, EPA is considering defining the "air pollution" related to GHGs as the elevated combined current and projected atmospheric concentration of the six GHGs. This approach is consistent with other provisions of the CAA and previous EPA practice under the CAA, where separate air pollutants from different sources but with common properties may be treated as a class (e.g., Class I and Class II substances under Title VI of the CAA). It also addresses the cumulative effect that the elevated concentrations of the six GHGs have on climate, and thus on different elements of health, society and the environment. We seek comment on this potential approach, as well as other alternative ways to define "air pollution." One alternative would be to define air pollution as the elevated concentration of an individual GHG; however, in this case the Administrator may still have to consider the impact of the individual GHG in combination with the impacts caused by the elevated concentrations of the other GHGs.

c. Other Anthropogenic Factors That Have a Climatic Warming Effect Beyond the Six Major GHGs

There are other GHGs and aerosols that have climatic warming effects: water vapor, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, stratospheric and tropospheric ozone (O_3), and black carbon. Each of these is discussed here. We seek comment on whether and how they should be considered in the definition of "air pollution" for purposes of an endangerment finding.

Water vapor is the most abundant naturally occurring GHG and therefore makes up a significant share of the natural, background greenhouse effect. However, water vapor emissions from human activities have only a negligible effect on atmospheric concentrations of water vapor. Significant changes to global atmospheric concentrations of water vapor occur indirectly through human-induced global warming, which then increases the amount of water vapor in the atmosphere because a warmer atmosphere can hold more moisture. Therefore, changes in water vapor concentrations are not an initial driver of climate change, but rather an effect of climate change which then acts as a positive feedback that further enhances warming. For this reason, the IPCC does not list direct emissions of water vapor as an anthropogenic forcing agent of climate change, but does include this water vapor feedback mechanism in response to human-induced warming in all modeling scenarios of future climate change. Based on this recognition that anthropogenic emissions of water vapor are not a significant driver of anthropogenic climate change, EPA's annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks* does not include water vapor, and GHG inventory reporting guidelines under the United Nations Framework Convention on Climate Change (UNFCCC) do not require data on water vapor emissions.

Water vapor emissions may be an issue for concern when they are emitted by aircraft at high altitudes, where, under certain conditions, they can lead to the formation of condensation trails, referred to as contrails. Similar to high-altitude, thin clouds, contrails have a warming effect. Extensive cirrus clouds can also develop from aviation contrails, and increases in cirrus cloud cover would also have a warming effect. The IPCC Fourth Assessment Report estimated a very small positive radiative forcing effect for linear contrails, with a low degree of scientific understanding. Unlike the warming effects associated with the six long-lived, well-mixed GHGs, the warming effects associated with contrails or contrail-induced cirrus cloud cover are more regional and temporal in nature. Further discussion of aviation contrails can be found in Section VI on mobile sources. EPA invites input and comment on the scientific and policy issues related to consideration of water vapor's association with aviation contrails in an endangerment analysis.

The CFCs, HCFCs, and halons are all strong anthropogenic GHGs that are long-lived in the atmosphere and are adding to the global anthropogenic heating effect. Therefore, these gases share common climatic properties with the six GHGs discussed above. The production and consumption of these substances (and hence their anthropogenic emissions) are being controlled and phased out, not because of their effects on climate change, but because they deplete stratospheric O_3, which protects against harmful ultraviolet B (UVB) radiation. The control and phase-out of these substances in the U.S. and globally is occurring under the Montreal Protocol on Substances that Deplete the Ozone Layer, and in the U.S. under Title VI of the CAA as well.[106] Therefore, the climate change research and policy community typically does not focus on these substances, precisely because they are essentially already being 'taken care of with non-climate policy mechanisms. For example, the UNFCCC does not address these substances, and instead defers their treatment to the Montreal Protocol. As mentioned above, the President's Executive Orders 13423 and 13432 do not include these substances in the definition of GHGs. For these reasons, EPA's preliminary conclusion is that we would not include CFCs, HCFCs and halons in the definition of "air pollution" for purposes of an endangerment finding. We seek comment on this issue.

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[106] Under the Montreal Protocol, production and consumption of CFCs were phased out in developed countries in 1996 (with some essential use exemptions) and are scheduled for phase-out by 2010 in developing countries (with some essential use exemptions). For halons the schedule was 1994 for phase out in developed countries and 2010 for developing countries; HCFC production was frozen in 2004 in developed countries, and in 2016 production will be frozen in developing countries; and HCFC consumption phase-out dates are 2030 for developed countries and 2040 in developing countries.

The depletion of stratospheric O_3 due to CFCs, HCFCs, and other ozone-depleting substances has resulted in a small cooling effect on the planet.

Increased concentrations of tropospheric O_3 are causing a significant anthropogenic warming effect, but, unlike the long-lived six GHGs, tropospheric O_3 has a short atmospheric lifetime (hours to weeks), and therefore its concentrations are more variable over space and time. For these reasons, its global heating effect and relevance to climate change tends to entail greater uncertainty compared to the well-mixed, long-lived GHGs. More importantly, tropospheric ozone is already listed as a NAAQS pollutant and is regulated through SIPs and other measures under the CAA, due to its direct health effects including increases in respiratory infection, medicine use by asthmatics, emergency department visits and hospital admissions, and its potential to contribute to premature death, especially in susceptible populations such as asthmatics, ***44425** children and the elderly. Tropospheric O_3 is not addressed under the UNFCCC. For these reasons, EPA's preliminary conclusion is that we would not include tropospheric O_3 in the definition of "air pollution" for purposes of an endangerment finding because, as with CFCs, HCFCs and halons, it is already being addressed by regulatory actions that control precursor emissions (NO_X and volatile organic compounds (VOCs)) from major U.S. sources. We invite comment on this issue.

Black carbon is an aerosol particle that results from incomplete combustion of the carbon contained in fossil fuels, and it remains in the atmosphere for about a week. Black carbon causes a warming effect by absorbing incoming sunlight in the atmosphere (whereas GHGs cause warming by trapping outgoing, infrared heat), and by darkening bright surfaces such as snow and ice, which reduces reflectivity and increases absorption of sunlight at the surface. Some recent research,[106] published after the IPCC Fourth Assessment Report, has suggested that black carbon may play a larger role in warming than previously thought. Like other aerosols, black carbon can also alter the reflectivity and lifetime of clouds, which in turn can have an additional climate effect. How black carbon and other aerosols alter cloud properties is a key source of uncertainty in climate change science. Given these reasons, there is considerably more uncertainty associated with black carbon's warming effect compared to the estimated warming effect of the six long-lived GHGs.

Black carbon is also co-emitted with organic carbon, which tends to have a cooling effect on climate because it reflects and scatters incoming sunlight. The ratio of black carbon to organic carbon varies by fuel type and by combustion efficiency. Diesel vehicles, for example, emit a much greater portion of black carbon, whereas forest fires tend to emit much more organic carbon. The net effect of black carbon and organic carbon on climate should therefore be considered. Also, black carbon is a subcomponent of particulate matter (PM), which is regulated as a NAAQS pollutant under the CAA due to its direct health effects caused by inhalation. Diesel vehicles are estimated to be the largest source of black carbon in the U.S., but these emissions are expected to decline substantially over the coming decades due to recently promulgated EPA regulations targeting $PM_{2.5}$ emissions from on-road and off-road diesel vehicles (the Highway Diesel Rule and the Clean Air Nonroad Diesel Rule, the Locomotive and Marine Compression Ignition Rule). Non-regulatory partnership programs such as the National Clean Diesel Campaign and Smartway are reducing black carbon as well. In sum, black carbon has different climate properties compared to long-lived GHGs, and major U.S. sources of black carbon are already being aggressively reduced through regulatory actions due to health concerns. Nevertheless, EPA has recently received petitions asking the Agency to reduce black carbon emissions from some mobile source categories (see Section VI.). Therefore, EPA seeks comment on how to treat black carbon (and co-emitted organic carbon) regarding the definition of "air pollution" in the endangerment context.

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[106] Ramathan, V, and G. Carmichael (2008) Global and regional climate changes due to black carbon. *Nature Geoscience*, 1: 221-227.

2. Science Summary

The following provides a summary of the underlying science that was reviewed and utilized in the Endangerment Technical Support Document for the endangerment discussion, which in turn relied heavily on the IPCC Fourth Assessment Report. We seek comment on the best available science for purposes of the endangerment discussion, and in particular on the use of the more recent findings of the U.S. Climate Change Science Program.

a. Observed Global Effects

The global atmospheric CO_2 concentration has increased about 35% from pre-industrial levels to 2005, and almost all of the increase is due to anthropogenic emissions. The global atmospheric concentration of CH_4 has increased by 148% since pre-industrial levels. Current atmospheric concentrations of CO_2 and CH_4 far exceed the recorded natural range of the last 650,000 years. The N_2O concentration has increased 18%. The observed concentration increase in these non-CO_2 gases can also be attributed primarily to anthropogenic emissions. The industrial fluorinated gases, HFCs, PFCs, and SF_6, have relatively low atmospheric concentrations but are increasing rapidly; these gases are entirely anthropogenic in origin.

Current ambient concentrations of CO_2 and other GHGs remain well below published thresholds for any direct adverse health effects, such as respiratory or toxic effects.

The global average net effect of the increase in atmospheric GHG concentrations, plus other human activities (e.g., land use change and aerosol emissions), on the global energy balance since 1750 has been one of warming. This total net radiative forcing (a measure of the heating effect caused by changing the Earth's energy balance) is estimated to be +1.6 Watts per square meter (W/m^2). The combined radiative forcing due to the cumulative (i.e., 1750 to 2005) increase in atmospheric concentrations of CO_2, CH_4, and N_2O is +2.30 W/m^2. The rate of increase in positive radiative forcing due to these three GHGs during the industrial era is very likely to have been unprecedented in more than 10,000 years. The positive radiative forcing due to the increase in CO_2 concentrations is the largest (+1.66 W/m^2). The increase in CH_4 concentrations is the second largest source of positive radiative forcing (+0.48 W/m^2). The increase in N_2O has a positive radiative forcing of +0.16 W/m^2.

Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Global mean surface temperatures have risen by 0.74°C (1.3°F) over the last 100 years. The average rate of warming over the last 50 years is almost double that over the last 100 years. Global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries.

Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations. Global observed temperatures over the last century can be reproduced only when model simulations include both natural and anthropogenic forcings, i.e., simulations that remove anthropogenic forcings are unable to reproduce observed temperature changes. Thus, the warming cannot be explained by natural variability alone.

Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. Observations show that changes are occurring in the amount, intensity, frequency and type of precipitation. There is strong evidence that global sea level gradually rose in the 20th century and is currently rising at an increased rate. Widespread changes in extreme temperatures have been observed in the last 50 years. Globally, cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.

***44426** The Endangerment Technical Support Document provides evidence that the U.S. and the rest of the world are experiencing effects from climate change now.

b. Observed U.S. Effects

U.S. temperatures also warmed during the 20th and into the 21st century. U.S. temperatures are now approximately 1.0 °F warmer than at the start of the 20th century, with an increased rate of warming over the past 30 years. The past nine years have all been among the 25 warmest years on record for the contiguous U.S., a streak which is unprecedented in the historical record. Like the average global temperature increase, the observed temperature increase for North America has been attributed to the global buildup of anthropogenic GHG concentrations in the atmosphere.

Widespread changes in extreme temperatures have been observed in the last 50 years across all world regions including the U.S. Cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.

Total annual precipitation has increased over the U.S. on average over the last century (about 6%), and there is evidence of an increase in heavy precipitation events. Nearly all of the Atlantic Ocean shows sea level rise during the past decade with highest rate in areas that include the U.S. east coast.

Observations show that climate change is currently impacting the nation's ecosystems and services in significant ways.

c. Projected Effects

The Endangerment Technical Support Document, the IPCC Fourth Assessment Report, and a report under the U.S. Climate Change Science Program, provide projections of future ambient concentrations of GHGs, future climate change, and future anticipated effects from climate change under various scenarios. This section summarizes some of the key global projections, such as changes in global temperature, as well as those particular to North America and the United States.

Overall risk to human health, society and the environment increases with increases in both the rate and magnitude of climate change. Climate warming may increase the possibility of large, abrupt, and worrisome regional or global climatic events (e.g., disintegration of the Greenland Ice Sheet or collapse of the West Antarctic Ice Sheet). The majority of the climate change impacts literature assesses the potential effects on health, society and the environment due to projected changes in average conditions (e.g., temperature increase, precipitation change, sea level rise) and do not take into account how the frequency and severity of extreme events due to climate change may cause certain additional impacts. Likewise, impact studies typically do not account for large, abrupt climatic events, and generally consider rates of warming that would result from climate sensitivities[107] within the most likely range, not at the tails of the distribution. To weigh the full range of risks and impacts, it is important to consider these possible extreme outcomes, including those that are of low probability.

i. Global Effects

The majority of future reference-case scenarios (assuming no explicit GHG mitigation actions beyond those already enacted) project an increase of global GHG emissions over the century, with climbing GHG concentrations and associated increases in radiative forcing and average global temperatures.

Projected ambient concentrations of CO_2 and other GHGs remain well below published thresholds for any direct adverse health effects, such as respiration or toxic effects.

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[107] "Climate sensitivity" is a term used to describe how much long-term global warming occurs if global atmospheric concentrations of CO_2 are doubled compared to their pre-industrial levels. The IPCC Fourth Assessment Report states that climate sensitivity is very likely greater than 1.5°C (2.7 °F) and likely to lie in the range of 2 °C to 4.5 °C (3.6 °F to 8.1 °F), with a most likely value of about 3 °C (5.4 °F), and that a climate sensitivity higher than 4.5 °C cannot be ruled out.

Through about 2030, the global warming rate is affected little by different future scenario assumptions or different model sensitivities, because there is already some degree of commitment to future warming given past and present GHG emissions. By mid-century, the choice of scenario becomes more important for the magnitude of the projected warming because only about a third of that warming is projected to be due to climate change that is already committed. By the end of the century, projected average global warming (compared to average temperature around 1990) varies significantly by emissions scenario, with IPCC's best estimates ranging from 1.8 to 4.0 °C (3.2 to 7.2 °F), with a fuller likely range of 1.1 to 6.4 °C (2.0 to 11.5 °F), which takes into account a wider range of future emission scenarios and a wider range of uncertainties.[108]

The IPCC identifies the most vulnerable world regions as the Arctic, because of high rates of projected warming on natural systems; Africa, especially the sub-Saharan region, because of current low adaptive capacity; small islands, due to high exposure of population and infrastructure to risk of sea-level rise and increased storm surge; and Asian mega deltas, due to large populations and high exposure to sea level rise, storm surge, and river flooding. Climate change impacts in certain regions of the world may exacerbate problems that raise humanitarian and national security issues for the U.S. Climate change has been described as a potential threat multiplier regarding national security issues.

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[108] The IPCC scenarios are also described in the Technical Support Document and include a range of future global emission scenarios and a range of climate sensitivities (which measure how much global warming occurs for a given increase in global CO_2 concentrations).

ii. United States Effects

Projected global warming is anticipated to lead to effects in the U.S. For instance, all of the U.S. is very likely to warm during this century, and most areas of the U.S. are expected to warm by more than the global average. The U.S, along with the rest of the world, is projected to see an increase in the intensity of precipitation events and the risk of flooding, greater runoff and erosion, and thus the potential for adverse water quality effects.

Severe heat waves are projected to intensify in magnitude, frequency, and duration over the portions of the U.S. where these events already occur, with likely increases in mortality and morbidity, especially among the elderly, young, and frail. Warmer temperatures can also lead to fewer cold-related deaths. It is currently not possible to quantify the balance between decreased cold-related deaths and increased heat-related deaths attributable to climate change over time.

The IPCC projects with virtual certainty (i.e., greater than 99% likelihood) declining air quality in cities due to warmer days and nights, and fewer cold days and nights, and/or more frequent hot days and nights over most land areas, including the U.S. Climate change is expected to lead to increases in regional ozone pollution, with associated risks for respiratory infection, aggravation of asthma, and potential premature death, especially for people in susceptible groups. Climate change effects on ambient PM are currently less certain.

Additional human health concerns include a change in the range of vector-***44427** borne diseases, and a likely trend towards more intense hurricanes (even though any single hurricane event cannot be attributed to climate change) and other extreme weather events. For many of these issues, sensitive populations, such as the elderly, young, asthmatics, the frail and the poor, are most vulnerable.

Moderate climate change in the early decades of the century is projected to increase aggregate yields of rainfed agriculture in the United States by 5-20%. However, as temperatures continue to rise, grain and oilseed crops will increasingly experience failure, especially if climate variability increases and precipitation lessens or becomes more variable. How climatic variability and extreme weather events will continue to change under a changing climate is a key uncertainty, and these events also have the potential to offset the benefits of CO_2 fertilization and a longer growing season.

Climate change is projected to constrain over-allocated water resources in the U.S., increasing competition among agricultural, municipal, industrial, and ecological uses. Rising temperatures will diminish snowpack and increase evaporation, affecting seasonal availability of water.

Disturbances like wildfire and insect outbreaks are increasing and are likely to intensify in a warmer future with drier soils and longer growing seasons. Overall forest growth in the U.S. will likely increase by 10-20% as a result of extended growing seasons and elevated CO_2 over the next century, but with important spatial and temporal variation. Although recent climate trends have increased vegetation growth in parts of the United States, continuing increases in disturbances are likely to limit carbon storage, facilitate invasive species, and disrupt ecosystem services.

The U.S. will be affected by global sea level rise, which is expected to increase between 0.18 and 0.59 meters by the end of the century relative to around 1990. These numbers represent the lowest and highest projections of the 5 to 95% ranges for all scenarios considered collectively and include neither uncertainty in carbon cycle feedbacks nor rapid dynamical changes in ice sheet flow. U.S. coastal communities and habitats will be increasingly stressed by climate change interacting with development and pollution. Sea level is already rising along much of the coast, and the rate of change is expected to increase in the future, exacerbating the impacts of progressive inundation, storm-surge flooding, and shoreline erosion.

Climate change is likely to affect U.S. energy use (e.g., heating and cooling requirements), and energy production (e.g., effects on hydropower), physical infrastructures (including coastal roads, railways, transit systems and runways) and institutional infrastructures. Climate change will likely interact with and possibly exacerbate ongoing environmental change and environmental pressures in some settlements, particularly in Alaska where indigenous communities are facing major environmental and cultural impacts.

3. Endangerment Discussion Regarding Air Pollution

The Administrator must exercise his judgment in evaluating whether the first part of the endangerment test is met, i.e., whether air pollution (e.g., the elevated concentrations of GHGs) is reasonably anticipated to endanger public health or welfare. As discussed above, in exercising his judgment it is appropriate for the Administrator to make comparative assessments of risk and projections of future possibilities, consider uncertainties, and extrapolate from limited data. The precautionary nature of the statutory language also means that the Administrator should act to prevent harm rather than wait for proof of actual harm.

The scientific record shows there is compelling and robust evidence that observed climate change can be attributed to the heating effect caused by global anthropogenic GHG emissions. The evidence goes beyond increases in global average temperature to include observed changes in precipitation patterns, sea level rise, extreme hot and cold days, sea ice, glaciers, ecosystem functioning and wildlife patterns. Global warming trends over the last 50 years stand out as significant compared to estimated global average temperatures for at least the last few centuries. Some degree of future warming is now unavoidable given the current buildup of atmospheric concentrations of GHGs, as the result of past and present GHG emissions. Based on the scientific evidence, it is reasonable to conclude that future climate change will result from current and future emissions of GHGs. Future warming over the course of the 21st century, even under scenarios of low emissions growth, is very likely to be greater than observed warming over the past century.

The range of potential impacts that can result from climate change spans many elements of the global environment, and all regions of the U.S. will be affected in some way. The U.S. has a long and populous coastline. Sea level rise will continue and exacerbate storm-surge flooding and shoreline erosion. In areas where heat waves already occur, they are expected to become more intense, more frequent, and longer lasting. Wildfires and the wildfire season are already increasing and climate change is expected to continue to worsen conditions that facilitate wildfires. Where water resources are already scarce and over-allocated in the western U.S., climate change is expected to put additional strain on these water management issues for municipal, agricultural, energy and industrial uses. Climate change also introduces an additional stress on ecosystems which are already affected by development, habitat fragmentation, and broken ecological dynamics. There is a wide range in the magnitude of these estimated impacts, with there being more confidence in the occurrence of some effects and less confidence in the occurrence of others.

In addition to the effects from changes in climate, there are some additional welfare effects that occur directly from the anthropogenic GHG emissions themselves. For example, ocean acidification occurs through elevated concentrations of CO_2, and crop and other vegetation growth can be enhanced through elevated CO_2 concentrations as well.

Current and projected levels of ambient concentrations of the six GHGs are not expected to cause any direct adverse health effects, such as respiratory or toxic effects, which would occur as a result of the elevated GHG concentrations themselves rather than through the effects of climate change. However, there are indirect human health risks (e.g., heat-related mortality, exacerbated air quality, extreme events) and benefits (e.g., less cold-related mortality) that occur due to climate change. We seek comment on how these human health impacts should be characterized under the CAA for purposes of an endangerment analysis.

Some elements of human health, society and the environment may benefit from climate change (e.g., short-term increases in agricultural yields, less cold-related mortality). We seek comment on how the potential for some benefits should be viewed against the full weight of evidence showing numerous risks and the potential for adverse impacts.

Quantifying the exact nature and timing of impacts due to climate change over the next few decades and beyond, and across all vulnerable elements of U.S. health, society and the environment, is currently not possible. However, the full weight of evidence as ***44428** summarized above and as documented in the Endangerment Technical Support Document points towards the robust conclusion that expected rates of climate change (driven by past, present and plausible future GHG emissions) pose a number of serious risks to the U.S., even if the exact nature of the risks is difficult to quantify with confidence. The uncertainties in this context can also mean that future rates of climate change are being underestimated, and that the potential for associated and difficult-to-predict-and-quantify extreme events is not adequately incorporated into impact assessments. The scientific literature states that risk increases with increases in both the rate and magnitude of climate change. We solicit comment on how these uncertainties should be considered.

We seek comment on whether, in light of the precautionary nature of the statutory language, the Administrator needs to find that current levels of GHG concentrations endanger public health or welfare now. As noted above, the fact that GHGs remain in the atmosphere for decades to centuries means that future concentrations are dependent not only on tomorrow's emissions, but also on today's emissions. Should the Administrator consider both current and projected future elevated concentrations of GHGs, as well as the totality of the observed and projected effects that result from current and projected concentrations? Or should the Administrator focus on future projected elevated concentrations of GHGs and their projected effects in the United States because they are larger and of greater concern than current GHG concentrations and observed effects?

In sum, EPA invites comment on all issues relevant to making an endangerment finding, including the scientific basis supporting a finding that there is or is not endangerment under the CAA, as well as the potential scope of the finding (i.e., public health, welfare, or both).

C. Illustration for the "Cause or Contribute" Part of the Endangerment Discussion: Do emissions of air pollutants from motor vehicles or fuels cause or contribute to the air pollution that may reasonably be anticipated to endanger public health or welfare in the United States?

1. What Is/Are the Air pollutant(s)?

a. Background and Context

If the Administrator, in his judgment, finds that GHG "air pollution" may reasonably be anticipated to endanger public health or welfare, he must then define "air pollutant(s)" for purposes of making the "cause or contribute" determination. The question is whether the "air pollutants" to be evaluated for "cause or contribute" should be the individual GHGs, or whether the "air pollutant" is one or more classes of GHGs as a group.

We recognize that the alternative definitions could have important implications for how GHGs are treated under other provisions of the Act. The Administrator seeks comment on these options, and is particularly interested in views regarding the implications for the potential future regulation of GHGs under other parts of the Act.

b. Defining "Air Pollutant" as Each Individual Greenhouse Gas

Under this approach, the Administrator could define "air pollutant" as each individual GHG rather than as GHGs as a collective whole for the purposes of assessing "cause or contribute." The Administrator would evaluate each individual GHG to determine if it causes, or contributes to, the elevated combined level of GHG concentrations.

This approach enables an evaluation of the unique characteristics and properties of each GHG (e.g., radiative forcing, lifetimes, etc.), as well as current and projected emissions. This facilitates a customized approach accounting for these factors. This approach also is consistent with the approach taken in several federal GHG programs which target reductions of individual greenhouse gases. For example, EPA manages a variety of partnership programs aimed at reducing emissions of specific sources of methane and the fluorinated gases (HFCs, PFCs and SF_6).

c. Defining "Air Pollutants" Collectively as a Class of Greenhouse Gases

Under this approach, the Administrator could define the "air pollutant" as (a) the collective group of the six GHGs discussed above (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6), (b) the collective group of the specific GHGs that are emitted from the relevant source category at issue in the endangerment finding (e.g., for section 202 sources it would be CO_2, CH_4, N_2O, and HFCs), or (c) other reasonable groupings.

There are several federal and state climate programs, such as EPA's Climate Leaders program, DOE's 1605b program, and Multi-state Climate Registry, that encourage firms to report (and reduce) emissions of all six GHGs, recognizing that the non-CO_2 GHG emissions are a significant part of the atmospheric buildup of GHG concentrations and thus radiative forcing. In addition, the President's recent 2007 Executive Orders (13423 and 13432) and his 2002-2012 intensity goal both encompass the collective emissions of all six GHGs. Consideration of a class of gases collectively takes into account the multiple effects of mitigation options and technologies on each gas, thus enabling a more coordinated approach in addressing emissions from a source. For example, collection and combustion of fugitive methane will lead to net increases in CO_2 and possibly nitrous oxide emissions, but this is nevertheless desirable from an overall mitigation perspective given the lower total radiative forcing.

2. Discussion of "Cause or Contribute"

Once the "air pollutant(s)" is defined, the Administrator must look at the emissions of the air pollutant from the relevant source category in determining whether those emissions cause or contribute to the air pollution he has determined may reasonably be anticipated to endanger public health or welfare. There arguably are many possible ways of assessing "cause and contribute" and different approaches have been used in previous endangerment determinations under the CAA. For example, EPA could consider how emissions from the relevant source category would compare as a share of the following:

- Total global aggregated emissions of the 6 GHGs discussed in the definition of "air pollution";
- Total aggregated U.S. emissions of the 6 GHGs;
- Total global emissions of the individual GHG in question;
- Total U.S. emissions of the individual GHG in question; and
- Total global atmospheric concentrations of the GHG in question.

In the past, the smallest level or amount of emissions that the Administrator determined "contributed" to the air pollution at issue was just less than 1% (67 FR 68242 (2002)). We solicit comment on other factors that may be relevant to a contribution determination for GHG emissions. For example, given the global nature of the air pollution being addressed in this rulemaking, one might expect that the percentage contribution of specific GHGs and sectors would be much smaller than for previous rulemakings when the nature of the air pollution at issue was regional or local. On an absolute basis, a small U.S. GHG source on a global scale may have emissions at the same level as one of the largest sources in a single small to medium size country, and given the ***44429** large size of the global denominator, even sectors with significant emissions could be very small in percentage terms.

In addition, EPA notes that the EPA promotes the reduction of particular GHG emissions through a variety of voluntary programs (e.g., EPA's domestic CH_4 partnership programs and the international Methane to Markets Partnership (launched in 2004)). EPA requests comment on how these and other efforts to encourage the voluntary reductions in even small amounts of GHG emissions are relevant to decisions about what level of "contribution" merits mandatory regulations.

Below we use the section 202 source category to illustrate these and other various ways to consider and compare source category GHG emissions for the "cause or contribute" analysis. In keeping with the discussion above regarding possible definitions of "air pollutant," we provide the information on an individual GHG and collective GHG basis. In addition, we raise various policy considerations that could be relevant to a "cause or contribute" determination. EPA invites comment on the various approaches, data, and policy considerations discussed below.

a. Overview of Section 202 Source Categories

The relevant mobile sources under section 202(a)(1) of the Clean Air Act are "any class or classes of new motor vehicles or new motor vehicle engines, * * * " CAA section 202(a)(1). To support this illustrative assessment, EPA analyzed historical GHG emissions data for motor vehicles and motor vehicle engines in the United States from 1990 to 2006.[109]

The motor vehicles and motor vehicle engines (hereinafter "section 202 source categories") addressed include passenger cars, light-duty trucks, motorcycles, buses, medium/heavy-duty trucks, and cooling.[110] Of the six primary GHGs, four are associated with section 202 source categories: CO_2, CH_4, N_2O, and HFCs.

A summary of the section 202 emissions information is presented here, and a more detailed description along with data tables is contained in the Emissions Technical Support Document. All annual emissions data are considered on a CO_2 equivalent basis.

b. Carbon Dioxide Emissions From Section 202 Sources

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[109] The source of the emissions data is the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (USEPA #430-R-08-005)* (hereinafter "U.S. Inventory"). See the Emissions Technical Support Document for a discussion on the correspondence between Section 202 source categories and IPCC source categories. The most recent year for which official EPA estimates are available is 2006.

[110] Greenhouse gas emissions result from the use of HFCs in cooling systems designed for passenger comfort, as well as auxiliary systems for refrigeration.

CO_2 is emitted from motor vehicles and motor vehicle engines during the fossil fuel combustion process. During combustion, the carbon stored in the fuels is oxidized and emitted as CO_2 and smaller amounts of other carbon compounds.[111]

CO_2 is the dominant GHG emitted from motor vehicles and motor vehicle engines, and the dominant GHG emitted in the U.S. and globally.[112] CO_2 emissions from section 202 sources grew by 32% between 1990 and 2006, largely due to increased CO_2 emissions from light-duty trucks (61% since 1990) and medium/heavy-duty trucks (76%). Emissions of CO_2 from section 202 sources, and U.S. and global emissions are presented below in Table V-1.

Table V-1—Section 202 CO_2, U.S. and Global Emissions

U.S. Emissions	2006	Sec 202 CO_2 share (percent)
Section 202 CO_2	1,564.6	
All U.S. CO_2	5983.1	26.2
U.S. emissions of Sec 202 GHG	1,665.4	93.9
All U.S. GHG emissions	7,054.2	22.2%

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[111] Detailed CO_2 emissions data from section 202 source categories are presented in the Emissions Technical Support Document. Other carbon compounds emitted such as CO, and non-methane volatile organic compounds oxidize in the atmosphere to form CO_2 in a period of hours to days.

[112] EPA typically uses current motor vehicle fleet emissions information when making a contribution analysis under section 202. We solicit comment on how or whether the reductions in CO_2 emissions expected by implementation of EISA, or any other projected change in emissions from factors such as growth in the fleet or vehicle miles traveled, would impact a contribution analysis for CO_2.

Global Emissions	2000	Sec 202 CO_2 share (in 2000)
		(percent)
All global CO_2 emissions	30,689.5	4.8
Global transport GHG emissions	5,315.2	27.5
All global GHG emissions	36,727.9	4.0

Other Sources of U.S. CO_2	2006	Share of U.S. CO_2 emissions
		(percent)
Electricity Sector CO_2	2360.3	39.4
Industrial Sector CO_2	984.1	16.4

Arguably, based on these data, if the Administrator did not find that, for purposes of section 202, that CO_2 emissions from section 202 source categories contribute to the elevated combined level of GHG concentrations, it is unlikely that he would find that the other GHGs emitted by section 202 source categories contribute.

c. Methane Emissions From Section 202 Source Categories

Methane (CH_4) emissions from motor vehicles are a function of the CH_4 content of the motor fuel, the amount of ***44430** hydrocarbons passing uncombusted through the engine, and any post-combustion control of hydrocarbon emissions (such as catalytic converters). Methane emissions from these source categories decreased by 58% between 1990 and 2006, largely due to decreased CH_4 emissions from passenger cars and light-duty trucks.[113] Emissions of CH_4 from section 202 sources, and U.S. and global emissions are presented below in Table V-2.

Table V-2—Section 202 CH_4, U.S. and Global Emissions

U.S. Emissions	2006	Sec 202 CH_4 share (percent)
Section 202 CH_4	1.80	
All U.S. CH_4	555.3	0.32
U.S. emissions of Sec 202 GHG	1,665.40	0.11
All U.S. GHG emissions	7,054.20	0.03

Global Emissions	2000	Sec 202 CH_4 share (in 2000) (percent)
All global CH_4 emissions	5,854.90	0.05
Global transport GHG emissions	5,315.20	0.05
All global GHG emissions	36,727.90	0.01

Other Sources of U.S. CH_4	2006	Share of U.S. CH_4 emissions (percent)
Landfill CH_4 emissions	125.7	22.6
Natural Gas CH_4 emissions	102.4	18.4

EPA also notes that the EPA promotes the reduction of CH_4 and other non-CO_2 GHG emissions, as manifested in its domestic CH_4 partnership programs and the international Methane to Markets Partnership (launched in 2004), which are not focused on the transportation sector. EPA requests comment on how these and other efforts to encourage the voluntary reductions in even small amounts of GHG emissions are relevant to decisions about what level of "contribution" merits mandatory regulations.

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[113] Detailed methane emissions data for section 202 source categories are presented in the Emissions Technical Support Document.

d. Nitrous Oxide Emissions From Section 202 Source Categories

Nitrous oxide (N_2O) is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. N_2O (and nitrogen oxide (NO_X)) emissions from motor vehicles and motor vehicle engines are closely related to fuel characteristics, air-fuel mixes, combustion temperatures, and the use of pollution control equipment.

Nitrous oxide emissions from section 202 sources decreased by 27% between 1990 and 2006, largely due to decreased emissions from passenger cars and light-duty trucks.[114] Earlier generation control technologies initially resulted in higher N_2O emissions, causing a 24% increase in N_2O emissions from motor vehicles between 1990 and 1995. Improvements in later-generation emission control technologies have reduced N_2O output, resulting in a 41% decrease in N_2O emissions from 1995 to 2006. Emissions of N_2O from section 202 sources, and U.S. and global emissions are presented below in Table V-3.

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[114] Detailed nitrous oxide emissions data for section 202 source categories are presented in the Emissions Technical Support Document.

Table V-3—Section 202 N_2O, U.S. and Global Emissions

U.S. Emissions	2006	Sec 202 N_2O share (percent)
Section 202 N_2O	29.5	
All U.S. N_2O	367.9	8.0
U.S. emissions of Sec 202 GHG	1665.4	1.8
All U.S. GHG emissions	7054.2	0.4

Global Emissions	2000	Sec 202 N_2O share (in 2000)
		(percent)
All global N_2O emissions	3,113.8	1.6
Global transport GHG emissions	5,315.2	0.9
All global GHG emissions	36,727.9	0.1

Other Sources of U.S. N_{20}	2006	Share of U.S. N2O emissions
		(percent)
Agricultural Soil N_2O emissions	265.0	72.0
Nitric Acid N_2O emissions	15.6	4.3

***44431** Past experience has shown that substantial emissions reductions can be made by small N_2O sources. For example, the N_2O emissions from adipic acid production is smaller than that of Section 202 sources, and this sector reduced its emission by over 60 percent from 1990 to 2006 as a result of voluntary adoption of N_2O abatement technology by the three major U.S. adipic acid plants.[115]

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[115] *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006 (USEPA #430-R-08-005)*, p.2-22.

e. Hydrofluorocarbons Emissions From Section 202 Source Categories

Hydrofluorocarbons (a term which encompasses a group of eleven related compounds) are progressively replacing CFCs and HCFCs in section 202 cooling and refrigeration systems as they are being phased out under the Montreal Protocol and Title VI of the CAA.[116]

Hydrofluorocarbons were not used in motor vehicles or refrigerated rail and marine transport in the U.S. in 1990, but by 2006 emissions had increased to 70 Tg CO_2e.[117] Emissions of HFC from section 202 sources, and U.S. and global emissions are presented below in Table V-4.

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[116] 2006 IPCC Guidelines, Volume 3, Chapter 7. Page 43.

[117] Detailed HFC emissions data for section 202 source categories are presented in Tables in the Emissions Technical Support Document.

Table V-4—Section 202 HFC, U.S. and Global Emissions

U.S. Emissions	2006	Sec 202 HFC share (percent)
Section 202 HFC	69.5	
All U.S. HFC	124.5	55.8
U.S. emissions of Sec 202 GHG	1665.4	4.2
All U.S. GHG emissions	7054.2	1.0

Global Emissions	2000	Sec 202 HFC share (in 2000)
		(percent)
All global HFC emissions	259.2	20.3
Global transport GHG emissions	5,315.2	1.0
All global GHG emissions	36,727.9	0.1

Other Sources of U.S. HFC	2006	Share of U.S. HFC emissions
		(percent)
HCFC-22 Production	13.8	11.1
Other ODS Substitutes	41.2	33.1

EPA notes that section 202 HFC emissions are the largest source of HFC emissions in the United States, that these emissions increased by 274% from 1995 to 2006, and that section 202 sources are also the largest source of emissions of high GWP gases (i.e., HFCs, PFCs or SF_6) in the U.S. Thus, a decision not to set standards for HFCs under section 202 could be viewed as precedential with respect to the likelihood of future regulatory actions for any of these three gases.

f. Perfluorocarbons and Sulfur Hexafluoride

Perfluorocarbons (PFCs) and sulfur hexafluoride

(SF_6) are not emitted from motor vehicles or motor vehicle engines in the United States.

g. Total GHG Emissions From Section 202 Source Categories

We note if "air pollutant" were defined as the collective group of four to six GHGs, the emissions of a single component (e.g., CO_2) could theoretically support a positive contribution finding. We also solicit comment on whether the fact that total GHG emissions from section 202 source categories are approximately 4.3% of total global GHG emissions would mean that adopting this definition of "air pollutant" would make it unnecessary to assess the individual GHG emissions levels less than that amount. Table V-5 below presents the contribution of individual GHGs to total GHG emissions from section 202 sources, and from all sources in the U.S.

Table V-5—Contribution of Individual gases in 2006 to Section 202 and U.S. Total GHG

(In percent)

	CO_2	CH_4	N_2O	HFC	PFC	SF_6
Section 202	93.9	0.1	1.8	4.2		
U.S. Total	84.8	7.9	5.2	1.8	0.1	0.2

***44432** Emissions of GHG from section 202 sources, and U.S. and global emissions are presented below in Table V-6.

Table V-6—Section 202 GHG, U.S. and Global Emissions

U.S. Emissions	2006	Sec 202 GHG share (percent)
Section 202 GHG	1665.4	
All U.S. GHG emissions	7054.2	23.6

Global Emissions	2000	Sec 202 GHG share (in 2000) (percent)
Global transport GHG emissions	5,315.2	29.5
All global GHG emissions	36,727.9	4.3

Other Sources of U.S. GHG	2006	Share of U.S. GHG emissions (percent)
Electricity Sector emissions	2377.8	33.7
Industrial Sector emissions	1371.5	19.4

h. Summary of Requests for Comment

EPA is seeking comment on the approach outlined above in the context of section 202 source categories, regarding how "air pollutant" should be defined, and contribution analyzed. Specifically, EPA is interested in comments regarding the data and comparisons underlying the above example contained in Emissions Technical Support Document. We also welcome comment on prior precedents for assessing contributions, as well as the potential precedential impact of a positive section 202 contribution findings for other potential sources of these and other GHGs. We also welcome comment on the relationship of these proposals to existing U.S. climate change emissions reduction programs and the magnitude of reductions sought under these programs.

VI. Mobile Source Authorities, Petitions, and Potential Regulation

A. Mobile Sources and Title II of the Clean Air Act

Title II of the CAA provides EPA's statutory authority for mobile source air pollution control. Mobile sources include cars and light trucks, heavy trucks and buses, nonroad recreational vehicles (such as dirt bikes and snowmobiles), farm and construction machines, lawn and garden equipment, marine engines, aircraft, and locomotives. The Title II program has led to the development and widespread commercialization of emission control technologies throughout the various categories of mobile sources. Overall, the new technologies sparked by EPA regulation over four decades have reduced the rate of emission of regulated pollutants from personal vehicles by 98% or more, and are key components of today's high-tech cars and SUVs. EPA's heavy-duty, nonroad, and transportation fuels regulatory programs have likewise promoted both pollution reduction and cost-effective technological innovation.

In this section, we consider how Title II authorities could be used to reduce GHG emissions from mobile sources and the fuels that power them. The existing mobile source emissions control program provides one possible model for how EPA could use Title II of the CAA to achieve long-term reductions in mobile source GHG emissions. The approach would be to set increasingly stringent performance standards that manufacturers would be required to meet over 10, 20 or 30 years using flexible compliance mechanisms like emissions averaging, trading and banking to increase the economic effectiveness of emission reductions over less flexible approaches. These performance standards would reflect EPA's evaluation of available and developing technologies, including the potential for technology innovation, that could provide sustained long-term GHG emissions reductions while allowing mobile sources to satisfy the full range of consumer and business needs.

Another approach we explore is the extent to which CAA authorities could be used to establish a cap-and-trade system for reducing mobile source-related GHG emissions that could provide even greater flexibility to manufacturers in finding least cost emission reductions available within the sector. With respect to cars and light trucks, we also present and discuss an alternative approach to standard-setting, focused on technology already in the market today in evaluating near term standards, that EPA began developing in 2007 as part of an inter-agency effort in response to the Massachusetts decision and the President's May 2007 directive. This approach took into consideration and used as a starting point the President's 20-in-10 goals for vehicle standards. Congress subsequently ***44433** addressed many of the 20-in-10 goals through its action in passing EISA in December 2007.

EPA seeks public comment on how a Title II regulatory program could serve as an approach for addressing GHG emissions from mobile sources. In addition, EPA invites comments on the following specific questions:

- What are the implications for developing Title

II programs in view of the global and long-lived nature of GHGs?

- What factors should be considered in developing a long-term, i.e, 2050, GHG emissions target for the transportation sector?
- Should the transportation sector make GHG emission reductions proportional to the sector's share of total U.S. GHG emissions or should other approaches be taken to determining the relative contribution of the transportation sector to GHG emission reductions?
- What are the merits and challenges of different regulatory timeframes such as 5 years, 10-15 years, 30-40 years?
- Should Title II GHG standards be based on environmental need, current projections of future technology feasibility, and/or current projections of future net societal benefits?
- Could Title II accommodate a mobile sources cap-and-trade program and/or could Title II regulations complement a broader cap-and-trade program?
- Should trading between mobile sources and sources in other sectors be allowed?
- Is it necessary or would it be helpful to have new legislation to complement Title II (such as legislation to provide incentives for the development and commercialization of low-GHG mobile source technologies)?
- How best can EPA fulfill its CAA obligations under Title II yet avoid inconsistency with NHTSA's regulatory approach under EPCA?

EPA also invites comments on whether there are specific limitations of a Title II program that would best be addressed by new legislation.

1. Clean Air Act Title II Authorities

In this section we review the Title II provisions that could be applied to GHG emissions from various categories of motor vehicles and fuels. For each provision, we describe the relevant category of mobile sources, the terms of any required "endangerment" finding, and the applicable standard-setting criteria. We also identify the full range of factors EPA may consider, including costs and safety, and discuss the extent to which standards may be technology-forcing.

a. CAA Section 202(a)

Section 202(a)(1) provides broad authority to regulate new "motor vehicles," which are on-road vehicles. While other provisions of Title II address specific model years and emissions of motor vehicles, section 202(a)(1) provides the authority that EPA would use to regulate GHGs from new on-road vehicles. The ICTA petition sought motor vehicle GHG emission standards under this section of the Act.

As previously discussed, section 202(a)(1) makes a positive endangerment finding a prerequisite for setting emission standards for new motor vehicles. Any such standards "shall be applicable to such vehicles * * * for their useful life."Emission standards under CAA section 202(a)(1) are technology-based, i.e. the levels chosen must be premised on a finding of technological feasibility. They may also be technology-forcing to the extent EPA finds that technological advances are achievable in the available lead time and that the reductions such advances would obtain are needed and appropriate. However, EPA also has the discretion to consider and weigh various additional factors, such as the cost of compliance (see section 202(a)(2)), lead time necessary for compliance (section 202(a)(2)), safety (see *NRDC* v. *EPA*, 655 F. 2d 318, 336 n. [illegible] D.C. Cir. 1981)) and other impacts on consumers, and energy impacts. Also see *George E. Warren Corp.* v. *EPA*, 159 F.3d 616, 623-624 (D.C. Cir. 1998). CAA section 202(a)(1) does not specify the weight to apply to each factor, and EPA accordingly has significant discretion in choosing an appropriate balance among the factors. See EPA's interpretation of a similar provision, CAA section 231, at 70 FR 69664, 69676 (Nov. 17, 2005), upheld in *NACAA* v. *EPA*, 489 F.3d 1221, 1230 (2007).

b. CAA Section 213

CAA section 213 provides broad authority to regulate emissions of non-road vehicles and engines, which are a wide array of mobile sources including ocean-going vessels, locomotives, construction equipment, farm tractors, forklifts, harbor crafts, and lawn and garden equipment.

CAA section 213(a)(4) authorizes EPA to establish standards to control pollutants, other than NO_X, volatile organic compounds and CO, which are addressed in section 213(a)(3), if EPA determines that emissions from nonroad engines and vehicles as a whole contribute significantly to air pollution "which may reasonably be anticipated to endanger public health or welfare". Once this determination is made, CAA section 213(a)(4) provides that EPA "may" promulgate standards it deems "appropriate" for "those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives), which in the Administrator's judgment, cause or contribute to, such air pollution, taking into account costs, noise, safety, and energy factors associated with the application of available technology to those vehicles and engines."As with section 202(a)(1), this provision authorizes EPA to set technology-forcing standards to the extent appropriate considering all the relevant factors.

CAA section 213(a)(5) authorizes EPA to adopt standards for new locomotives and new locomotive engines. These standards must achieve the greatest degree of emissions reduction achievable through the application of available technology, giving appropriate consideration to the cost of applying such technology, lead time, noise, energy and safety. Section 213(a)(5) does not require that EPA review the contribution of locomotive emissions to air pollution which may reasonably be expected to endanger public health or welfare before setting emission standards, although in the past, EPA has provided such information in its rulemakings.

c. CAA Section 231

CAA section 231(a) provides broad authority for EPA to establish emission standards applicable to the "emission of any air pollutant from any class or classes of aircraft engines, which in the Administrator's judgment, causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare." *NACAA* v. *EPA*, 489 F.3d 1221, 1229 (D.C. Cir. 2007). As with sections 202(a) and 213(a)(4), this provision authorizes, but does not require, EPA to set technology-forcing standards to the extent appropriate considering all the relevant factors, including noise, safety, cost and necessary lead time for the development and application of requisite technology.

Unlike the motor vehicle and non-road programs, however, EPA does not directly enforce its standards regulating aircraft engine emissions. Under CAA section 232, the Federal Aviation Administration (FAA) is required to prescribe regulations to insure compliance with EPA's standards. Moreover, FAA has authority to regulate aviation fuels, under Federal Aviation *44434 Act section 44714. However, under the Federal Aviation Act, the FAA prescribes standards for the composition or chemical or physical properties of an aircraft fuel or fuel additive to control or eliminate aircraft emissions the EPA "decides under section 231 of the CAA endanger the public health or welfare[.]"

d. CAA Section 211

Section 211(c) authorizes regulation of vehicle fuels and fuel additives (excluding aircraft fuel) as appropriate to protect public health and welfare, and section 211(o) establishes requirements for the addition of renewable fuels to the nation's vehicle fuel supply.[118] In relevant parts, section 211(c) states that, "[t]he Administrator may * * * by regulation, control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle, motor vehicle engine, or nonroad engine or nonroad vehicle" if, in the judgment of the Administrator, any fuel or fuel additive or any emission product of such fuel or fuel additive causes, or contributes, to air pollution or water pollution (including any degradation in the quality of groundwater) which may reasonably be anticipated to endanger the public health or welfare, * * *" Similar to other CAA mobile source provisions, section 211(c)(1) involves an endangerment finding that includes considering the contribution to air pollution made by the fuel or fuel additive.

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[118] EPA's authority to regulate fuels under CAA section 211 does not exend to aircraft engine fuel. Instead, under the Federal Aviatiion Act, the FAA prescribes standads for the compositiion or chemical or physical properties of an aircraft fuel or additive to control or eliminate aircraft emissions the EPA "decides under section 231 of the Clean Air Act endanger the public health or welfare[.]"49 U.S.C. 44714.

The Energy Policy Act of 2005 also added section 211(o) to establish the volume-based Renewable Fuels Standard program. Section 211(o) was amended by the Energy Independence and Security Act of 2007.

Section VI.D of this notice provides more information and discussion about the CAA section 211 authorities.

2. EPA's Existing Mobile Source Emissions Control Program

In this notice, EPA is examining whether and how the regulatory mechanisms employed under Title II to reduce conventional emissions could also prove effective for reducing GHG emissions. Under Title II, mobile source standards are technology-based, taking such factors as cost and lead time into consideration. Various Title II provisions authorize or require EPA to set standards that are technology forcing, such as standards for certain pollutants for heavy-duty or nonroad engines.[119] Title II also provides for comprehensive regulation of mobile sources so that emissions of air pollutants from all categories of mobile sources may be addressed as needed to protect public health and the environment.

Pursuant to Title II, EPA has taken a comprehensive, integrated approach to mobile source emission control that has produced benefits well in excess of the costs of regulation. In developing the Title II program, the Agency's historic, initial focus was on personal vehicles since that category represented the largest source of mobile source emissions. Over time, EPA has established stringent emissions standards for large truck and other heavy-duty engines, nonroad engines, and marine and locomotive engines, as well. The Agency's initial focus on personal vehicles has resulted in significant control of emissions from these vehicles, and also led to technology transfer to the other mobile source categories that made possible the stringent standards for these other categories.

As a result of Title II requirements, new cars and SUVs sold today have emissions levels of hydrocarbons, oxides of nitrogen, and carbon monoxide that are 98-99% lower than new vehicles sold in the 1960s, on a per mile basis. Similarly, standards established for heavy-duty highway and nonroad sources require emissions rate reductions on the order of 90% or more for particulate matter and oxides of nitrogen. Overall ambient levels of automotive-related pollutants are lower now than in 1970, even as economic growth and vehicle miles traveled have nearly tripled. These programs have resulted in millions of tons of pollution reduction and major reductions in pollution-related deaths (estimated in the tens of thousands per year) and illnesses. The net societal benefits of the mobile source programs are large. In its annual reports on federal regulations, the Office of Management and Budget reports that many of EPA's mobile source emissions standards typically have projected benefit-to-cost ratios of 5:1 to 10:1 or more. Follow-up studies show that long-term compliance costs to the industry are typically lower than the cost projected by EPA at the time of regulation, which result in even more favorable real world benefit-to-cost ratios. Title II emission standards have also stimulated the development of a much broader set of advanced automotive technologies, such as on-board computers and fuel injection systems, which are at the core of today's automotive designs and have yielded not only lower emissions, but improved vehicle performance, reliability, and durability.

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[119] Technology-forcing standards are based upon performance of technology that EPA determines will be available (considering technical feasibility, cost, safety, and other relevant factors) when the standard takes effect, as opposed to standards based upon technology which is already available. Technology-forcing standards further Congress' goal of having EPA project future advances in pollution control technology, rather than being limited by technology which already exists. *NRDC* v. *Thomas*, 805 F. 2d 410, 428 n. 30 (D.C. Cir. 1981). Technology-forcing standards are performance standards and do not require the development or use of a specific technology.

EPA requests comment on whether and how the approach it has taken under Title II could effectively be employed to reduce mobile source emissions of GHGs. In particular, EPA seeks comment and information on ways to use Title II authorities that would promote development and transfer of GHG control technologies for and among the various mobile source categories. The Agency is also interested in receiving information on the extent to which GHG-reducing technologies developed for the U.S. could usefully and profitably be exported around the world. Finally, EPA requests comments on how the Agency could implement its independent obligations under the CAA in a manner to avoid inconsistency with NHTSA CAFE rulemakings, in keeping with the Supreme Court's observation in the *Massachusetts* decision ("there is no reason to think the two agencies cannot both administer their obligations yet avoid inconsistencies").

3. Mobile Sources and GHGs

The domestic transportation sector emits 28% of total U.S. GHG emissions based on the standard accounting methodology used by EPA in compiling the inventory of U.S. GHG emissions pursuant to the United Nations Framework Convention on Climate Change (Figure VI-1).

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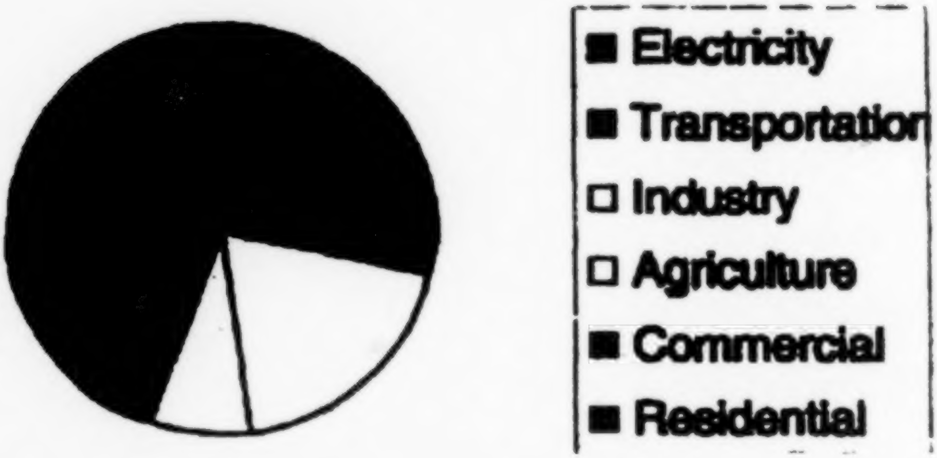
Figure VI-1
U.S. GHG Emissions Allocated to Economic Sectors (2006)



*44435 The only economic sector with higher GHG emissions is electricity generation which accounts for 34% of total U.S. GHG emissions. However, the inventory accounting methodology attributes to other sectors two sources of emissions that EPA has the authority to regulate under Title II of the CAA. First, the methodology includes upstream transportation fuel emissions (associated with extraction, shipping, refining, and distribution, some of which occur outside of the U.S.) in the emissions of the industry sector, not the transportation sector. However, reducing transportation fuel consumption would automatically and proportionally reduce upstream transportation fuel-related GHG emissions as well. Second, nonroad mobile sources (such as construction, farm, and lawn and garden equipment) are also included in the industry sector contribution. All of these emissions can be addressed under CAA Title II authority, at least with respect to domestic usage. Including these upstream transportation fuel (some of which occur outside of U.S. boundaries) and nonroad equipment GHG emissions in the mobile sources inventory would raise the contribution from mobile sources and the fuels utilized by mobile sources to approximately 36% of total U.S. GHG emissions. Since, based on 2004 data, the U.S. emits about 23% of global GHG emissions, under the traditional accounting methodology the U.S. transportation sector contributes about 6% of the total global inventory. If upstream transportation fuel emissions and nonroad equipment emissions are also included, U.S. mobile sources are responsible for about 8% of total global GHG emissions.

Personal vehicles (cars, sport utility vehicles, minivans, and smaller pickup trucks) emit 54% of total U.S. transportation sector GHG emissions (including nonroad mobile sources), with heavy-duty vehicles the second largest contributor at 18%, aviation at 11%, nonroad sources at 8%, marine at 5%, rail at 3%, and pipelines at 1% (Figure VI-2). CO_2 is responsible for about 95% of transportation GHG emissions, with air conditioner refrigerant HFCs accounting for 3%, vehicle tailpipe nitrous oxide emissions for 2%, and vehicle tailpipe methane emissions for less than 1% (Figure VI-3).

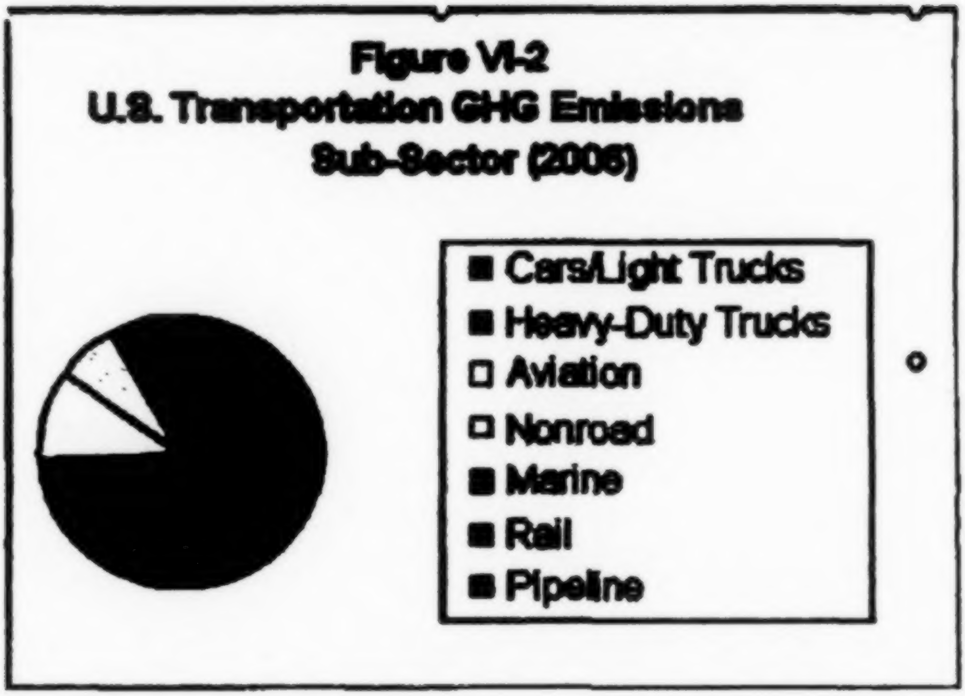


Figure VI-2
U.S. Transportation GHG Emissions
Sub-Sector (2006)

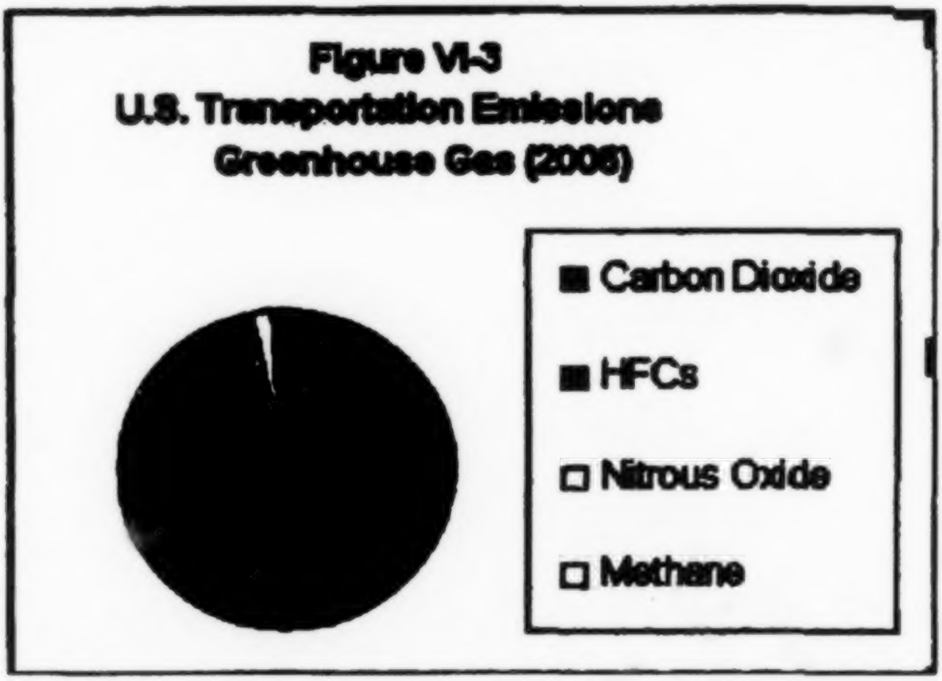


Figure VI-3
U.S. Transportation Emissions
Greenhouse Gas (2006)

***44436** As noted previously, global climate change is a long-term problem. Climate experts such as the IPCC often use 2050 as a key reference point for future projections. Long-term projections of U.S. mobile source GHG emissions show that there is likely to be a major increase in transportation GHG emissions in the future.

Prior to the passage of EISA, U.S. transportation GHG emissions (including upstream fuel emissions) were projected to grow significantly, from about 2800 million metric tons in 2005 to about 4800 million metric tons in 2050 (see Figure VI-4, top curve). The fuel economy and renewable fuels provisions of EISA (Figure VI.A.2.-4, second curve from top) provide significant near-term mobile source GHG emissions reductions relative to the non-EISA baseline case. However, addressing climate change requires setting long-term goals. President Bush has proposed a new goal of stopping the growth of GHG emissions by 2025, and the IPCC has modeled several long-term climate mitigation targets for 2050.

***44437** Using Title II authority, mobile sources could achieve additional GHG emission reductions based on a variety of criteria including the amount of reduction needed, technological feasibility and cost effectiveness. While EISA's fuel economy and renewable fuel requirements will contribute to mobile source GHG emission reductions, its fuel economy standards affect only CO_2 emissions and do not apply to the full range of mobile source categories. EISA also specifies that fuel economy standards be set for no more than five years at a time, effectively limiting the extent to which those standards can take into account advancing technologies. Moreover, its renewable fuel provisions are limited in the extent to which they provide for GHG emission reductions, although EISA does mandate the use of renewable fuels that meet different lifecycle GHG emission reduction requirements.

Under Title II, EPA has broad authority to potentially address all GHGs from all categories of mobile sources. In addition, Title II does not restrict EPA to specific timeframes for action. If circumstances warrant, EPA could set longer term standards and promote technological advances by basing standards on the performance of technologies not yet available but which are projected to be available at the time the standard takes effect. Title II also provides authority to potentially require GHG emission reductions from transportation fuels. Consequently, the CAA authorizes EPA to consider what GHG emissions reductions might be available and appropriate to require from the mobile source sector, consistent with the Act.

EPA has not determined what level of GHG emission reduction would be appropriate from the mobile source sector in the event a positive endangerment finding is made, although this ANPR includes some discussion of possible reductions. Any such determination is necessarily the province of future rulemaking activity. Without prejudging this important issue, and for illustrative purposes only, the final three curves in Figure VI-4 illustrate the additional reductions mobile sources would have to achieve if mobile sources were to make a proportional contribution to meeting the President's climate goal, the IPCC 450 CO_2 ppm stabilization scenario, and an economy-wide GHG emissions cap based on a 70% reduction in 2005 emissions by 2050.[120] As the figure illustrates, EISA provides about 25%, 15% and 10% of the transportation GHG emissions reductions that would be needed for mobile sources to make a proportional contribution to meeting the President's climate goal by 2050 (Figure VI-4, third curve), the IPCC 450 CO_2 ppm stabilization scenario in 2050 (Figure VI-4, fourth curve), and a 70% reduction in 2005 levels in 2050 (Figure VI-4, bottom curve), respectively.[121] These curves shed light on the possible additional role the transportation sector could play in achieving reductions, but do not address whether such reductions would be cost effective compared to other sectors. Title II regulation of GHG emissions could conceivably achieve greater emissions reductions so that mobile sources would make a larger contribution to meeting these targets. EPA requests comment on the usefulness of the information provided in Figure VI-4 and on approaches for determining what additional mobile source GHG emissions reductions would be appropriate. As described later in this section, our assessment of available and developing mobile source technologies for reducing GHG emissions indicates that mobile sources could feasibly achieve significant additional reductions.

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[120] Prior to the passage of EISA, an EPA analysis projected that, absent additional regulatory approaches, transportation would provide about one-tenth of the GHG emission reductions that would be required to comply with an emissions cap based on a 70% reduction from 2005 levels in 2050, even

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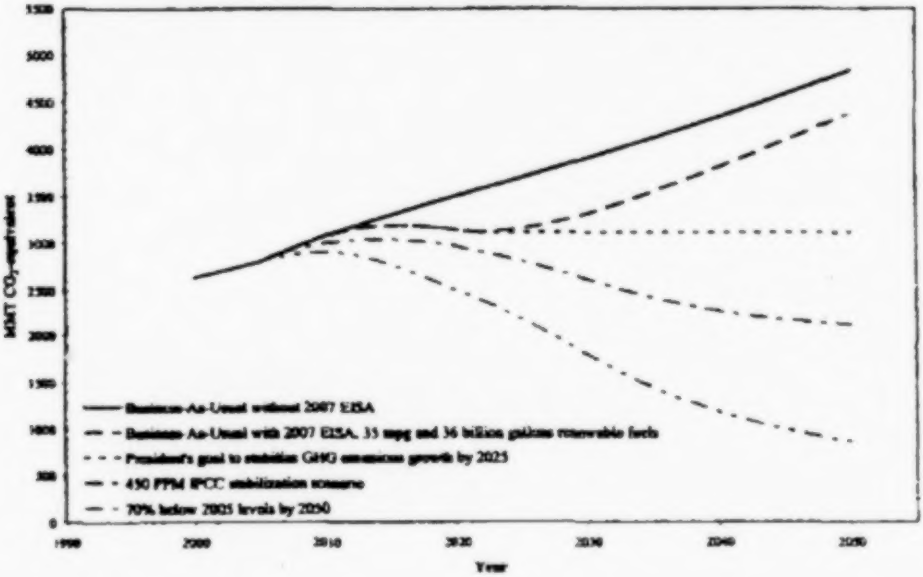
though transportation is responsible for 28% of the official U.S. GHG emissions inventory.

[121] Calculation of the GHG emission reductions that EISA's fuel economy provisions will achieve include standards that result in an industry-wide fleet average fuel economy of 35 miles per gallon by 2020.

Figure VI-4

U.S. Transportation GHG Emissions Projections and Illustrative Targets Based on Proportional Reductions



***44438** 4. Potential Approaches for Using Clean Air Act Title II To Reduce Mobile Source GHG Emissions

The regulatory approach and principles that guided development of our current mobile source emissions control program may prove useful in considering a possible mobile source GHG emissions control strategy under Title II of the CAA. As explained above, under Title II, EPA could potentially apply its historical approach for regulating traditional tailpipe emissions to long-term mobile source GHG emissions control, with the aim of providing strong incentives for technological innovation. The Agency invites public comment on the principles and underlying legal authority it has applied in the past and other possible principles for establishing GHG emissions standards under Title II, including—

- Coverage of all key vehicle, engine, and equipment sub-sectors in the entire transportation sector so that GHG emission standards are set not only for cars and light trucks, but for heavy-duty vehicles, non-road engines and equipment, including locomotive and marine engines, and aircraft as well. This broader regulatory coverage would provide more comprehensive mobile source GHG emissions reductions and market incentives to seek the most cost-effective solutions within the sector.

- Coverage of all GHGs emitted by the transportation sector by setting emissions standards that address every GHG for which the Agency makes the appropriate cause or contribute endangerment finding.
- Inclusion of transportation fuels in the program by considering vehicles and fuels as a system, rather than as isolated components.
- Addressing transportation fuels by setting GHG standards that account for the complete lifecycle of GHG emissions, including upstream GHG emissions associated with transportation fuel production.[122]
- Identifying long-term U.S. mobile source GHG emissions targets based on scientific assessments of environmental need, and basing the stringency of standards for individual mobile source sub-sectors on technology feasibility, cost and fuel savings, taking into account the relationship of mobile source reductions to reductions in other sectors under any economy-wide program.
- Allowing for staggered rulemakings for various sub-sectors and fuels, rather than regulating all mo-

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[122] EPA invites comment on how such an approach would interact with GHG regulations under other parts of the CAA or with a possible economy-wide approach.

bile source entities at one time. EPA seeks comment on its CAA authority in this area, as well as on an approach to base the timing of the staggered rulemakings on factors such as the contribution of the mobile source sub-sector to the overall GHG emissions inventory and the lead time necessary for the commercialization of innovative technology.

- Use of Title II statutory authority to adopt technology-forcing standards, when appropriate, in conjunction with periodic reviews of technology and other key analytical inputs as a "reality check" to determine whether mid-course corrections in GHG emissions standards are needed.
- Use of our statutory authority to increase the rate of emissions reduction targets over time while allowing sufficient time for entrepreneurs and engineers to develop cost-effective technological solutions and minimize the risk of early retirement of capital investments.
- Establishment of a flexible compliance program that would allow averaging, banking and borrowing, and credit trading. Existing Title II programs generally allow credit trading only within individual mobile source sub-sector programs. EPA solicits comments on whether the global nature of climate ***44439** change supports allowing credit trading between obligated parties across all mobile source sub-sectors and whether this would allow the sector as a whole to seek the lowest-cost solutions.
- Design of enforcement programs to ensure real world emissions reductions over the life of vehicles, engines, and equipment.
- Providing sufficient flexibility so that mobile source GHG emissions control programs can complement and harmonize with existing regulatory programs for certain pollutants.

In developing potential approaches to design of a Title II program, it is critical for EPA to understand the full ramifications of advanced technologies. Accordingly, EPA seeks public comment on potential GHG reducing technologies and their impacts, including availability, practicality, emissions reduction potential, cost, performance, reliability, and durability. EPA also seeks comment on how best to balance factors such as the need to send effective long-term signals that stimulate technology innovation, the imprecision of predictions of future technology innovation, and the importance of lead time to allow orderly investment cycles.

While advanced technology for reducing GHGs would likely increase the initial cost of vehicles and equipment to consumers and businesses, it would also increase efficiency and reduce fuel costs. In many cases, there is the potential for the efficiency advantages of low-GHG technologies to offset or more than offset the higher initial technology cost over the lifetime of the vehicle or equipment. EPA recognizes that not all consumers may understand or value changes to vehicles that reduce GHG emissions by increasing fuel efficiency, even though these changes lower fuel costs (see discussion in Section VI.C.2). One analytic issue that has policy implications is the most appropriate method for treating future consumer fuel savings when calculating cost effectiveness for a mobile sources GHG control strategy. Some analyses that consider the decisions made by automakers in isolation from the market and consumers exclude future fuel savings entirely. A second approach, used in models trying to predict future consumer behavior based on past experience, counts only those future fuel savings which consumers implicitly value in their new vehicle purchase decisions. A third method, reflecting a societal-wide accounting of benefits, includes all future fuel savings over vehicle lifetimes, whether overtly valued by new vehicle purchasers or not. EPA seeks comments on what could be done under Title II, or under any new legislation to complement Title II, to establish economic incentives that send long-term market signals to consumers and manufacturers that would help spark development of and investment in the necessary technology innovation.

An effective mobile source emissions compliance and enforcement program is fundamental to ensuring that the environmental benefits of the emission standards are achieved. We request comments on all aspects of the compliance approaches discussed in this notice and any other approaches to a compliance program for mobile source GHG emissions control. Topics to address could include, but are not limited to, methods for classifying, grouping and testing vehicles for certification, useful life and component durability demonstration, in-use testing, warranty and tampering, prohibited acts, and flexibilities for manufacturers.

Historically, EPA's programs to reduce criteria pollutants have typically included provisions to allow the generation, averaging, banking, and trading of emission credits within a vehicle or engine category. For example, there are averaging, banking, and trading (ABT) programs for light-duty vehicles, heavy-duty engines, and nonroad engines, among others. In these programs, manufacturers with vehicles or engines designed to over-comply with the standards can generate credits. These credits can then be used by that manufacturer or sold to other manufacturers in order to allow similar vehicles or engines with emissions above the standards to be certified and sold.

However, for a variety of reasons, we have in most cases not provided for trading of emission credits from one mobile source category to another. For example, credits generated in the light-duty vehicle program cannot be used for heavy-duty engines to comply, or credits generated for lawn and garden equipment cannot be used for larger gasoline engines to comply. These limitations are generally grounded in characteristics of required pollutants that do not necessarily apply in the case of GHG emissions. For instance, in the case of hydrocarbon emissions, because our programs are meant, in part, to reduce the pollutant in areas where it most contributes to ozone formation, we have not allowed farm tractors in rural areas to generate credits that would allow urban passenger cars to be sold with little or no emission control. Similarly, for problems like carbon monoxide "hot spots" or direct, personal exposure to diesel PM, it has been important to ensure a certain minimum degree of control from each vehicle or engine, rather than allowing the very localized benefits to be "traded away."

Given the global nature of the major GHGs, we request comment on whether new provisions could be used to allow broad trading of CO_2-equivalent emission credits among the full range of mobile sources, and if so, how they could be designed, including highway and nonroad vehicles and engines as well as mobile source fuels.

EPA has also considered the potential of GHG emissions leakage to other domestic economic sectors, or to other countries, should EPA adopt Title II standards for motor vehicle GHG emissions and GHG emissions from transportation fuels. As discussed in more detail later in this section, there are transportation fuels (such as grid electricity) that do not result in tailpipe GHG emissions, but that do result in GHG emissions when the fuel is produced. Greater use of such fuels in transportation would reduce GHG emissions covered by Title II, but would increase GHG emissions covered by Title I, requiring coordination among the CAA programs to ensure the desired level of overall GHG control. In addition, GHG emissions from potential land use changes caused by transportation fuel changes could cause GHG emissions leakage unless accounted for in any transportation fuels GHG program. Finally, since transportation fuels can be fungible commodities, if other countries do not adopt similar GHG control programs, it is possible that lower-lifecycle GHG fuels will be concentrated in the U.S. market, while higher-lifecycle GHG fuels will be concentrated in unregulated markets. For example, sugar cane-based ethanol, if it were determined to have more favorable upstream GHG emissions, could shift from the Brazilian to the U.S. market, and corn-based ethanol, if it were determined to have less favorable upstream GHG emissions, could shift from the U.S. to the Brazilian market. This shifting could ease compliance with U.S. transportation fuel GHG regulations, but could actually increase global GHG emissions due to the GHG emissions that would result from transporting both types of ethanol fuels over greater distances. EPA seeks comments on all possible GHG emissions leakage issues associated with mobile source GHG regulation, and in particular on whether the theoretical concern with fungible transportation fuels is likely to be realized.

While the preceding discussion has focused on using the existing CAA Title ***44440** II model for regulating mobile source GHG emissions, there are other alternative regulatory approaches on which EPA invites comments. In particular, long-term mobile source GHG emissions reductions from vehicles and equipment might be achieved by establishing GHG emissions caps on vehicle, engine, and/or equipment manufacturers to the extent authorized by the CAA. EPA's existing regulatory program uses performance standards that are rate-based, meaning that they require manufacturers to meet a certain gram/mile average for their fleet, as in the Tier 2 light-duty vehicle program. Manufacturers produce vehicles with varying rates of emissions performance, and through averaging, banking, and trading demonstrate compliance with this performance standard on a sales-weighted average basis. While a manufacturer must take its fleet mix of higher-emitting and lower-emitting models into account in demonstrating compliance, the sales-weighted average is independent of overall sales as long as the fleet mix does not change. As a result, a manufacturer's fleet may emit more or less total pollution depending on its total sales, so long as the sales-weighted average emissions of its vehicles do not exceed the standard.

In a cap-and-trade program, the standard set by EPA would not be an average, sales-weighted rate of emissions, but rather a cap on overall emissions from a manufacturer's production. Under such a program, the emissions attributable to a manufacturer's fleet could not grow with sales unless the manufacturer obtained (e.g., through trading) additional allowances to cover higher emissions. Presumably, EPA could assign a VMT or usage value to be used by manufacturers, and manufacturers would demonstrate compliance by combining the rate of performance of their vehicles, their sales volume, and the assigned VMT or usage value to determine overall emissions.

EPA could set standards under an emissions cap-and-trade program by assessing the same kind of factors as we have in the past: Availability and effectiveness of technology, cost, safety, energy factors, etc. Setting an appropriate emissions cap would be more complex, and EPA would need to demonstrate that the cap is appropriate, given that changes in sales levels (both industry-wide and for individual manufacturers) must be accounted for in the standard-setting process. An emissions cap approach also raises difficult issues of how allowable emissions under the cap would be allocated among the manufacturers, including new entrants.

EPA invites comment on all issues involving this emissions cap-and-trade approach, including comment on relevant technical and policy issues, and on EPA's authority to adopt such an approach under Title II.

A third possible model for regulating mobile source GHG emissions would combine elements of these approaches. This type of hybrid approach would include, as one element, either rate-based GHG emissions performance standards similar to the existing mobile source program for conventional pollutants or GHG emissions caps for key vehicle, engine, and/or equipment manufacturers, both of which would be promulgated under Title II of the CAA. The second element of this hybrid approach would be an upstream emissions cap on fuel refiners for all life-cycle GHG emissions associated with transportation fuels, including both upstream fuel production GHG emissions and downstream vehicle GHG emissions, to the extent authorized under the CAA or future climate change legislation. For a discussion of issues associated with including direct mobile source obligations in combination with an economy-wide approach, see section III.F.3.

An important interrelationship between stationary sources and mobile sources would develop if grid electricity becomes a more prevalent transportation fuel in the future. There is considerable interest, both by consumers and automakers, in the possible development and commercialization of plug-in hybrid electric vehicles (PHEVs) that would use electricity from the grid as one of two sources of energy for vehicle propulsion. Use of grid electricity would yield zero vehicle tailpipe GHG emissions, providing automakers with a major incentive to consider PHEVs, which may be appropriate given that vehicle cost is the single biggest market barrier to PHEV commercialization. But it would also result in a net increase in demand for electricity, which could add to the challenge of reducing GHG emissions from the power sector. Any evaluation of the overall merits of using grid electricity as a transportation fuel could not be done in isolation, but would require a coordinated assessment and approach involving both mobile sources under CAA Title II and stationary sources under CAA Title I. Linking efforts under Titles I and II would allow for needed coordination regarding any type of future transportation fuel that would have zero vehicle tailpipe GHG emissions but significant fuel production GHG emissions.

EPA seeks comment on all aspects, including the advantages and disadvantages, of using Title II regulations to complement an economy-wide cap-and-trade GHG emissions program.

EPA also seeks public comment on the available authority for, and the merits of, allowing credit trading between mobile sources and non-mobile source sectors. One of the potential limitations of allowing credit trading only within the transportation sector is that it would not permit firms to take advantage of emission reduction opportunities available elsewhere in the economy. In particular, EPA requests comment on the advantages and disadvantages of allowing trading across sectors, and how to ensure that credit trading would have environmental integrity and that credits are real and permanent.

Finally, EPA seeks public comment on two remaining issues: (1) How a CAA Title II mobile source GHG emissions control program and NHTSA's corporate average fuel economy program for cars and light-duty trucks could best be coordinated; and (2) whether and how Title II, or other provisions in the CAA, could be used to promote lower vehicle miles traveled and equipment activity.

B. On-Highway Mobile Sources

1. Passenger Cars and Light-Duty Trucks

In this section, we discuss and request comment on several potential approaches for establishing light-duty vehicle GHG emission standards under section 202(a)(1). These approaches build off of, to varying extents, the analysis EPA undertook during 2007 to support the development of a near-term control program for GHG emissions for passenger cars and light duty trucks under the authorities of Title II of the CAA.

We begin this section with a discussion of one potential approach for establishing GHG standards under section 202(a) of the CAA that reflects EPA's historical approach used for traditional pollutants, including the principles EPA has used in the past under Title II. This approach focuses on long-term standard setting based on the technology-forcing authority provided under Title II. Next we present and discuss the results of alternative approaches to standard-setting which EPA considered during 2007 in the work performed under EO 13432. This alternative approach is based on setting near-term standards based primarily on technology already in the market today. ***44441** This is followed by a discussion of the wide range of technologies available today and technologies that we project will be available in the future to reduce GHG emissions from light-duty vehicles. We next include a discussion of a potential approach to reduce HFC, methane, N_2O, and vehicle air conditioning-related CO_2 emissions. We conclude with a discussion of the key implementation issues EPA has considered for the development of a potential light-duty vehicle GHG control program.

Our work to date indicates that there are significant reductions of GHG emissions that could be achieved for passenger cars and light-duty trucks up to 2020 and beyond that would result in large net monetized benefits to society. For example, taking into account specific vehicle technologies that are likely to be available in that time period and other factors relevant to motor vehicle standard-setting under the CAA, EPA's analysis suggests that substantial reductions can occur where the cost-per-ton of GHG reduced is more than offset by the value of fuel savings, and the net present value to society could be on the order of $340 to $830 billion without considering benefits of GHG reductions (see section VI.B.1.b).[123]

a. Traditional Approach to Setting Light-Duty Vehicle GHG Standards

In this section we discuss and request comment on employing EPA's traditional approach to setting mobile source emissions standards to develop standards aimed at ensuring continued, long-term, technology-based GHG reductions from light-duty vehicles, in light of the unique properties of GHG emissions. We also request comment on how EPA could otherwise use its CAA Title II authorities to provide incentives to the market to accelerate the development and introduction of ultra clean, low GHG emissions technologies.

Based on our work to date, we expect that such an approach could result in standards for the 2020 to 2025 time frame that reflect a majority of the new light-duty fleet achieving emission reductions based on what could be accomplished by many of the most advanced technologies we know of today (e.g., hybrids, diesels, plug-in hybrid vehicles, full electric vehicles, and fuel cell vehicles, all with significant use of light-weight materials). Our analysis (presented in section VI.B.1.b) indicates that standards below 250 g/mile CO_2 (above 35 mpg) could be achievable in this time frame, and the net benefit to society could be in excess of $800 billion. These estimates, however, do not account for future CAFE standards that will be established under EISA.

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[123] These estimates do not account for the future CAFE standards that will be established under EISA.

EPA's historical approach for setting air pollutant standards for mobile sources has been to assess the capabilities of pollution control technologies, including advanced control technologies; whether reductions associated with these technologies are feasible considering cost, safety, energy, and other relevant factors; and the benefits of these controls in light of overall public health and environmental goals. Public health and environmental goals provide the important context in which this technology-driven process occurs. In many cases in the past, the goals have involved the need for emissions reductions to attain and maintain NAAQS.

As mentioned previously, EPA has utilized the CAA to establish mobile source programs which apply progressively more stringent standards over many years, often with substantial lead time to maximize the potential for technology innovation, and where appropriate, we have included technology reviews along the way to allow for "mid-course corrections," if needed. We have also provided incentives for manufacturers to develop and introduce low emission technologies more quickly than required by the standards. For example, in our most recent highway heavy-duty engine standards for PM and NO_X, we established technology-forcing standards via a rulemaking completed in 2000 which provided six years of lead-time for the start of the program and nearly ten years of lead-time for the completion of the phase-in of the standards. In addition, EPA performed periodic technology reviews to ensure industry was on target to comply with the new standards, and these reviews allowed EPA to adjust the program if necessary. This same program provided early incentive emission credits for manufacturers who introduced products complying with the standards well in advance of the program requirements.

Consistent with the CAA and with our existing mobile source programs, we request comment on using the following traditional principles for development of long-term GHG standards for light-duty vehicles: Technology-forcing standards, sufficient lead-time (including phase-in of standards reflecting use of more advanced technologies), continual improvements in the rate of emissions reduction, appropriate consideration of the costs and benefits of new standards, and the use of flexible mechanisms such as banking and credit trading (between sources within or outside of this sector). EPA's goal would be to determine the appropriate level of GHG emission standards to require by an appropriate point in the future. We would establish the future time frame in light of the needs of the program. EPA would evaluate a broad range of technologies in order to determine what is feasible and appropriate in the time frame chosen, when considering the fleet as a whole. EPA would analyze the costs and reductions associated with the technologies, and compare those to the benefits from and the need for such reductions. We would determine what reductions are appropriate to require in that time frame, assuming industry started now, and then determine what appropriate interim standards should be set to most effectively move to this long-term result.

In developing long-term standards, we would consider known and projected technologies which in some cases are in the market in limited production or which may not yet be in the market but which we project can be, provided sufficient lead-time. We would consider how broadly and how rapidly specific technologies could be applied across the industry. If appropriate, EPA could include technology reviews during the implementation of new standards to review the industry's progress and to make adjustments as necessary. EPA would evaluate the amount of lead-time necessary and if appropriate the phase-in period for long-term standards. To the extent that future standards may result in significant increases in advanced technologies such as plug-in electric hybrid or full electric vehicles, we would consider how a Title II program might interact with a potential Title I program to ensure that reductions in GHG emissions due to a decrease in gasoline consumption are not off-set by increases in GHG emissions from the electric utility sector. We would also consider the need for flexibilities and incentives to promote technology innovation and provide incentives for advanced technologies to be developed and brought to the market. We would consider the need for orderly manufacturer production planning to ensure that capital investments are wisely used and not stranded. Finally, EPA would evaluate the near and long-term costs and benefits of future standards in order to ensure the appropriate relationship between benefits and costs, e.g. ensuring that ***44442** benefits of any future standards exceed the costs. This could lead to standard phase-in schedules significantly different from the two approaches contained in our Light-duty Vehicle Technical Support Document analysis (available in the docket for this advance notice); which under one approach was the same incremental increase in stringency each year (the 4% per year approach), and for the second approach lead to large increases in stringency the first several years followed by small changes in the later years (the model-optimized approach).

One critical element in this approach is the time frame over which we should consider new GHG standards for light-duty vehicles. We request comment on the advantages and disadvantages of establishing standards for the 2020 or 2025 time frame, which is roughly consistent with EPA's traditional approach to setting standards while allowing a sufficient time period for investment and technological change, and even longer. There are two major factors which may support a long-term approach. First, addressing climate change will require on-going reductions from the transportation sector for the foreseeable future. Thus, establishing short-term goals will not provide the long-term road map which the environmental problem requires. Second, providing a long-term road map could have substantial benefits for the private sector. The automotive industry itself is very capital intensive—the costs for developing and producing a major vehicle model is on the order of several billion dollars. A manufacturer making a major investment to build a new engine, transmission or vehicle production plant expects to continue to use such a facility without major additional investments for at least 15 years, if not more. A regulatory approach which provides a long-term road map could allow the automotive industry to plan their future investments in an orderly manner and minimize the potential for stranded capital investment, thus helping to ensure the most efficient use of societal resources. A long-term regulatory program could also provide industry with the regulatory certainty necessary to stimulate technology development, and help ensure that the billions of dollars invested in technology research and development are focused on long-term needs, rather than on short-term targets alone.

There could also be disadvantages to establishing long-term standards. For example, uncertainties in the original analysis underlying the long-term standards could result in overly conservative or optimistic assumptions about emission reductions could and should be accomplished. Long-terms standards could also reduce flexibility to respond to more immediate market changes or other unforeseen events. EPA has tools, such as technology reviews, that could help reduce these risks of long-term standards. We request comment on the advantages and disadvantages of a long-term approach to standard-setting, and any issues it might raise for integration with an economy-wide approach to emission reductions.

More generally, EPA requests comment on the issues discussed in this section, and specifically the appropriateness of a light-duty vehicle GHG regulatory approach in which EPA would identify long-term emissions targets (e.g., the 2020-2025 time frame or longer) based on scientific assessments of environmental need, and developing standards based on a technology-forcing approach with appropriate consideration for lead-time, costs and societal benefits.

b. 2007 Approach to Setting Light-Duty Vehicle Emission Standards

i. CAA and EPCA Authority; Passage of EISA

As indicated above in section VI.A.2, CAA section 202(a) provides broad authority to regulate light-duty vehicles. Standards which EPA promulgates under this authority are technology-based and applicable for the useful life of a vehicle. EPA has discretion to consider and weigh various additional factors, including the cost of compliance, safety and other impacts on consumers, and energy impacts.

NHTSA authority to set CAFE standards derives from the Energy Policy and Conservation Act (42 U.S.C. section 6201 et seq.) as amended by EISA. This statutory authority, enacted in December 2007, directs NHTSA to consider four factors in determining maximum feasible fuel economy standards—technological feasibility, economic practicability, the effect of other standards issued by the government on fuel economy, and the need of the nation to conserve energy. NHTSA may also take into account other relevant considerations such as safety.

EISA amends NHTSA's fuel economy standard-setting authority in several ways. Specifically it replaces the statutory default standard of 27.5 miles per gallon for passenger cars with a mandate to establish separate passenger cars and light truck standards annually beginning in model year 2011 to reflect the maximum feasible level. It also requires that standards for model years 2011-2020 be set sufficiently high to ensure that the average fuel economy of the combined industry-wide fleet of all new passenger cars and light trucks sold in the U.S. during MY 2020 is at least 35 miles per gallon. In addition, EISA provides that fuel economy standards for no more than five model years be established in a single rulemaking, and mandated the reform of CAFE standards for passenger cars by requiring that all CAFE standards be based on one or more vehicle attributes, among other changes.[124] EISA also directs NHTSA to consult with EPA and the Department of Energy on its new CAFE regulations.

Pursuant to EISA's amendments to EPCA, NHTSA recently issued a notice of proposed rulemaking for new, more stringent CAFE standards for model years 2011-2015 for both passenger cars and light-duty trucks. 73 FR 24352 (May 2, 2008).

Prior to EISA's enactment, EPA and NHTSA had coordinated under EO 13432 on the development of CAA rules that would achieve large GHG emission reductions and CAFE rules that would achieve large improvements in fuel economy. As discussed later in this section, there are important differences in the two agencies' relevant statutory authorities. EPA nevertheless believes that it is important that any future GHG regulations under CAA Title II and future fuel economy regulations under NHTSA's statutory authority be designed to ensure that an automaker's actions to comply with CAA standards not interfere with or impede actions taken for meeting fuel economy standards and vice versa. The goals of oil savings and GHG emissions reductions are often closely correlated, but they are not the same. As the Supreme Court pointed out in its Massachusetts decision, "[EPA's] statutory obligation is wholly independent of DOT's mandate to promote energy efficiency", and "[t]he two obligations may overlap, but there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency."It is thus important for EPA and NHTSA to maximize coordination between their programs so that both the appropriate degree of GHG emissions reductions and oil savings are cost-effectively achieved, given the agencies' respective statutory authorities. EPA asks for comment on how EPA's and NHTSA's respective statutory authorities can best be ***44443** coordinated under all of the alternatives presented in this section so that inconsistency can be avoided.

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[124] For a full discussion of EISA requirements and NHTSA interpretation of its statutory authority please see 73 FR 24352 (May 2, 2008).

ii. 2007 Approach

In this section, we present an overview of two alternative approaches for setting potential light-duty vehicle GHG standards based on our work during 2007 under EO 13432. As noted previously, in response to ***Massachusetts v. EPA*** and as required by EO 13432, prior to EISA's passage, we coordinated with NHTSA and the Department of Energy in developing approaches and options for a comprehensive near-term program under the CAA to reduce GHG emissions from cars and light-duty trucks.[125] Results from this effort are discussed below and in a Technical Support Document, "Evaluating Potential GHG Reduction Programs for Light Vehicles" (referred to as the "Light-duty Vehicle TSD" in the remainder of this notice).

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[125] E.O. 13432 called on the agencies to, "undertake such regulatory action, to the maximum extent permitted by law and determined by the head of the agency to be practicable, jointly with other agencies."

The Light-duty Vehicle TSD represents EPA's assessment during 2007 of how a light-duty vehicle program for GHG emissions reduction under the CAA might be designed and implemented in keeping with program parameters (e.g., time frame, program structure, and analytical tools) developed with NHTSA prior to enactment of EISA. In addition, the Light-duty Vehicle TSD assesses the magnitude of the contribution of light-duty vehicles to U.S. GHG emissions. It also addresses both tailpipe CO_2 emissions as measured by EPA tests used for purposes of determining compliance with CAFE standards, and control of other vehicular GHG emissions. These other emissions are not accounted for if the regulatory focus is solely on CO_2, and involve greenhouse gases that have higher global warming potentials than CO_2. These emissions, as well as air-conditioning-related CO_2, are not measured by the existing EPA test procedure for determining compliance with CAFE standards, so that there is no overlap with control of these emissions and CAFE standards if these emissions are controlled under the CAA. As described in the section VI.B.1.d of this advance notice, these emissions account for 10 percent of light-duty vehicle GHG emissions on a CO_2 equivalent basis. They include emissions of CO_2 from air conditioning use and emissions of HFCs from air conditioning system leaks. Technologies exist which can reduce these emissions on the order of 40 to 75% (for air conditioning efficiency improvements and HFC leakage control, respectively), at an initial cost to the consumer of less than $110. This initial cost would be more than offset by the reduced maintenance and fuel savings due to the new technology over the life of the vehicle. We also considered standards which would prevent future increases in N_2O and methane.

Based on our work in 2007 pursuant to Executive Order 13432, EPA developed two different analytical approaches which could be pursued under the CAA for establishing light-duty vehicle CO_2 standards. Both are attribute-based approaches, using vehicle footprint (correlating roughly to vehicle size) as the attribute. Under either approach, a CO_2 -footprint continuous function curve is defined that establishes different CO_2 emission targets for each unique vehicle footprint. In general, the larger the vehicle footprint, the higher (less stringent) the corresponding vehicle CO_2 emission target will be. Each manufacturer would have a different overall fleet average CO_2 emissions standard depending on the distribution of footprint values for the vehicles it sells. See Section VI.B.1.d and the Light-duty Vehicle TSD of this Advance Notice for additional discussion of attribute-based standards and other approaches (e.g., a non-attribute, or universal standard).

One approach was based on a fixed percentage reduction per year in CO_2 emissions. We examined a 4% per year reduction in CO_2 emissions, reflecting the projected reductions envisioned by the President in his 20-in-10 plan in the 2007 State of the Union address and subsequent legislative proposals. The other approach identified CO_2 standards which an engineering optimization model projects as resulting in maximum net benefits for society (hereafter referred to as the "model-optimized" approach). That approach uses a computer model developed by the Department of Transportation Volpe Center called the CAFE Effects and Compliance Model (the "Volpe Model"). The

Volpe Model was designed by DOT as an analytical tool which could evaluate potential changes in the stringency and structure of the CAFE program, and was first used in DOT's 2006 rulemaking establishing CAFE standards for model years 2008-2011 light-trucks.[126] [127]

Using the fixed percentage reduction approach, projections regarding technology feasibility, technology effectiveness, and lead-time are critical as these are the most important factors in determining whether and how the emission reductions required by a future standard would be achieved. When using the model-optimized approach, a larger set of inputs are critical, as each of these inputs can have a significant impact in the model's projections as to the future standard. These inputs include technology costs and effectiveness, lead-time, appropriate discount rates, future fuel prices, and the valuation of a number of externalities (e.g., criteria air pollution improvements, GHG emission reductions, and energy security). Although all of these factors are relevant under either approach, there are major differences in the way this information is used in each approach to develop and evaluate appropriate standards.

EPA believes both of these approaches for establishing fleet-wide average CO_2 emissions standards are permissible, conceptually, under section 202(a) of the Act. Section 202(a)(2) requires EPA to give consideration to "the cost of compliance" for use of the technology projected to be used to achieve the standards ("requisite technology"). The model-optimized approach can be used in appropriate circumstances to satisfy this requirement.[128] The fixed percent per year approach is broadly consistent with EPA's traditional means of setting standards for mobile sources, which identifies levels of emissions reductions that are technologically feasible at reasonable cost with marginal emissions reduction benefits which may far outweigh marginal program costs, without adverse impacts on safety and with positive impacts on energy utilization, and which address a societal need for reductions.[129] Comparing and contrasting these approaches with the model-optimized approach is one way to evaluate options for appropriate standards under section 202(a). We request comment on these approaches and whether one or the other is a more appropriate method for EPA to consider future light-duty GHG standards under section 202 of the CAA. We also request comment on other potential approaches ***44444** EPA should consider, including the approach described in section VI.B.1.a.

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[126] See 66 FR 17566—Average Fuel Economy Standards for Light Trucks Model Years 2008-2011.

[127] See "CAFE Compliance and Effects Modeling System Documentation, Draft, 1/26/07" published by DOT, a copy of which is available in the docket for this Advanced Notice.

During 2007, EPA, DOT's Volpe Center, and NHTSA expended a major technical effort to make a series of significant enhancements to the Volpe Model by reviewing and updating, where possible, many of the critical inputs to the Model (e.g., cost reduction learning curves, the number and estimated costs and effectiveness of potential CO_2/mpg control technologies), as well as making updates to the Model itself. This technical work notably improved the Volpe Model. However, the Volpe Model was designed specifically to analyze potential changes to NHTSA's CAFE program, and there remained several aspects of the analysis we conducted that did not reflect differences between EPA and NHTSA statutory authorities, and we were not able to address these aspects in 2007. As a result, our analysis tended to underestimate the benefits and/or overestimate the costs of light-duty vehicle CO_2 standards that could be established under the CAA. We discuss these issues below.

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[128] See *Husqvarna AB* v. *EPA*, 254 F. 3d 195, 200 (D.C. Cir. 2001) (EPA reasonably chose not to use marginal cost-benefit analysis to analyze standards [under the technology-forcing section 213 of the Act], where section 213 does not mandate a specific method of cost analysis).

[129] See *NRDC* v. *EPA*, 655 F. 2d 318, 332-334 (D.C. Cir. 1981).

First, past NHTSA CAFE regulatory actions have generally had a short-term focus (a 3-5 year timeframe), and NHTSA is currently proposing more stringent CAFE standards for five model years, 2011-2015, in keeping with its revised statutory authority, as discussed above. In contrast, EPA's Title II authority permits EPA to set standards over a significantly longer period of time as appropriate in light of environmental goals, developing technologies, costs, and other factors. A short-term focus can have a significant implication for the technology assumptions which go into a standard-setting analysis.

In our 2007 analysis, we assumed limited technology innovation beyond what is known today, and did not include several commercially available or promising technologies such as advanced lightweight materials for all vehicle classes (several auto companies have recently announced plans for large future reductions in vehicle weight), plug-in hybrids, optimized ethanol vehicles, and electric vehicles. To the extent such innovations penetrate the market over the next 10 years, the societal benefits and/or decreased societal cost of CO_2 standards will be greater than what we projected. A short-term focus may yield a more reliable short-term projection because it relies on available technology and is less prone to uncertainties involved in projecting technological developments and other variables over a longer term. The trade-off is that such a focus may not stimulate the development of advanced, low GHG-emitting technologies. For the auto industry, significant technological advances have historically required many years and large amounts of capital.

Second, our 2007 analysis does not account for a series of flexibilities that EPA may employ under the CAA to reduce compliance costs, such as multi-year strategic planning, and credit trading and banking. As mentioned previously, EPA has used many of these flexibilities in its existing mobile source programs, and we would attempt to include such flexibilities in any future EPA GHG standards analysis.

Third, under the CAA manufacturers traditionally choose to comply instead of non-comply, since they cannot sell new vehicles unless they receive a certificate of conformity from EPA that is based on a demonstration of compliance. Under the penalty provisions of the CAA, light-duty vehicle manufacturers may not pay a civil penalty or a fine for non-compliance with the standards and still introduce their vehicles into commerce. In our 2007 analysis, we assumed a number of manufacturers would pay fees rather than comply with the analyzed standards. This assumption resulted in a lower compliance cost estimation and lower GHG benefits.

Fourth, in our 2007 analysis, we did not reflect the difference in carbon content between gasoline and diesel fuel. This difference has not been germane to NHTSA's setting of CAFE standards, but it is important to the GHG emissions reductions that different standards can achieve. Therefore, our Light-duty Vehicle TSD analysis did not account for the higher CO_2 emissions which result from the use of a gallon of diesel fuel compared to a gallon of gasoline (diesel fuel has a higher carbon content than gasoline fuel), and we would address this issue in any future EPA GHG standards analysis.

As noted previously, our 2007 analysis relied upon the use of key inputs concerning predictions of future technologies and fuel prices and valuation of a number of externalities, such as the benefits of climate change mitigation and improvements in energy security. The information used for these key inputs can have a significant effect on projections regarding the costs of a standard based on a fixed percentage reduction or the level of a model-optimized standard. In the analyses we present in this notice, we have generally taken an approach similar to NHTSA's, although we have also used alternative values in some cases to illustrate the impact from different, alternative values. For example, to account for large uncertainties regarding the magnitude of the marginal benefits of GHG emission reductions, we looked at alternative approaches to valuing those benefits and developed a range of values to capture the uncertainties. (See section III.G in this ANPR for a discussion of GHG benefits issues and marginal benefits estimates.)

Another key, but uncertain, input is the future price of fuel. Important for any analysis of fuel savings over a long time frame is an adequate projection of future oil prices. Typically, EPA relies on Annual Energy Outlook (AEO) forecasts made by the Energy Information Agency. However, AEO forecasts in past decades have at times over-predicted the price of oil, and more recently, with the rapid increase in oil prices over the past several years, AEO forecasts have consistently under-predicted near-term oil prices. In the Light-duty Vehicle TSD analysis, we used the Energy Information Administration's 2007 AEO projections for future oil and fuel prices, which correspond to a projected retail gasoline price of slightly more than $2 per gallon in the 2010-2020 time period, while current gasoline fuel prices are on the order of $3.50 to $3.80 per gallon or more. Since our analyses are sensitive to the oil price used, this raised concerns regarding the ability to accurately estimate fuel savings. In addition, when using a model-optimized approach, this can have a significant impact on the appropriate standard predicted by the model. For our updated analysis (described in more detail below), however, we have continued to use the AEO2007 forecasted fuel prices. The "baseline" for our Light-duty Vehicle TSD and updated analysis reflects projections from the automotive manufacturers regarding future product offerings which were developed by the manufacturers in late 2006 through the spring of 2007. The AEO2007 fuel price projections are more representative of the fuel prices considered by the manufacturers when they developed the baseline future product offerings used as an input in the analysis.

This approach has certain limitations. Given the large increases in fuel price in the past year, most major automotive companies have since announced major changes to their future product offerings, and these changes are not represented in our analysis. However, the projection of future product offerings (model mix and sales volume) is static in the analysis we have performed, both for the baseline (projections with no new standards) and in the control scenarios (projections ***44445** with the impact of new standards). Our analysis to date does not account for a range of possible consumer and automaker responses to higher fuel prices, higher vehicle prices and attribute-based standards that could affect manufacturer market share, car/truck market share, or vehicle model mix changes. EPA has initiated work with Resources for the Future to develop a consumer choice economic model which may allow us to examine the impact of consumer choice and varying fuel prices when analyzing potential standard scenarios in the future, and to more realistically estimate a future baseline. Higher fuel prices than those predicted in AEO2007 can certainly have a large impact on the projected costs and benefits of future light-duty GHG limits, and we will continue to examine this issue as part of our on going work.

We ask for comment on the relative importance of, and how best to address, the various issues we have highlighted with our analysis of potential light-duty vehicle GHG standards performed to date. In particular, we seek comment on the feasibility and utility of incorporating into the regulations themselves a mechanism for correcting mistaken future projections or accomplishing the same through a periodic review of the regulations.

We now summarize the results from our 2007 analysis. Since 2007 we have updated this analysis to address several of the issues noted above, in order to evaluate the impact of these issues. EPA requests comment on the two approaches we examined for setting standards, and seeks input on alternative approaches, including the approach described in section VI.B.1.a.

In Table VI-1 we present weighted combined car and truck standards we developed based on efforts to update the work we did in 2007 to address some of the issues identified above. We show the results from our 2007 analysis, as well as the updated results when we utilize the same methodology for the 4% per year approach, but attempt to address a number of the issues discussed above. As part of addressing these issues, we have extended the time frame for our analysis to 2020, while our Light-duty Vehicle TSD analysis was limited to 2018. Our updated analysis results are documented in a separate technical memorandum available in the public docket for this Advance Notice.[130]

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[130] See EPA Technical Memorandum, "Documentation of Updated Light-duty Vehicle GHG Scenarios."

Table VI-1—Projected Vehicle CO_2 (Gram/Mile Units) and MPG Standards (MPG Units in Square Brackets), Including A/C CO_2 Limits

Year	Light-duty vehicle TSD analysis		Updated 2008 analysis
	4% per year	Model-Optimized	4% per year
2011	338 [26.3]	334 [26.6]	335 [26.5]
2012	323 [27.5]	317 [28.0]	321 [27.7]
2013	309 [28.8]	295 [30.1]	307 [28.9]
2014	296 [30.0]	287 [31.0]	293 [30.3]
2015	285 [31.2]	281 [31.6]	283 [31.4]
2016	274 [32.4]	275 [32.3]	272 [32.7]
2017	263 [33.8]	270 [32.9]	261 [34.0]
2018	253 [35.1]	266 [33.4]	251 [35.4]
2019	n/a	n/a	241 [36.9]
2020	n/a	n/a	232 [38.3]

Compared to the Light-duty Vehicle TSD analysis, we have attempted in the updated analysis to address for potential CAA purposes several, but not all, of the noted issues, and as such we continue to believe that the results of this analysis are conservative—that is, they tend to overestimate the costs and/or underestimate the benefits. We have included the following updates:

—Inclusion of plug-in hybrids as a viable technology beginning in 2012;

—Consideration of multi-year planning cycles available to manufacturers;

—Consideration of CO_2 trading between car and truck fleets within the same manufacturer;

—Assumption that all major manufacturers would comply with the standards rather than paying a monetary penalty;

—Correction of the CO_2 reduction effectiveness for diesel technology.

Our updated analysis does not address all of the issues we discussed previously. For example, we have not considered the widespread use of lightweight materials, further improvements in the CO_2 reduction effectiveness of existing technologies, potential for cost reductions beyond our 2007 analysis, and the potential for new technologies. We also have not addressed the potential changes in vehicle market shifts that may occur in the future in response to new standards, new consumer preferences, or the potential for higher fuel prices. Recent trends in the U.S. auto industry indicate there may be a major shift occurring in consumer demand away from light-duty trucks and SUVs and towards smaller passenger cars.[131] Such potential trends are not captured in our analysis and they could have a first-order impact on the results.

Table VI-2 summarizes the most important societal and consumer impacts of the standards we have analyzed.

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[131] See "As Gas Costs Soar, Buyers Are Flocking to Small Cars", New York Times, May 2, 2008, page A1.

TABLE VI-2—SUMMARY OF SOCIETAL AND CONSUMER IMPACTS FROM POTENTIAL LIGHT-DUTY VEHICLE GHG STANDARDS

[2006 $s, AEO2007 oil prices]

	Light-duty vehicle TSD analysis*		Updated 2008 analysis
	4% per year	Model-Optimized	4% per year
Societal Impacts			
GHG Reductions (MMTCO$_2$ equivalent in 2040)	376	343	636
Fuel Savings (million bpd in 2040)	2.3	2.0	4.2
Net Societal Benefits in 2040 (Billion $s)**	$54 + B	$54 + B	$130 + B
Net Present Value of Net Benefits through 2040 (Billion $s):**			
3% DR	$320 + B	$390 + B	$830 + B
7% DR	$120 + B	$160 + B	$340 + B
Consumer Impacts			
Per-Vehicle Costs:			
2015	$736	$672	$565
2018	$1,567	$995	$1,380
2020	n/a	n/a	$1,824
Payback Period:***			
3% DR	6.2 yr. (2018)	4.8 yr. (2018)	6.0 yrs. (2020)
7% DR	8.9 yr. (2018)	6.0 yr. (2018)	8.7 yrs. (2020)
Lifetime Monetary Impact:***			
3% DR	$2,753 (2018)	$2,245 (2018)	$1,830 (2020)
7% DR	$1,650 (2018)	$1,806 (2018)	$437 (2020)

*The Light-duty Vehicle TSD Societal Impacts are based on new stds. for 2011–2018 for cars and 2012–2017 for trucks, while the updated analysis is based on new stds. for 2011–2020 for cars and trucks.

**The identified "B" = unquantified benefits, for example, we have not quantified the co-pollutant impacts (PM, ozone, and air toxics), and does not include a monetized value for the social cost of carbon. Societal benefits exclude all fuel taxes because they represent transfer payments. In addition, for the updated analysis, we have not included the increased costs nor the GHG emissions of electricity associated with the use of plug-in electric hybrid vehicles. We have also not quantified the costs and/or benefits associated with changes in consumer preferences for new vehicles.

***The payback period and lifetime monetary impact values for Light-duty Vehicle TSD analysis is for the average 2018 vehicle, and 2020 for the updated analyses.

***44446** Given the current uncertainty regarding the social cost of carbon, Table VI-2 does not include a monetized value for the reduction in GHG emissions. We present here a number of different values and indicate what impact they would have on the net social benefits for our updated analysis. Presentation of these values does not represent, and should not be interpreted to represent, any determination by EPA as to what the social cost of carbon should be for purposes of calculating benefits pursuant to the Clean Air Act.

We have analyzed the valuation for the social cost of carbon of $40 per metric ton (for emission changes in year 2007, in 2006 dollars, grown at a rate of 3% per year) that reflects potential global, including domestic, benefits of climate change mitigation. This valuation (which is the mean value from a meta analysis of global marginal benefits estimates for a 3% discount rate discussed in section III.G. of this Advance Notice) would result in an increase in the 2040 monetized benefits for the 2008 updated analysis of $67 billion. Given the nature of the investment in GHG reductions, we believe that values associated with lower discount rates should also be considered. For example, for a 2% discount rate for year 2007, the mean value from the meta analysis is $68 per metric ton. This valuation would result in an increase in the 2040 monetized benefits for the 2008 updated analysis of $110 billion.

As discussed in section III.G, another approach to developing a value for the social cost of carbon is to consider only the domestic benefits of climate change mitigation. The two approaches—use of domestic or global estimates—are discussed in section III.G of this notice. There is considerable uncertainty regarding the valuation of the social cost of carbon, and in future analyses EPA would likely utilize a range of values (see section III.G).[132] Furthermore, current estimates are incomplete and omit a number of impact categories such that the IPCC has concluded that current estimates of the social cost of carbon are very likely to underestimate the benefits of GHG reductions.

This Advance Notice asks for comment on the appropriate value or range of values to use to quantify the benefits of GHG emission reductions, including the use of a global value. While OMB Guidance allows for consideration of international effects, it also suggests that the Agency consider domestic benefits in regulatory analysis. Section III.G.4 discusses very preliminary ranges for U.S. domestic estimates with means of $1 and $4 per metric ton in 2007, depending on the discount rate. These valuations ($1 and $4 per metric ton in 2007) would result in an increase in the 2040 monetized benefits for the 2008 updated analysis of $1.7-6.7 billion. In its recent proposed rulemaking, NHTSA utilized $7 per metric ton as the initial value for U.S. CO_2 emissions in 2011.

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[132] Ranges better reflect the available scientific information and the uncertainties in marginal benefits estimates, and the fact that there are estimates well above the means. The corresponding ranges for the 2007 mean estimates discussed above are the following: For the meta-analysis global marginal benefits estimates, the range is $-4 to $106 per metric ton CO_2 based on a 3 percent discount rate, or $-3 to $159 per metric ton CO_2based on a 2 percent discount rate. The preliminary domestic ranges derived from a single model are $0 to $5 per metric ton CO_2 based on a 3 percent discount rate, and $0 to $16 per metric ton CO_2 based on a 2 percent discount rate.

Table VI-2 shows the impact of addressing a number of the issues noted *44447 above. With respect to per-vehicle costs, the updated 4% per year approach shows a $171 per vehicle lower cost in 2015 and a $187 per vehicle lower cost in 2018 compared to our 2007 analysis, for a slightly more stringent standard in both cases. This is primarily due to the impact of including multi-year planning and car-truck trading within a given manufacturer.

The estimated CO_2 reductions in 2040 from the updated analysis are much larger than the 2007 analysis (by nearly a factor of 2). This occurs primarily because we have addressed the diesel CO_2 issue noted above, and because we have extended the time frame for the analyzed standards to 2020. The estimated fuel savings are also larger primarily due to the additional years we extended the 4% per year standard to. The estimated monetized net benefits for the updated analysis are also significantly higher than our previous estimates. This is a result of a combination of factors: lower estimates for the increased vehicle costs due to multi-year planning and within manufacturer car-truck trading; and the extension of the analyzed standards to 2020.

Table VI-2 also provides estimates of "payback period" and "lifetime monetary impact". The payback period is an estimate of how long it will take for the purchaser of the average new vehicle to break-even; that is, where the increased vehicle costs is off-set by the fuel savings. Our updated analysis shows for the average 2020 vehicle that period of time ranges from 6.0 to 8.7 years (depending upon the assumed discount rate). The lifetime monetary impact provides an estimate of the costs to the consumer who owns a vehicle for the vehicle's entire life. The lifetime monetary impact is simply the difference between the higher initial vehicle cost increase and the lifetime, discounted fuel savings. Our updated analysis indicates the lifetime, discounted fuel savings will exceed the initial cost increase substantially. As shown in the table, the positive lifetime monetary impact ranges from about $440 to $1,630 per vehicle (depending upon the assumed discount rate). Section VI.C.2 of the Light-duty Vehicle TSD discusses possible explanations for why consumers do not necessarily factor in these fuel savings in making car-buying decisions.

Our updated analysis projects the 2020 CO_2 limit of 232 gram/mile (38.3 mpg) shown in Table VI-1, could be achieved with about 33% of the new vehicle fleet in 2020 using diesel engines and full hybrid systems (including plug-in electric hybrid vehicles). Higher penetrations of these and other advanced technologies (including for example the wide-spread application of light-weight materials) could result in a much greater GHG reductions.

The results of our updated analysis indicate that:

—Technology is readily available to achieve significant reductions in light-duty vehicle GHG emissions between now and 2020 (and beyond);

—The benefits of these new standards far outweigh their costs;

—Owners of vehicles complying with the new standard will recoup their increased vehicle costs within 6-9 years, and;

—New standards would result in substantial reductions in GHGs.

We request comment on all aspects of this analysis, the appropriateness of the two approaches described, and the inputs and the tools that we utilized in performing the assessment, when considering the setting of light-duty vehicle GHG standards under the CAA. We also request comment on the alternative approach for establishing light-duty vehicle GHG standards described in section VI.B.1.a of this advance notice.

c. Technologies Available To Reduce Light-Duty Vehicle GHGs

In this section we discuss a range of technologies that can be used to significantly reduce GHG emissions from cars and light trucks. We discuss EPA's assessment of the availability of these technologies, their readiness for introduction into the market, estimates of their cost, and estimates of their GHG emission reduction potential. We request comment on all aspects of our current assessment, including supporting data regarding technology costs and effectiveness.

In the past year EPA undertook a comprehensive review of information in the literature regarding GHG-reducing technologies available for cars and light trucks. In addition, we reviewed confidential business information from the majority of the major automotive companies, and we met with a large number of the automotive companies as well as global automotive technology suppliers regarding the costs and effectiveness of current and future GHG-reducing technologies. EPA also worked with an internationally recognized automotive technology firm to perform a detailed assessment of the GHG reduction effectiveness of a number of advanced automotive technologies.[133]

EPA recently published a Staff Technical Report describing the results of our assessment, and we provided this report to the National Academy of Sciences Committee on the Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy.[134] This Staff Technical Report details our estimates of the costs and GHG reduction potential of more than 40 technologies applicable to light-duty vehicles, and is one of the key inputs to our analysis of potential future standards presented in Section VI.B.1.b. These technologies span a large range of effectiveness and technical availability, from technologies as simple as reduced rolling resistance tires (offering a 1-2% reduction in vehicle CO_2 emissions) to advanced powertrain systems like gasoline and diesel hybrids, plug-in electric hybrids, and full electric vehicles (offering up to a 100% reduction in vehicle CO_2 emissions).

The majority of the technologies we investigated are in production and available on vehicles today, either in the United States, Japan or Europe. Over the past year, most of the major automotive companies or suppliers have announced the introduction of new technologies to the U.S. market. The following are some recent examples:

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[133] See "A Study of Potential Effectiveness of Carbon Dioxide Reducing Vehicle Technologies", Ricardo, Inc., EPA Report 420-R-08-004a, June 2008

[134] See "EPA Staff Technical Report: Cost and Effectiveness Estimates of Technologies Used to Reduce Light-duty Vehicle Carbon Dioxide Emissions", EPA Report 420-R-08-008, March 2008.

—Ford's new "EcoBoost" turbocharged, down-sized direct-injection gasoline engines;

—Honda's new 2009 global gasoline hybrid and 2009 advanced diesel powertrain;

—Toyota and General Motors plans for gasoline plug-in hybrid systems within the next two to three years;

—General Motors breakthroughs in lower-cost advanced diesel engines;

—Nissan's 2010 introduction of a clean diesel passenger car;

—Chrysler's widespread use of dual-clutch automated manual transmissions beginning in 2009; and,

—Mercedes' new product offerings for clean diesel applications as well as diesel-electric hybrid technologies.

We also evaluated the costs and potential GHG emissions reductions from some of the advanced systems not currently in production or that are only available in specialty niche vehicles, such as gasoline homogeneous charge compression ignition engines, camless valve actuation systems, hydraulic hybrid powertrains, and full electric *44448 vehicles. These technologies are described in detail, along with our estimates for costs and GHG reduction potential, in our Staff Technical Report.

An additional area where we see opportunities for significant CO_2 emissions reduction is in material weight substitution. The substitution of traditional vehicle materials (e.g., steel, glass) with lighter materials (e.g., aluminum, plastic composites) can provide substantial reductions in CO_2 emissions while maintaining or enhancing vehicle size, comfort, and safety attributes. Several companies have recently announced plans to utilize weight reduction as a means to improve vehicle efficiency while meeting all applicable safety standards.[135] We request data and comment on the extent to which material substitution should be considered as a means to reduce GHG emissions, and information on the costs and potential scope of material substitution over the next 5 to 20 years.

Finally, we note that in the past 30 years there has been a steady, nearly linear increase in the performance of cars and light trucks. We estimate that the average new vehicle sold in 2007 had a 0-60 miles/hour acceleration time of 9.6 seconds—compared to 14.1 seconds in 1975.[136] If this historic trend continues, by 2020 the average 0-60 acceleration for the combined new car and truck fleet will be less than 8 seconds. During the past 20 years, this increase in acceleration has been accompanied by a gradual increase in vehicle weight. It is generally accepted that over the past 20 years, while fuel economy for the light-duty fleet has changed very little, the fuel efficiency has in fact improved but has largely been used to enable increases in both the weight and the performance of vehicles. We request comment on how we should consider the potential for future changes in vehicle weight and performance (e.g., acceleration time) in assessing the costs and benefits of standards for reducing GHG emissions.

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[135] See Automotive News, February 11, 2008, in which Daimler-Benz CEO states that Mercedes-Benz will reduce the weight of all new vehicle models by 5%, and Ford announces every model will lose between 250 and 750 pounds.

[136] See "Light-Duty Automotive Technology and Fuel Economy Trends: 1995-2007", EPA Report EPA420-R-07-008, September 2007.

d. Potential Options for Reducing HFCs, N_2O, CH_4, and Air Conditioning-Related CO_2

As described above, in addition to fleet average and in-use CO_2 standards, EPA has analyzed how new control measures might be developed for other car and light truck emissions that have global warming impacts: air conditioning ("A/C")-related emissions of HFCs and CO_2, and tailpipe emissions of nitrous oxide (N_2O), and methane (CH_4). Under CAA section 202(a), EPA may regulate these emissions if a positive endangerment finding is made for the relevant GHGs. Together, these emissions account for about 10% of greenhouse gases from light-duty cars and trucks (on a CO_2 equivalent basis). The direct HFC emissions account for 4.3%, while the A/C CO_2 emissions are 3.1%. N_2O and CH_4 account for 2.7% and 0.2% respectively. With regard to air conditioning-related emissions, significant opportunity exists to reduce HFC emissions from refrigerant leakage and CO_2 from A/C induced engine loads, and EPA has considered potential standards to reduce these emissions. In addition, EPA has considered potential limits for N_2O and CH_4 emissions that could apply to both cars and light trucks that would limit future growth of these emissions.

i. Potential Controls for Air Conditioning-Related GHG Emissions

Over 95% of the new cars and light trucks in the U.S. are equipped with A/C systems. There are two mechanisms by which A/C systems contribute to the emissions of GHGs. The first is through direct leakage of the refrigerant (currently the HFC compound R134a) into the air. Based on the higher GWP of HFCs, a small leakage of the refrigerant has a greater global warming impact than a similar amount of emissions of other mobile source GHGs. Leakage can occur slowly through seals, gaskets, hose permeation and even small failures in the containment of the refrigerant, or more quickly through rapid component deterioration, vehicle accidents or during maintenance and end-of-life vehicle scrappage (especially when refrigerant capture and recycling programs are less efficient). The leakage emissions can be reduced through the choice of leak-tight, durable components, or the global warming impact of leakage emissions can be addressed through the implementation of an alternative refrigerant. Refrigerant emissions during maintenance and at the end of the vehicle's life (as well as emissions during the initial charging of the system with refrigerant) are already addressed by the CAA Title VI stratospheric ozone protection program, as described in section VIII of this notice.[137]

EPA's analysis indicates that together, these A/C-related emissions account for about 7.5% of the GHG emissions from cars and light trucks. EPA considered standards designed to reduce direct leakage emissions by 75% and to reduce the incremental increase of A/C related CO_2 emissions by 40% in model year 2015 vehicles, phasing in starting in model year 2012. It is appropriate to separate the discussion of these two categories of A/C-related emissions because of the fundamental differences in the emission mechanisms and the methods of emission control. Refrigerant leakage control is akin in many respects to past EPA fuel evaporation control programs in that containment of a fluid is the key control feature, while efficiency improvements are more similar to the vehicle-based control of CO_2 in that they would be achieved through specific hardware and controls.

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[137] The second mechanism by which vehicle A/C systems contribute to GHG emissions is through the consumption of excess fuel when the A/C system is running, and from carrying around the weight of the A/C system hardware all-year round. This excess fuel required to run the system is converted into CO_2 by the engine during combustion. This excess CO_2 from A/C operation can thus be reduced by increasing the efficiency of the overall vehicle-A/C system.

The Memo to the Docket, "Light-Duty Vehicle Hydrofluorocarbon, Nitrous Oxide, Methane, and Air Conditioning-Related Carbon Dioxide Emissions" provides a more detailed discussion of the air conditioning-related GHG emissions, both refrigerant leakage and CO_2 emissions from A/C use, as well as potential test procedure and compliance approaches that have been considered by EPA.

ii. Feasibility of Potential A/C Reduction Approaches

EPA believes that significant reductions in A/C HFC leakage and A/C CO_2 emissions would be readily technically feasible and highly cost effective. The types of technologies and methods that manufacturers could use to reduce both types of A/C emissions are commercially available and used today in many models of U.S. cars and light trucks. For example, materials and components that reduce leakage as well as electronic monitoring systems have been used on various vehicles in recent years. Regarding A/C CO_2 reduction, such technologies as variable-displacement compressors and their controls are also in use today. Although manufacturers might find that more advanced technologies, like alternate refrigerants, become economically attractive in the coming years, EPA believes that currently available technologies and systems designs would ***44449** be sufficient to meet potential limits being assessed by EPA.

iii. Potential Impacts of Requiring Improved A/C Systems

(1) Emission Reductions for Improved A/C Systems

Manufacturers producing cars and light trucks for the U.S. market have not historically had economic or regulatory incentives or requirements to reduce refrigerant leakage and CO_2 from A/C systems. As a result, there is an opportunity for significant reductions in both of these types of emissions. With potential standards like the ones considered above, EPA has estimated that reductions in HFC refrigerant leakage, converted to CO_2 equivalent emissions, and added to projected A/C CO_2 reductions, these limits would result in an average per-vehicle reduction in CO_2 -equivalent emissions of about 4.7% (excluding CH_4 and N_2O from the baseline). This reduction is equivalent to about 7.5% of light vehicle CO_2-equivalent emissions, or about 2 tons per year.

(2) Potential Costs for Improved A/C Systems

Although the technologies and system designs EPA expects could be used to comply with the two A/C related standards being considered are currently available, not all manufacturers are using them on all vehicles. Thus, the industry would necessarily incur some costs to apply these technologies more broadly across the car and truck fleet. EPA estimates that the cost of meeting the full HFC leakage standard it is considering would average about $40 per vehicle (retail price equivalent or RPE) and that the cost of meeting the A/C CO_2 standard would be about $70 per vehicle (RPE). At the same time, complying with such limits would result in very significant savings in fuel costs (as system efficiency improves) and in A/C-related maintenance costs (as more durable systems result in less frequent repairs). In fact, EPA's analysis shows that these cost savings would significantly exceed projected retail costs of the potential A/C standards, more than offsetting the costs of both types of A/C system improvements.[138]

iv. Potential Interaction With Title VI Refrigerant Regulations

As described further in Section VIII of this notice, Title VI of the CAA deals with the protection of stratospheric ozone. Section 608 of the Act establishes a comprehensive program to limit emissions of certain ozone-depleting substances (ODS) from appliances and refrigeration. The rules promulgated under section 608 regulate the use and disposal of such substances during the service, repair or disposal of appliances and industrial process refrigeration. In addition, section 608 and the regulations promulgated under it prohibit the knowingly venting or releasing

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[138] See Appendix 3.B. of the EPA Technical Memorandum "Documentation of Updated Light-duty Vehicle GHG Scenarios" for a detailed discussion of these costs estimates.

ODS during the course of maintaining, servicing, repairing or disposing of an appliance or industrial process refrigeration equipment. Section 609 governs the servicing of motor vehicle air conditioners (MVACs). The regulations promulgated under section 609 (40 CFR part 82, subpart B) establish standards and requirements regarding the servicing of MVACs. These regulations include establishing standards for equipment that recovers and recycles or only recovers refrigerant (CFC-12, HFC 134a, and for blends only recovers) from MVACs; requiring technician training and certification by an EPA-approved organization; establishing recordkeeping requirements; imposing sales restrictions; and prohibiting the venting of refrigerants.

Another Title VI provision that could interact with potential Title II motor vehicle regulation of GHGs is section 612, which requires EPA to review substitutes for ozone depleting substances and to consider whether such substitutes would cause an adverse effect to human health or the environment as compared with other substitutes that are currently or potentially available. EPA promulgated regulations for this program in 1992 and those regulations are located at 40 CFR part 82, subpart G. When reviewing substitutes, in addition to finding them acceptable or unacceptable, EPA may also find them acceptable so long as the user meets certain use conditions. For example, all motor vehicle air conditioning system must have unique fittings and a uniquely colored label for the refrigerant being used in the system.

EPA views the potential program analyzed here as complementing these Title VI programs, and not conflicting with them. The potential standards would apply at pre-production when manufacturers demonstrate that they are utilizing requisite equipment (or utilizing other means designated in the potential program) to achieve the suggested 75% leak reduction requirement. These requirements would dovetail with the Title VI section 609 standards which apply to maintenance events, and to end-of-vehicle life disposal. In fact, as noted, a benefit of a program is that there could be fewer and less impactive maintenance events for MVACs, since there would be less leakage. In addition, although the suggested standards would also apply in-use, the means of enforcement should not conflict (or overlap) with the Title VI section 609 standards. EPA also believes the menu of leak control technologies described above would complement the section 612 requirements because these control technologies would help ensure that 134a (or other refrigerants) would be used in a manner that would further minimize potential adverse effects on human health and the environment.

v. Potential Controls for Nitrous Oxide Emissions

Nitrous oxide, or N_2O, is emitted from gasoline and diesel car and light truck tailpipes and is generated during specific catalyst warm-up temperature conditions conducive to N_2O formation. While N_2O emissions from current Tier 2 vehicles with conventional three-way catalysts are relatively low on a mass basis (e.g., around 0.005 g/mi), N_2O does have a high GWP of 310. N_2O is a more significant concern with diesel vehicles (and potentially future gasoline lean-burn engines) equipped with advanced catalytic NO_X emissions control systems. These systems can (but need not) be designed in a way that emphasizes efficient NO_X control while allowing the formation of significant quantities of N_2O. Excess oxygen present in the exhaust during lean-burn conditions in diesel (or lean-burn gasoline) engines equipped with these advanced systems can favor N_2O formation if catalyst temperatures are not carefully controlled. Without specific attention to controlling N_2O emissions in the development of such new NO_X control systems, vehicles could have N_2O emissions many times greater than are emitted by current gasoline vehicles.

EPA has considered a "cap" approach to controlling N_2O emissions would not require any new technology for current Tier 2 gasoline vehicles, but would limit any increases in N_2O emissions that might otherwise occur with future technology vehicles. Such an approach would have minimal feasibility, emissions, or cost impacts.

The Memo to the Docket, "Light-Duty Vehicle Hydrofluorocarbon, Nitrous Oxide, Methane, and Air Conditioning-Related Carbon Dioxide Emissions" has more in-depth discussion of car and light truck N_2O emissions, as well as of potential test procedure and compliance ***44450** approaches that have been considered by EPA.

vi. Potential Controls for Methane Emissions

Methane, or CH_4, is emitted from gasoline and diesel car and light truck tailpipes and is one of the family of hydrocarbon compounds generated in the engine as a by-product of gasoline and diesel fuel combustion. As such, levels of CH_4 emissions have been somewhat controlled by the lower hydrocarbon emissions standards that have been phased in since the early 1970s. Current CH_4 emissions from Tier 2 gasoline vehicles are relatively low (about 0.017 g/mi on average), and CH_4 has a global warming potential of 23. The one technology where much higher CH_4 emissions could be of concern would be natural gas-fueled vehicles, since CH_4 is the primary constituent of natural gas fuel and would be the largest component of unburned fuel emissions.

As with N_2O, EPA has considered a "cap" CH_4 emissions standard approach that would not require any new technology for current Tier 2 gasoline vehicles, but would limit any increases in CH_4 emissions that might otherwise occur with future natural gas vehicles. Such an approach would have no significant feasibility, emissions, or cost impacts.

The Memo to the Docket, "Light-Duty Vehicle Hydrofluorocarbon, Nitrous Oxide, Methane, and Air Conditioning-Related Carbon Dioxide Emissions" has greater discussion of car and light truck CH_4 emissions.

e. Specific Programmatic Design Issues

As discussed above, Title II of the CAA provides the Agency with both direction and flexibility in designing and implementing a GHG control program. Consistent with existing motor vehicle programs, the Agency would need to develop appropriate mechanisms to address issues such as certification of new motor vehicles to applicable standards, ensuring the emissions requirements are being met throughout the designated useful life of the vehicle, and appropriate compliance mechanisms if the requirements are not being met. Domestic and imported vehicles and engines subject to emissions standards must obtain a certificate of conformity in order to be sold in the U.S. marketplace. EPA has utilized a wide range of program design tools and compliance mechanisms to help address the large variation of market participants yet still provide a level regulatory playing field for these parties. As part of the design effort for a GHG program, it would be appropriate to take into account these flexibilities as well as existing requirements that the automobile and engine industries already face in order to help reduce compliance costs if possible while still maintaining our overall environmental objectives. However, given the nature of GHG control, it would also be appropriate to determine if new design structures and compliance measures might be more effective.

The Light-duty Vehicle TSD includes a discussion of a wide range of programmatic and technical issues and presents potential approaches that would address these issues in the design of a comprehensive near-term light-duty vehicle GHG control program. We highlight here a few of these issues, and point the reader to the Light-duty Vehicle TSD for additional detail. Among the issues discussed in the Light-duty Vehicle TSD are several which could differ significantly under a different approach. EPA specifically requests comment on these issues:

—Potential classification approaches for light-duty vehicles (e.g., treating cars and light trucks in a single averaging class or separate, and the potential classification of vehicle types as either a passenger car or a light truck);

—How any classification approaches would relate to NHTSA's regulatory approach;

—The significant flexibilities allowed under Title II which we utilize for existing criteria pollutant standards for light-duty vehicles, including detailed concepts for a GHG averaging, banking, and trading program;

—Potential light-duty GHG compliance program concepts.

As we have considered various potential light-duty vehicle GHG approaches, significant thought and stakeholder outreach went into designing a potential system for determining compliance that would meet Agency and industry needs and goals. The Light-duty Vehicle TSD presents a compliance structure for vehicle GHG control that adheres to CAA requirements and at the same time is compatible with the existing CAFE program. However, this is not the only approach to compliance, as is discussed in the Light-duty Vehicle TSD. Other compliance approaches could also be considered, each with their own advantages. For example, a GHG compliance program patterned after the Tier 2 light duty vehicles emissions program offers an approach that is more similar to the existing compliance structure for other pollutants.

We discuss below in detail three specific issues regarding potential future light-duty vehicle GHG programmatic issues: universal and attribute-based standards; environmental backstop standards; and tailpipe CO_2 test cycles.

i. Universal and Attribute-Based Vehicle GHG Standard Approaches

A specific programmatic issue that EPA would like to highlight here is the use of attribute-based standards for vehicle GHG standards, and the concept of an environmental backstop to accompany an attribute-based standard promulgated under the CAA, in order to assure that GHG emission reductions which are feasible at reasonable cost under section 202(a) are not foregone. A CAA program for reducing GHG emissions from light vehicles could set the average emissions standards for manufacturers in one of two fundamental ways. A "universal" GHG standard would apply a single numerical requirement to each manufacturer, to be met on average across its entire light-duty vehicle production. One potential consequence of the universal approach is that the costs of compliance may fall unevenly on different manufacturers. That is, complying with a single standard would be more difficult for companies with current product mixes weighted relatively heavily toward vehicles with higher compliance costs.

The other approach EPA has considered would set individual standards for each manufacturer, based on one or more vehicle attributes (such as the footprint attribute approach currently used by NHTSA). Thus, to the extent a manufacturer produced vehicles with different attributes from the vehicles of another manufacturer; unique standards would be set for each company. The Light-duty Vehicle TSD discusses various vehicle attributes on which light duty vehicle CO_2 standards could be based. EPA requests comment on the use of an attribute-based approach, and on each of the attributes considered in the Light-duty Vehicle TSD, as well as on a universal standard approach. In addition, some in the industry have suggested power-to-weight ratio may be an appropriate attribute for this purpose, and we request comment on that attribute as well.

A key characteristic of any attribute-based program is that significant industry shifts in the attribute over time would increase or decrease the average emission performance requirement for the fleet. For example, if such a shift in attributes resulted in the unique manufacturer standards being on ***44451** average less stringent than those determined to be feasible and cost-effective in the establishment of the program, the program would fall short of those overall emissions reductions, and conversely, market shifts could also result in larger emissions reductions than those determined to be feasible and cost-effective at the time the program was established. EPA seeks comment on the universal approach as compared to the attribute-based approach.

ii. Concepts for Light-Duty Vehicle GHG Environmental Backstops

In order to limit the potential loss of feasible emissions control due to a change in market attributes, EPA could consider a supplemental "backstop" carbon dioxide emissions standard for each year (also referred to as an "anti-backsliding" provision) as a complement under the CAA to an attribute-based standard. This would be an additional obligation for manufacturers that would limit the maximum fleet average carbon dioxide emissions, independent of attributes. The backstop requirement could establish fixed minimum and feasible fleet average CO_2 g/mile standards. The backstop would apply separately to the domestic car, import car, and truck classes. This backstop obligation may not apply to small volume manufacturers. While EPA will quantitatively describe one specific backstop concept below, we are seeking public comment on a range of alternative approaches described qualitatively below, briefly, as well. More generally, EPA seeks comment as to whether a backstop approach would be appropriate under the CAA as a means of providing greater emission reduction certainty.

A backstop could be an appropriate complement under the CAA to an attribute-based standard. The most important factor under section 202(a) of the Act is to ensure reductions of the emissions from the motor vehicle sector which cause or contribute to the endangerment caused by greenhouse gas emissions. As discussed earlier, one important feature of an attribute-based program is that collective decisions by consumers and manufacturers could result in higher or lower industry-wide average footprint values than projected by EPA at the time of promulgation. Since the attribute-based curve establishes a fleet average for a manufacturer based on the manufacturer's sales and attribute values, the actual reductions achieved by the program could vary as this mix varies. In the extreme, if the entire industry moved to much higher attribute values, then the carbon dioxide emissions reductions could be significantly less than projected by EPA as technically feasible and cost effective.

Under section 202(a), EPA could consider a supplemental fleet average backstop standard that would be the same for every manufacturer in a given year. Such a standard would ensure that a minimum level of reductions would be achieved as the fleet mix changes over time. EPA could base such a standard on feasible carbon dioxide emission reductions and other important factors such as technological feasibility, cost, energy, and safety in analyzing section 202(a) standards. EPA recognizes that a CO_2 emissions backstop could partially reduce the flexibility and market elements of an attribute-based approach, but believes it could be needed to provide for an appropriate degree of emissions reduction certainty.

As with other structural issues such as universal versus attribute-based approaches, EPA believes that various backstop approaches have conceptual advantages and disadvantages with respect to relevant criteria such as certainty of industry-wide carbon dioxide emissions reductions, flexibility with respect to consumer choice and vehicle offerings, varying treatment of automakers, and complexity of explanation and implementation. Any approach would also need to address the relevant factors, including cost (economic feasibility, cost effectiveness, and per vehicle cost) and technological feasibility. EPA encourages commenters to evaluate the design approaches presented below, as well as to suggest alternative approaches, in terms of these and other relevant criteria.

As an illustrative example, Table VI-3 shows one set of fleet average carbon dioxide emissions and mpg backstops, along with the projected, average industry-wide carbon dioxide emissions and mpg compliance levels, for the two sets of fleet average carbon dioxide emissions standards based on the footprint attribute, analyzed in December 2007, and discussed earlier in this advance notice: The 4% per year and model-optimized scenarios. These carbon dioxide emissions backstops are based on the projected fleet average carbon dioxide emissions compliance levels for the high-volume car and light truck manufacturers with the highest projected car and light truck footprint levels, based on the footprint curves that were developed by EPA in December 2007. Chrysler is the high-volume car manufacturer with the highest projected footprint values, and General Motors has the highest projected footprint values among the high-volume truck manufacturers.

These backstops would be universally applied to every manufacturer, except small volume manufacturers, and would become the effective fleet average standard for any automaker that would otherwise have a higher fleet average carbon dioxide emissions standard, for any of the three respective averaging sets (import and domestic cars and trucks), based on the footprint curve.

The underlying rationale for this backstop approach is that the manufacturer that is projected to sell the highest footprint vehicles, which therefore is projected to be able to comply with the highest fleet average carbon dioxide emissions compliance levels, should be treated as establishing the minimum acceptable level of emissions reductions for the industry. Similarly, no other manufacturers should exceed the feasible, cost effective level established by that projected highest footprint manufacturer. The approach, and underlying rationale, is similar to the approach used by NHTSA before the 2006 truck standards, whereby the level of a universal standard was established based on the capabilities of the least capable large manufacturer (*Public Citizen* v. *NHTSA*, 848 F. 2d 256, 259, D.C. Cir. 1988). Although the backstop would not prohibit the highest footprint manufacturer from selling higher footprint vehicles, it would prohibit any carbon dioxide emissions "backsliding" that would otherwise be associated with that increase in footprint. Average carbon dioxide emissions from other manufacturers could increase, of course, in accordance with the footprint curve, but in no case could the carbon dioxide emissions level for any manufacturer increase beyond these backstop levels.

The passenger car carbon dioxide emissions and mpg backstop levels shown in Table VI-3 adhere to the methodology described above with one exception. Based on Chrysler's projected footprint values, its 2011 standard for the 4% per year option would be 325 g/mi, equivalent to a gasoline vehicle fuel economy of 27.3 mpg. Since the current car CAFE standard, which acts as an effective fuel economy backstop, is 27.5 mpg, EPA could instead consider a 2011 backstop of 323 g/mi for the 4% per year option, which is equivalent to a 27.5 mpg gasoline vehicle.

In this illustrative backstop example, the carbon dioxide emissions backstop levels would range from 8 to 22 g/mi, or 2 to 8%, higher than the projected, average industry-wide carbon dioxide levels.

Table VI-3—Illustrative Backstops for the Fleet Average Carbon Dioxide Emissions Standard (CO_2 grams per mile/mpg)

	CARS			
	4 percent per year option		Model-optimized option	
	Projected industry-wide CO_2 levels	Backstop	Projected industry-wide CO_2 levels	Backstop
2010 (base)	(323)/27.5		(323)/27.5	
2011	309/28.7	323/27.5	301/29.5	317/28.0
2012	298/29.8	319/27.8	291/30.5	314/28.3
2013	285/31.1	296/30.0	276/32.1	287/30.9
2014	275/32.3	287/30.9	268/33.2	281/31.6
2015	264/33.6	277/32.0	260/34.1	273/32.5
2016	254/34.9	266/33.4	247/35.9	258/34.4
2017	244/36.3	257/34.5	244/36.4	257/34.5
2018	235/37.7	245/36.2	239/37.2	249/35.7

***44452** A second illustrative example of a universal backstop approach could be modeled on the "minimum standard" in the Energy Independence and Security Act (EISA) of 2007. EISA establishes a fuel economy backstop for the domestic car class that is equal to 92% of the average fuel economy level projected for all cars. EPA believes this 92% value was derived by dividing the current car CAFE standard of 27.5 mpg by the average industry-wide car fuel economy performance over the past several years. The car CAFE standard, in effect, has served as a backstop for those manufacturers that have chosen not to pay CAFE penalties. Applying this model to a carbon dioxide emissions backstop would involve dividing the average projected industry-wide carbon dioxide emissions levels by 0.92, or multiplying by a factor of 1.087, an increase of 8.7%, to generate a universal backstop level that would apply to all manufacturers. Under this approach, the backstop levels for the 4% per year and model-optimized standards in Table VI-3 would be greater than the backstop levels discussed earlier in every case, ranging from 3 to 23 g/mi higher. This alternative approach yields backstop levels 20 to 31 g/mi higher than the projected, average industry-wide standards.

For the backstop approaches discussed above, all automakers would have the same uniform backstop for domestic and import cars, and a higher uniform backstop for trucks. These universal approaches would make the backstop more of a constraint on those manufacturers that sold vehicles with higher average footprint levels and less of a constraint on those automakers that sold vehicles with lower average footprint levels.

An alternative backstop approach could be to establish unique maximum numerical carbon dioxide emissions values that would apply to different automakers (e.g., X g/mi for Automaker A, and Y g/mi for Automaker B) and that would become the effective fleet average standard for an individual automaker when that automaker would otherwise be allowed to meet a higher fleetwide average carbon dioxide emissions value based exclusively on the footprint curve. The rationale for this type of approach would be that since manufacturers start at different average footprint levels, manufacturer-specific backstop values could provide greater insurance against carbon dioxide emissions backsliding for all manufacturers, rather than just those manufacturers that sold vehicles with higher average footprint levels. One illustrative example of this type of approach would be to base the annual backstop for each manufacturer on its 2010 carbon dioxide emissions baseline, reducing it by the same percentage each year. A similar approach would base the annual backstop for the highest-footprint manufacturer on its 2010 carbon dioxide emissions baseline reduced by a percentage each year, the annual backstop for the lowest-footprint automaker on its 2010 carbon dioxide emissions baseline reduced by a lesser percentage per year, and the annual backstop values for other manufacturers on annual percentage reductions between the higher and lower percentages. This latter approach would yield backstop values that would be somewhat more binding on manufacturers that sold vehicles with higher average footprint values, yet still binding to some degree on all automakers. This approach would also limit the degree to which manufacturers that sold vehicles with lower average footprint values could increase average footprint values over time.

A combination of the universal and manufacturer-specific approaches could be to begin with manufacturer-specific backstop values, and to transition to uniform backstop values over a 5 or 10 year period.

Another alternative backstop approach would not set a maximum numerical carbon dioxide emissions value for individual manufacturers, but would establish mathematical functions that would automatically increase the stringency of and/or "flatten" the footprint curves for future years when actual industry-wide carbon dioxide emissions performance in the future is found to fall short of EPA's projections at the time of promulgation. For example, at the time of promulgation, EPA could assume a certain average industry-wide carbon dioxide g/mi emissions level for 2011-2012. If, in 2013, EPA found that the average industry-wide emissions level in 2011-2012 was higher than projected in the final rule (and therefore the carbon dioxide emissions reductions were lower than projected because of higher than projected average footprint levels), then the backstop provisions would be triggered and the footprint curves for future years (say, 2016 and later) would be automatically changed to be more stringent and/or flatter in shape. This approach would reframe the backstop issue in terms of industry-wide emissions performance, rather than in terms of individual automaker emissions performance.

In lieu of a backstop, another approach would be to flatten (i.e., reduce the slope of) the carbon dioxide emissions-footprint curve such that there would a major disincentive for automakers to increase vehicle footprint. EPA invites comments on the pros and cons of this approach relative to a backstop.

***44453** In conclusion, EPA seeks comment on whether a CO_2 emissions backstop is an appropriate complement to a footprint-based regulatory approach under the CAA to ensure that the program would achieve a minimum level of feasible carbon dioxide emissions reductions. EPA invites comments on both the potential backstop approaches discussed above, as well as suggestions for other approaches.

iii. Potential Test Procedures for Light-Duty Vehicle Tailpipe CO_2 Emissions

For the program options EPA analyzed to date, EPA would expect manufacturers and EPA to measure CO_2 for certification and compliance purposes over the same test procedures currently used for measuring fuel economy, except for A/C-related CO_2 emissions. This corresponds with the data used in our analysis of the potential footprint-based CO_2 standards presented in section VI.B.1.b of this advance notice, as the data on control technology efficiency was also developed in reference to these test procedures. These procedures are the Federal Test Procedure (FTP or "city" test) and the Highway Fuel Economy Test (HFET or "highway" test). EPA established the FTP for emissions measurement in the early 1970s. In 1976, in response to requirements in the Energy Policy and Conservation Act (EPCA), EPA extended the use of the FTP to fuel economy measurement and added the HFET. The provisions in the 1976 regulation, effective with the 1977 model year, established procedures to calculate fuel economy values both for labeling and for CAFE purposes. Under EPCA, EPA is required to use these procedures (or procedures which yield comparable results) for measuring fuel economy for cars for CAFE purposes, but not for fuel economy labeling purposes. EPCA does not impose this requirement on CAFE test procedures for light trucks, but EPA does use the FTP and HFET for this purpose.

On December 27, 2006, EPA established new "5-cycle" test procedures for fuel economy labeling—the information provided to the car-buying public to assist in making fuel economy comparisons from vehicle to vehicle. These procedures were originally developed for purposes of criteria emissions testing, not fuel economy labeling, pursuant to section 206(h) of the Clean Air Act, which requires EPA to review and revise as necessary test procedures for motor vehicles and motor vehicle engines "to insure that vehicles are tested under circumstances which reflect the actual current driving conditions under which motor vehicles are used."In updating the fuel economy labeling regulations, EPA determined that these emissions test procedures take into account several important factors that affect fuel economy in the real world but are missing from the FTP and HFET tests. Key among these factors are high speeds, aggressive accelerations and decelerations, the use of air conditioning, and operation in cold temperatures. Consistent with section 206 (h), EPA revised its procedures for calculating the label estimates so that the miles per gallon (mpg) estimates for passenger cars and light-duty trucks would better reflect what consumers achieve in the real world. Under the new methods, the city miles per gallon estimates for the manufacturers of most vehicles have dropped by about 12% on average relative to the previous estimates, with estimates for some vehicles dropping by as much as 30%. The highway mpg estimates for most vehicles dropped on average by about 8%, with some estimates dropping by as much as 25% relative to the previous estimates. The new test procedures only affect EPA's vehicle fuel economy labeling program and do not affect fuel economy measurements for the CAFE standards, which continue to be based on the original 2-cycle test procedures (FTP/HFET).

EPA continues to believe that the new 5-cycle test procedures more accurately predict in-use fuel economy than the 2-cycle test procedures. Although, as explained below, to date there has been insufficient information to develop standards based on 5-cycle test procedures, such information could be developed and there is no legal constraint in the CAA to developing such standards. Indeed, section 206(h) provides support for such an approach. Now that automotive manufacturers are using the 5-cycle test procedure for labeling purposes, we anticipate significant amount of data regarding the impact of the 5-cycle test on vehicle CO_2 emissions will be made available to the Agency over the next several years.

However, for the programs analyzed in the Light-duty Vehicle TSD, EPA used the original 2-cycle test. Indeed, data were simply lacking for the efficiencies of most fuel economy control measures as measured by 5-cycle tests. Thus, existing feasibility studies and analyses, such as the 2002 National Academy of Sciences (NAS) and the 2004 Northeast States Center for a Clean Air Future (NESCCAF) studies that examined technologies to reduce CO_2, were based on the 2-cycle test procedures. However, as noted above, we expect that new data regarding the 5-cycle test procedures will be made available and could be considered in future analysis.

It is important to note, however, that all of our benefits inputs, modeling and environmental analyses underlying the potential programs analyzed in the Light-duty Vehicle TSD accounted for the difference between emissions levels as measured by the 2-cycle test and the levels more likely to actually be achieved in real world performance. Thus, EPA applied a 20% conversion factor (2-cycle emissions result divided by 0.8) to convert industry-wide 2-cycle CO_2 emissions test values to real world CO_2 emissions factors. EPA used this industry-wide conversion factor for all of its emission reduction estimates, and calculated such important values as overall emission reductions, overall benefits, and overall cost-effectiveness using these corrected values. In reality, this conversion factor is not uniform across all vehicles. For example, the conversion factor is greater than 20% for vehicles with higher fuel economy/lower CO_2 values and is less than 20% for vehicles with lower fuel economy/higher CO_2 values. But to simplify the technology feasibility analysis, the analysis assumed a uniform conversion factor of 20% for all vehicles. EPA does not believe the overall difference would have a significant effect on the standards because the errors on either side of 20% tend to offset one another.

EPA thus analyzed CO_2 standards based on the 2-cycle test procedures for our analysis to date. EPA would expect to continue to gain additional experience and data on the 5-cycle test procedures used in the labeling program. If EPA determined that analyzing potential CO_2 standards based on these test procedures would result in more robust control of those emissions, we would consider this in future analyses. EPA requests comments on the above test procedure issues, and the relative importance of using the 2-cycle versus the 5-cycle test in any future EPA action to establish standards for light-duty vehicle tailpipe CO_2 emissions.

2. Heavy-Duty Trucks

Like light-duty vehicles, EPA's regulatory authority to address pollution from heavy-duty trucks comes from section 202 of the CAA. The Agency first exercised this responsibility for heavy-duty trucks in 1974. Since that time, heavy-duty truck and diesel engine technologies have continued to improve, and the Agency has set increasingly stringent emissions standards (today's diesel engines are 98% cleaner than those from 1974). Over that same period, freight shipment *44454 by heavy-duty trucks has more than doubled. Goods shipped solely by truck account for 74% of the value of all commodities shipped within the United States. Trucked freight is projected to double again over the next two decades, growing from 11.5 billion tons in 2002 to over 22.8 billion tons in 2035.[139] Total truck GHG emissions are expected to grow with this increase in freight.

Reflecting important distinctions between light and heavy-duty vehicles, section 202 gives EPA additional guidelines for heavy-duty vehicle regulations for certain pollutants, including defined regulatory lead time criteria and authority to address heavy-duty engine rebuild practices. The Agency has further used the discretion provided in the CAA to develop regulatory programs for heavy-duty vehicles that reflect their primary function. Key differences between our light-duty and heavy-duty programs include vehicle standards for cars versus engine standards for heavy-duty trucks, gram per distance (mile) standards for cars versus gram per work (brake horsepower-hour) for trucks, and vehicle test procedures for cars versus engine-based tests for trucks. EPA has thus determined that in the heavy-duty sector, the appropriate metric to evaluate performance is per unit of work and that engine design plays a critical role in controlling criteria pollutant emissions. EPA's rules also reflect the nature of the heavy-duty industry with separate engine and truck manufacturers. As EPA considers the best way to address GHG emissions from the heavy-duty sector, we will again be considering the important ways that heavy-duty vehicles differ from light-duty vehicles.

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[139] Government Accountability Office. *Freight Transportation: National Policy and Strategies Can Help Improve Freight Mobility GAO-08-287*. Report to the Ranking Member, Committee on Environment and Public Works, U.S. Senate. January 2008.

In this section, we will characterize the heavy-duty GHG emissions inventory, broadly discuss the technologies available in the near- and long-term to reduce heavy-duty truck GHG emissions, and discuss potential regulatory options to address these emissions. We invite comment on the issues that are relevant to considering potential GHG emission standards for heavy-duty trucks. In particular, we invite commenters to compare and contrast potential heavy-duty solutions to our earlier discussion of light-duty vehicles and our existing heavy-duty criteria pollutant control program in light of the differences between GHG emissions and traditional criteria air pollutants.

a. Heavy-Duty Truck GHG Emissions

Heavy-duty on-road vehicles emitted 401 million metric tons of CO_2 emissions in 2006, or approximately 19% of the mobile source CO_2 emissions, the largest mobile source sub-category after light-duty vehicles.[140] CO_2 emissions from these vehicles are expected to increase significantly in the future, by approximately 29% between 2006 and 2030.[141]

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[140] Emissions data in this section are from the United States Environmental Protection Agency. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006*. EPA 430-R-08-005. April 2008.

Diesel powered trucks comprise 91% of the heavy-duty CO_2 emissions, with the remaining 9% coming from gasoline and natural gas engines. Heavy-duty GHG emissions come primarily from two types of applications, combination and single unit trucks. Combination trucks constitute 75% of the total heavy-duty GHG emissions—44% from long-haul and 31% from short-haul operations. Short-haul single unit trucks are the third largest source at 19%. The remaining 5% consists of long-haul single unit trucks; intercity, school, and transit buses; refuse trucks, and motor home emissions.[142]

GHG emissions from heavy-duty trucks are dominated by CO_2 emissions, which comprise approximately 99% of the total, while hydrofluorocarbon and N_2O emissions represent 0.5% and 0.3%, respectively, of the total emissions on a CO_2 equivalent basis.

b. Potential for GHG Emissions Reductions From Heavy-Duty Trucks

Based on the work from EPA's SmartWay Transport Partnership and the 21st Century Truck Partnership, we see a potential for up to a 40% reduction in GHG emissions from a typical heavy-duty truck in the 2015 timeframe, with greater reductions possible looking beyond 2015, through improvements in truck and engine technologies.[143] While highly effective criteria pollutant control has been realized based on engine system regulation alone, the following sections make clear that GHG emissions improvements to truck technology provide a greater potential for overall GHG emission reductions from this sector.

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[141] Growth data in this section is from United States Department of Energy, Energy Information Administration. *Annual Energy Outlook 2008.* #DOE/EIA-0383. April 2008.

[142] Breakdown of emissions data in this section is from United States Environmental Protection Agency. MOVES model. April 8, 2008.

In this section, we will provide a brief summary of the potential for GHG emission reductions in terms of engine technology, truck technology and changes to fleet operations. The public docket for this Advance Notice includes a technical memorandum from EPA staff summarizing this potential in greater detail.[144] In discussing the potential for CO_2 emission reductions, it can be helpful to think of work flow through a truck's system. The initial work input is fuel. Each gallon of diesel fuel has the potential to produce some amount of work and will produce a set amount of CO_2 (about 22 lbs. of CO_2 per gallon of diesel fuel). The engine converts the chemical energy in the fuel to useable work to move the truck. Any reductions in work demanded of the engine by the vehicle or improvements in engine fuel conversion efficiency will lead directly to CO_2 emission reductions. Current diesel engines are about 35% efficient over a range of operating conditions with peak efficiency levels of a little over 40%. This means that approximately one-third of the fuel's chemical energy is converted to useful work and two-thirds is lost to waste heat in the coolant and exhaust. In turn, the truck uses this work output from the engine to overcome vehicle aerodynamic drag (53%), tire rolling resistance (32%), and friction in the vehicle driveline (6%) and to provide auxiliary power for components such as air conditioning and lights (9%).[145] While it may be intuitive to look first to the engine for CO_2 reductions given that only about one-third of the fuel is converted to useable work, it is important to realize that any improvement in vehicle efficiency reduces both the work demanded and also the energy wasted in proportional amounts.

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[143] 21st Century Truck Partnership. *Technology Roadmap for the 21st Century Truck Program*. 21CT-001. December 2000. *http://www.doe.gov/bridge.*

[144] Summary of GHG Emission Control Technologies for Heavy-Duty Trucks, Memorandum to Docket XXX, May 2008.

In evaluating the potential to reduce GHG emissions from trucks and operations as a whole, it will be important to develop an appropriate metric to quantify GHG emission reductions. As discussed above, our current heavy-duty regulatory programs measure emissions expressed on a mass per work basis (g/bhp-hr). This approach has proven highly effective at controlling criteria pollutant emissions while normalizing the diverse range of *44455 heavy-duty vehicle applications to a single engine-based test metric. While such an approach could be applied to evaluate CO_2 emission reductions from heavy-duty engines, it would not readily provide a mechanism to measure and compare reductions due to vehicle improvements. Hence, we will need to consider other performance metrics such as GHG emissions per ton-mile. We request comment on what types of metrics EPA should consider to measure and express GHG emission rates from heavy-duty trucks.

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[145] Approximate truck losses at 65 mph from 21st Century Truck Partnership. 21st Century Truck Partnership Roadmap/Technical White Papers: Engine Systems. 21CT-003. December 2006. *http://www.doe.gov/bridge.*

We discuss below the wide range of engine, vehicle, and operational technologies available to reduce GHG emissions from heavy-duty trucks. Our discussion broadly assesses the availability of these technologies and their GHG emissions reduction potential. We request comment on all aspects of our current assessment summarized here and in more detail in our technical memorandum, including supporting data with regard to technology costs, GHG reduction effectiveness, the appropriate GHG metric to evaluate the technology and the timeframe in which these technologies could be brought into the truck market. More generally, we request comment on the overall GHG emissions reductions that can be achieved by heavy-duty trucks in the 2015 and 2030 timeframes.

i. Engine

The majority of heavy-duty vehicles today utilize turbocharged diesel engines. Diesel engines are more efficient compared to gasoline engines due to the use of higher compression ratios, the ability to run with lean air-fuel mixtures, and the ability to run without a throttle for load control. Modern diesel engines have a peak thermal efficiency of approximately 42%, compared to gasoline engines that have a peak thermal efficiency of 30%. Turbochargers increase the engine's power-to-weight ratio and recover some of the exhaust heat energy to improve the net efficiency of the engine.

Additional engine improvements could increase efficiency through combustion improvements and reductions of parasitic and pumping losses. Increased cylinder pressure, waste heat recovery, and low viscosity lubricants could reduce CO_2 emissions, but are not widely utilized in the heavy-duty industry. Individual improvements have a small impact on engine efficiency, but a combination of approaches could increase efficiency by 20% to achieve a peak engine efficiency of approximately 50%.[146]

Waste heat recovery technologies, such as Rankine bottoming cycle, turbocompounding and thermoelectric materials, can recover and convert engine waste heat to useful energy, leading to improvements in the overall engine thermal efficiency and consequent reduction in CO_2 emissions. We request comment on the potential of these technologies to lower both GHG emissions and overall heavy-duty vehicle operating costs.

In section VI.D below, we discuss the Renewable Fuel Standard (RFS) program and more broadly the overall role of fuel changes to reduce GHG emissions. As we have previously noted, the Agency has addressed vehicle emissions through a systems-based approach that integrates consideration of fuel quality and vehicle or engine emission control systems. For example, removing lead from gasoline and sulfur from diesel fuel has enabled the introduction of very clean gasoline and diesel engine emission control technologies. A systems approach may be a means to address GHG emissions as well. Since 1989, European engine maker Scania has offered an ethanol powered heavy-duty diesel cycle engine with traditional diesel engine fuel efficiency (the current version offers peak thermal efficiency of 43%).[147] Depending on the ethanol production pathway, such an approach could offer a significant reduction in GHG emissions from a life cycle perspective when compared to more traditional diesel fuels. We request comment on the potential for a systems approach considering alternate fuel and engine technologies to reduce GHG emission from heavy-duty trucks. We also request comment on how EPA might structure a program to appropriately reflect the potential for such GHG emission reductions.

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[146] 21st Century Truck Partnership. 21st Century Truck Partnership Roadmap/Technical White Papers: Engine Systems. 21CT-003. December 2006. *http://www.doe.gov/bridge*.

ii. Vehicle systems

An energy audit of heavy-duty trucks shows that vehicle efficiency is strongly influenced by systems outside of the engine. As noted above, aerodynamics, tire rolling resistance, drivetrain, and weight are areas where technology improvements can significantly reduce GHG emissions through reduced energy losses. The fuel savings benefits of many of these technologies often offset the additional costs. Opportunities for HFC and additional CO_2 reductions are available through improved air conditioning systems.

For a typical combination tractor-trailer truck traveling at 65 mph, energy losses due to aerodynamic drag can total over 21% of the total energy consumed.[148] A recent study between industry and the federal government demonstrated that reducing the tractor-trailer gap and adding trailer side skirts, trailer boat tails, and aerodynamic mirrors can reduce aerodynamic drag by as much as 23%. If aerodynamic drag were reduced from 21% to 15% (a 23% reduction), GHG emissions at 65 mph would be reduced by almost 12%.[149] The cost of aerodynamic equipment installed on a new or existing trailer is generally paid back within two years.[150] As aerodynamic designs become more sophisticated, more consistency in how aerodynamics is measured is needed. There is no single, consistent approach used by industry to measure the coefficient of aerodynamic drag of heavy trucks. As a result, it is difficult for fleets to understand which truck configurations have the lowest aerodynamic drag. We request comment on the best approach to evaluate aerodynamic drag and the impact of aerodynamic drag on truck GHG emissions.

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[147] Green Car Congress. Scania Extending Heavy-Duty Ethanol Engine Technology to Trucks. April 15, 2008. *http://www.greencarcongress.com/2008/04/scania-extendin.html* (April 30, 2008).

[148] 21st Century Truck Partnership. *Technology Roadmap for the 21st Century Truck Program*. 21CT-001. December 2000. *http://www.doe.gov/bridge*.

For a typical combination tractor-trailer truck traveling at 65 mph, energy losses due to tire rolling resistance can total nearly 13% of the total energy consumed.[151] Approximately 80-95% of the energy losses from rolling resistance occur as the tire flexes and deforms when it meets the road surface, due to viscoelastic heat dissipation in the rubber. For heavy trucks, a 10% reduction in rolling resistance can reduce GHG emissions by 1-3%.[152] Improvements of this magnitude and greater have already been demonstrated, and continued innovation in tire design ***44456** has the potential to achieve even larger improvements in the future. Specifying single wide tires on a new combination truck can have a lower initial cost and lead to immediate fuel savings.[153] Despite the well-understood benefits of lower rolling resistance tires, manufacturers differ in how they assess tire rolling resistance. We seek comment on the potential for low rolling resistance tires to lower GHG emissions, the need for consistent protocols to measure tire rolling resistance, and the need for a common ranking or rating system to provide tire rolling resistance information to the trucking industry.

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[149] United States Department of Energy, Lawrence Livermore National Laboratory. Working Group Meeting on Heavy Vehicle Aerodynamic Drag: Presentation, Summary of Contents and Conclusion. UCRL-TR-214683. May 2005.

[150] Bachman, L. Joseph,; Anthony Erb; Cheryl Bynum. Effect of Single Wide Tires and Trailer Aerodynamics on Fuel Economy and NO—T2x Emissions of Class 8 Line-Haul Tractor-Trailers. SAE Paper 2005-01-3551. 2005.

[151] 21st Century Truck Partnership. *Technology Roadmap for the 21st Century Truck Program*. 21CT-001. December 2000. *http://www.doe.gov/bridge*.

Hybrid technologies, both electric and hydraulic, offer significant GHG reduction potential. The hybrid powertrain is a combination of two or more power sources: an internal combustion engine and a second power source with an energy storage and recovery device. Trucks operating under stop-and-go conditions, such as urban delivery trucks and refuse trucks, lose a significant amount of energy during braking. In addition, engines in most applications are designed to perform under a wide range of requirements and are often oversized for the majority of their requirements. Hybrid powertrain technologies offer opportunities to capture braking losses and downsize the engine for more efficient operation. We invite comment on the potential of GHG reductions from hybrids in all types of heavy-duty applications.

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[152] 21st Century Truck Partnership. *Technology Roadmap for the 21st Century Truck Program*. 21CT-001. December 2000. *http://www.doe.gov/bridge*.

[153] United States Environmental Protection Agency. *A Glance at Clean Freight Strategies: Single Wide-Based Tires*. EPA420-F-04-004. February 2004.

Currently most truck auxiliaries, such as the water pump, power steering pump, air conditioning compressor, air compressor and cooling fans, are mechanical systems typically driven by belts or gears off of the engine driveshaft. The auxiliary systems are inefficient because they produce power proportionate to the engine speed regardless of the actual vehicle requirements and require conversion of fuel energy to electrical or mechanical work. If systems were driven by electrical systems they could be optimized for actual requirements and reduced energy consumption. We request comment on the potential for these auxiliary systems to lower GHG emissions from heavy-duty trucks.

Air conditioning systems are responsible for GHG emissions from refrigerant leakage and from the exhaust emissions generated by the engine to produce the load required to run the air conditioning. The emissions due to leakage can be reduced by the use of improved sealing designs, low-permeation hoses, and refrigerant substitution. Replacing today's refrigerant, HFC-134a, which has a high global warming potential (GWP=1,300), with HFC-152a (GWP=120) or CO_2 (GWP=1) reduces the impact of the air conditioning leakage on the environment.[154] The load requirements of the air conditioning system can be reduced through the use of improved condensers, evaporators, and variable displacement compressors. We request comment on the impact of air conditioning improvements on GHG reductions in heavy-duty trucks.

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[154] Frey, H. Christopher and Po-Yao Kuo. Best Practices Guidebook for GHG Emissions Reductions in Freight

iii. Operational

The operation of the truck, including idle time and vehicle speed, also has significant impact on the GHG emissions. Technologies that improve truck operation exist and provide benefits to owners through reduced fuel costs.

Idling trucks emit a significant amount of CO_2 emissions (as well as criteria pollutants). On average, a typical truck will emit 18 pounds of CO_2 per hour of idling.[155] Long haul truck idle reduction technologies can reduce main engine idling while still meeting cab comfort needs. Some idle reduction technologies have no upfront cost for the truck owner and hence represent an immediate savings in operating costs with lower GHG emissions. Other idle reduction technologies pay back within three years.[156] In addition to providing information about these systems, EPA seeks

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Transportation. Prepared for U.S. Department of Transportation via Center for Transportation and the Environment. October 2007. Pages 26-27.

[155] United States Environmental Protection Agency. *A Glance at Clean Freight Strategies: Idle Reduction*. EPA420-F-04-009. February 2004.

[156] EPA SmartWay Transport Partnership, *Technology Package Savings Calculator*, *http://www.epa.gov/smartway/ calculator/loancalc.htm*.

comment on whether it should work with stakeholders to develop a formal evaluation protocol for the effectiveness, cost, durability, and operability of various idle-reduction technologies.

Vehicle speed is the single largest operational factor affecting CO_2 emissions from large trucks. A general rule of thumb is that every mph increase above 55 mph increases CO_2 emissions by more than 1%. Speed limiters are generally available on new trucks or as a low-cost retrofit, and assuming a five mph decrease in speed, payback occurs within a few months.[157]

Automatic tire inflation systems maintain proper inflation pressure, and thereby reduce tire rolling resistance. Studies indicate that automatic tire inflation systems result in about 0.5 to 1% reduction of CO_2 emissions for a typical truckload or less-than-truckload over-the-road trucking fleet.[158] Automatic tire inflation systems can pay back in less than four years, assuming typical underinflation rates.

All of the technologies summarized here can provide real GHG reductions while providing value to the truck owner through reduced fuel consumption. We request comment on the potential of these specific technologies and on any other technologies that may allow vehicle operators to reduce overall GHG emissions.

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[157] American Trucking Associations *Petition to National Highway Traffic Safety Administration*, (Docket NHTSA-2007-26851, Document ID NHTSA-2007-26851- 0005), October 20, 2006, and American Trucking Associations Comment to Docket (Docket NHTSA-2007-26851, Document ID NHTSA-2007-26851-3708), March 27, 2007.

[158] Emission reduction and payback information from United States Environmental Protection Agency. *A Glance at Clean Freight Strategies: Automatic Tire Inflation Systems*. EPA420-F-04-010. February 2004.

c. Regulatory Options for Reducing GHGs From Heavy-Duty Trucks

In developing any GHG program for heavy-duty vehicles, we would rely on our past experience addressing the multifaceted characteristics of this sector. In the following sections, we discuss three potential regulatory approaches for reducing GHG emissions from the heavy-duty sector. We request comments on all aspects of these options. We also encourage commenters to suggest other approaches that EPA should consider to address GHG emissions from heavy-duty trucks, recognizing that there are some important differences between criteria air pollutants and GHG emissions.

The heavy-duty engine manufacturers have made great strides in reducing criteria pollutant emissions. We know these same manufacturers have already achieved GHG emission reductions through the introduction of more efficient engine technologies, and have the potential to realize even greater reductions. We estimate that approximately 30% of the overall GHG emission reduction potential from this sector comes from engine improvements, 60% from truck improvements, and 10% from operational improvements based on the technologies outlined in the 21st Century Truck roadmap and Best Practices Guidebook for GHG Emissions Reductions in Freight Transportation. We request comment on our assessment ***44457** of the relative contributions of engine, truck, and operational technologies.

The first approach we could consider would be a regulatory program based on an engine CO_2 standard or weighted GHG standard including N_2 O and methane. One advantage to this option is its simplicity because it preserves the current regulatory and market structures. The heavy-duty engine manufacturers are familiar with today's certification testing and procedures. They have facilities, engine dynamometers, and test equipment to appropriately measure emissions. The same equipment and test procedures can be, and already are, used to measure CO_2 emissions. Measuring and reporting N_2 O and methane emissions would require relatively simple additions to existing test cell instrumentation. We request comment regarding issues that EPA should consider in evaluating this option and the most appropriate means to address the issues raised. We recognize that an engine-based regulatory structure would limit the potential GHG emission reductions compared to programs that include vehicle technologies and the crediting of fleets for operational improvements. The other approaches considered below would have the potential to provide greater GHG reductions by providing mechanisms to account for vehicle and fleet operational changes.

Recognizing that GHG emissions could be further reduced through improvements to both engines and trucks, we request comment on an alternative test procedure that would include vehicle aspects in an engine-based standard. This option would still be based on an engine standard. However, it would provide a mechanism to adjust the engine test results to account for improvements in vehicle design. For example, if through an alternate test procedure (e.g., a vehicle chassis test) a hybrid truck were shown to reduce GHG emissions by 20%, under this option an engine based GHG test result could be adjusted downward by that same 20%. In this way, we could reflect a range of vehicle or perhaps even operational changes into an engine based regulatory program. In fact, we are already developing such an approach for a vehicle based change to provide a better mechanism to evaluate criteria emissions from hybrid vehicles.[159] We are currently working with the heavy-duty industry to develop these new alternate test procedures and protocols. These new procedures could provide a foundation for regulatory programs to address GHG emissions as well. We request comment on the potential for alternate test procedures to reflect vehicle technologies in an engine based GHG regulatory program.

A second potential regulatory option for heavy-duty truck GHG emissions would be to follow a model very similar to our current light-duty vehicle test procedures. Each truck model could be required to meet a GHG emissions standard based on a specified drive cycle. The metric for the standard could be either a weighted GHG gram/mile with prescribed test weight and payload or GHG gram/payload ton-mile to recognize that heavy-duty trucks perform work. This option would reflect an important change from our current regulatory approach for most heavy-duty vehicles by direct regulation of trucks (and therefore truck manufacturers) rather than engines.[160] As discussed earlier in this section, we have historically regulated heavy-duty engines rather than vehicles reflecting in part the heavy-duty industry structure and in part the preeminence of engine technology in controlling NOx and PM emissions. Clearly truck design plays a much more important role in controlling GHG emissions due to significant energy losses through aerodynamic drag and tire rolling resistance, and therefore, this option directly considers the regulation of heavy-duty trucks. We request comment on all aspects of this option including the appropriate test metric, the need to develop new test procedures and potential approaches for grouping heavy-duty vehicles into subcategories for GHG regulatory purposes.

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[159] As discussed in section VI.C.2, we have also applied a similar alternate test procedure approach in our new locomotive standards (see 40 CFR 1033.530(h)).

As described earlier, there are a number of technologies and operational changes that heavy-duty fleet operators can implement to reduce both their overall operating costs and their GHG emissions. Therefore, a third regulatory option that could be considered as a complement to those discussed previously would be to allow heavy-duty truck fleets to generate GHG emissions credits for applying technologies to reduce GHG emissions, such as idle reduction, vehicle speed limiters, air conditioning improvements, and improved aerodynamic and tire rolling resistance. In order to credit the use of such technologies, EPA would first need to develop procedures to evaluate the potential for individual technologies to reduce GHGs. Such a procedure could be based on absolute metrics (g/mile or g/ton-mile) or relative metrics (percent reductions). We would further need to address a wide range of complex potential issues including mechanisms to ensure that the reductions are indeed realized in use and that appropriate assurance of such future actions could be provided at the time of certification, which occurs prior to the sale of the new truck. Such a regulatory program could offer a significant opportunity to reward trucking fleets for their good practices while providing regulatory flexibility to help address the great diversity of the heavy-duty vehicle sector. It would not lead to any additional GHG reductions, however, as the credits generated by the fleet operators would be used by the engine or vehicle makers to comply with their standards. We welcome comments on the merits and issues surrounding potential approaches to credit operational and technical changes from heavy-duty fleets to reduce GHG emissions.

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[160] For some years EPA has allowed gasoline and other non-diesel vehicle manufactures to certify to and comply with a vehicle based standard as compared to en engine based standard, at their option. See, e.g., 40 CFR 86.005-10.

In considering the regulatory options available, we are cognizant of the significant burden that could result if these programs were to require testing of every potential engine and vehicle configuration related to its GHG emissions. Therefore, we have been following efforts in Japan to control GHG emissions through a regulatory program that relies in part on engine test data and in part on vehicle modeling simulation. As currently constructed, Japan's heavy-duty fuel efficiency regulation considers engine fuel consumption, transmission type, and final drive ratio in estimating overall GHG emissions. Such a modeling approach may be a worthwhile first step and may be further improved by including techniques to recognize design differences in vehicle aerodynamics, tire rolling resistance, weight, and other factors. We request comment on the appropriateness of combining emissions test data with vehicle modeling results to quantify and regulate GHG emissions. In particular, we welcome comments addressing issues including model precision, equality aspects of model based regulation, and the ability to standardize modeling inputs.

The regulatory approaches that we have laid out in this section reflect incremental steps along a potential path to fully address GHG emissions from this sector. These approaches should not be viewed as discrete options but rather as potential building blocks that could be mixed and matched in an *44458 overall control program. Given the potential for significant burden, EPA is also interested in considering how flexibilities such as averaging, banking, and/or credit trading that may help to reduce costs may be built into any of the regulatory options discussed above. We request comment on all of the approaches described in this section and the potential to implement one or more of these approaches in a phased manner to capture the more straightforward approaches in the near-term and the more complex approaches over a longer period.

3. Highway Motorcycles

The U.S. motorcycle fleet encompasses a vast array of types and styles, from small and light scooters with chainsaw-sized engines to large and heavy models with engines as big as those found in many family sedans. In 2006 approximately 850,000 highway motorcycles were sold in the U.S., reflecting a near-quadrupling of sales in the last ten years. Even as motorcycles gain in popularity, their overall GHG emissions remain a relatively small fraction of all mobile source GHG emissions. Most motorcycles are used recreationally and not for daily commuting, and use is seasonally limited in much of the country. For these reasons and the fact that the fleet itself is relatively small, total annual vehicle miles traveled for highway motorcycles is about 9.5 billion miles (as compared to roughly 1.6 trillion miles for passenger cars).[161]

The Federal Highway Administration reports that the average fuel economy for motorcycles in 2003 was 50 mpg, almost twice that of passenger cars in the same time frame. However, motorcycles are generally designed and optimized to achieve maximum performance, not maximum efficiency. As a result, many high-performance motorcycles have fuel economy in the same range as many passenger cars despite the smaller size and weight of motorcycles. Recent EPA emission regulations are expected to reduce fuel use and hence GHG emissions from motorcycles by: (1) Leading manufacturers to increase the use of electronic fuel injection (replacing carburetors); (2) reducing permeation from fuel lines and fuel tanks; and (3) eliminating the use of two-stroke engines in the small scooter category.[162]

There may be additional opportunities for further reductions in GHG emissions. Options available to manufacturers may include incorporating more precise feedback fuel controls; controlling enrichment on cold starts and under load by electronically controlling choke operation; allowing lower idle speeds when the opportunity exists; optimizing spark for fuel and operating conditions through use of a knock sensor; and, like light-duty vehicles, reducing the engine size and incorporating a turbo-charger. The cost of these fuel saving and GHG reducing technologies may be offset by the fuel savings realized over the lifetime of the motorcycle.

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[161] "Highway Statistics 2003," U.S. Department of Transportation, Federal Highway Administration, Table VM-1, December 2004.

[162] See 69 FR 2398, January 15, 2004.

We request comment on information on what approaches EPA should consider for potential further reductions in GHG emissions from motorcycles. We also request comment and data regarding what technologies may be applicable to achieve further GHG reductions from motorcycles.

C. Nonroad Sector Sources

As discussed previously, CAA section 213 provides broad authority to regulate emissions from a wide array of nonroad engines and vehicles,[163] while CAA section 211 provides authority to regulate fuels and fuel additives from both on-highway and nonroad sources and CAA section 231 authorizes EPA to establish emissions standards for aircraft. Collectively, the Title II nonroad and fuel regulation programs developed by EPA over the past two decades provide a possible model for how EPA could structure a long-term GHG reduction program for nonroad engines and vehicles, fuels and aircraft.

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[163] The Act does not define "vehicle", but we have interpreted section 213 from its inception to include the broad array of equipment, machines, and vessels powered by nonroad engines, including those that are not self-propelled, such as portable power generators. In keeping with common usage, we typically use the generic terms "equipment", "machine", or "application", as well as the more application-specific terms "vehicle" and "vessel", to refer to these units, as appropriate.

In this section, we first review and request comment on a number of petitions received by EPA requesting action to regulate GHG emissions from these sources and we highlight the similarities and key issues raised in those petitions. We invite comment on all of the questions and issues raised in these petitions. For each of three primary groupings, nonroad, marine, and aircraft, we then discuss and seek comment on the GHG emissions from these sources and the opportunities to reduce GHG emissions through design and operational changes.

1. Petition Summaries

Since the *Massachusetts* decision, EPA has received seven additional petitions requesting that we make endangerment findings and undertake rulemaking procedures using our authority under CAA sections 211, 213 and 231 to regulate GHG[164] emissions from fuels, nonroad sources, and aircraft. The petitioners represent states, local governments, environmental groups, and nongovernmental organizations (NGO) including the states of California, New Jersey, New Mexico, Friends of the Earth, NRDC, OCEANA, International Center for Technology Assessment, City of New York, and the South Coast Air Quality Management District. Copies of these seven petitions can be found in the docket for this Advance Notice. Following is a brief summary of these petitions. We request comment on all issues raised by the petitioners.

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[164] While petitioners vary somewhat in their definition of GHGs, collectively they define carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, water vapor, sulfur hexaflouride, and soot or black carbon as GHGs.

a. Marine Engine and Vessel Petitions

The Agency has received three petitions to reduce GHG emissions from ocean-going vessels (OGVs). California submitted its petition on October 3, 2007. A joint petition was filed on the same day by EarthJustice on behalf of three environmental organizations: Oceana, Friends of the Earth and the Center for Biological Diversity ("Environmental Petitioners"). A third petition was received from the South Coast Air Quality Management District (SCAQMD) on January 10, 2008.

The California petition requests that EPA immediately begin the process to regulate GHG emissions from Category 3 powered OGVs.[165] According to the petition, the Governor of California has already recognized that, "California is particularly vulnerable to the impacts of climate change," including the negative impact of increased temperature on the Sierra snowpack, one of the State's primary sources of water, and the further exacerbation of California's air quality problems.[166] The petition outlines the steps California has already taken to reduce its own contributions to global warming and states that it is petitioning the

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[165] A category 3 vessel is one where the main propulsion engine(s) have a per-cylinder displacement of more than 30 liters.

[166] State of California, Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Ocean—Going Vessels, page3, October 3, 2007 ("California Petition").

Administrator to take action to regulate GHG emissions from *44459 OGVs because it believes national controls will be most effective.

California makes three key points in its petition. First, California claims that EPA has clear authority to regulate OGV GHG emissions under CAA section 213(a)(4). The State points out that the "primary substantive difference" between CAA section 202(a)(1), which the Supreme Court found authorizes regulation of GHGs emissions from new motor vehicles upon the Administrator making a positive endangerment finding, and section 213 is that section 202(a)(1) requires regulation if such an endangerment finding is made while section 213(a)(4) authorizes, but does not require, EPA to regulate upon making the requisite endangerment finding. But petitioner states that EPA's discretion to decide whether to regulate OGVs under section 213(a)(4) is constrained in light of the overall structure and purpose of the CAA. Citing the Massachusetts decision, California asserts that the Supreme Court has "set clear and narrow limits on the kinds of reasons EPA may advance for declining to regulate significant sources of GHGs".

The second claim California makes is that international law does not bar regulation of GHG emissions from foreign-flagged vessels by the U.S. California asserts that U.S. laws can operate beyond U.S. borders (referred to as extra-territorial operation of laws) when the conduct being regulated affects the U.S. and where Congress intended such extra-territorial application.[167] Petitioner believes that such application of the CAA is both "permissible and essential in this case" because to effectively control GHG emissions from shipping vessels, the EPA must regulate foreign-flagged vessels since they comprise 95% of the fleet calling on U.S. ports.[168] Petitioner cites two other instances where the U.S. has regulated foreign-flagged vessels. First, in *Specto* v. *Norwegian Cruiseline*, 545 U.S. 119 (2005), the Supreme Court held that the Americans with Disabilities Act (ADA) could be applied to foreign-flagged cruise ships that sailed from U.S. ports as long as the required accommodations for disabled passengers did not require major, permanent modification to the ships involved. Second, the National Park Service recently imposed air pollutant emissions controls on cruise ships, including foreign-flagged cruise ships that sail off the coast from Glacier Bay National Park, Alaska. The petitioner points out that in this case they did so to protect and preserve the natural resources of the Park, which is analogous to California's reasons for why EPA must regulate GHG emissions from foreign-flagged vessels.[169]

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[167] Petitioners cite *EEOC* v. *Arabian American Oil Co.*, 499 U.S. 244 (1991) ("Aramco") as supporting this principle.

The third claim raised in California's petition is that technology is currently available to reduce GHG emissions from these vessels, either through NO_X reductions or by reducing fuel consumption. Options include, using marine diesel fuel oil instead of bunker fuel, using selective catalytic reductions and exhaust gas recirculation or by reducing speed. Petitioner states that the Clean Air Act was intended to be a technology-forcing statute and that EPA can and should consider OGV control measures that force the development of new technology.

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[168] California Petition, page 13.

[169] Petitioners cite regulations found at 36 CFR 13.65 (b)(4) and 61 FR 27008, at 27011.

California requests three forms of relief: (1) That EPA make a finding that carbon dioxide emissions from new marine engines and vessels significantly contribute to air pollution which may reasonably be anticipated to endanger public health and welfare; (2) that EPA use its CAA section 213(a)(4) authority to adopt regulations specifying emissions standards for CO_2 emissions from these engines and vessels; and (3) that EPA adopt regulations specifying fuel content or type necessary to carry out the emission standards adopted for new marine engines.

The second group requesting EPA action on OGVs, Environmental Petitioners, believes that climate change threatens public health and welfare and that marine shipping vessels make a significant contribution to GHG emissions, and that therefore EPA should quickly promulgate regulations requiring OGVs to meet emissions standards by "operating in a fuel-efficient manner, using cleaner fuels and/or employing technical controls, so as to reduce emissions of carbon dioxide, nitrous oxide, and black carbon."These petitioners further state that EPA should also control "the manufacture and sale of fuels used in marine shipping vessels by imposing fuel standards" to reduce GHG emissions.[170]

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[170] Environmental Petition, Petition for Rulemaking Under the Clean Air Act to Reduce the Emissions of Air Pollutants from Marine Shipping Vessels that Contribute to Global Climate Change, page 2, October 3, 2007.

The Environmental Petitioners focus their petition on four specific arguments. First, like California, they assert that OGVs play a significant role in global climate change. They focus on the emissions of four pollutants: CO_2, NO_X, N_20, and black carbon (also known as soot). Petitioners cite numerous studies that they assert document that the impact of these GHG emissions are significant today and that industry trends indicate these emissions will grow substantially in future decades. Second, petitioners lay out a detailed legal argument asserting that EPA has clear authority to regulate these four air pollutants from OGVs, and contending that the *Massachusetts* decision must guide EPA's actions as it decides how to regulate GHG emissions from OGVs. Third, petitioners discuss a number of regulatory measures that can effectively reduce GHG emissions from OGVs and which EPA could adopt using its regulatory authority under CAA section 213(a)(4), including measures requiring restrictions on vessel speed; requiring the use of cleaner fuels in ships and other technical and operations measures petitioners believe are relatively easy and cost-effective. Lastly, petitioners assert that the CAA section 213 provides EPA with clear authority to regulate GHG emissions from both new and remanufactured OGV engines as well as from foreign-flagged vessels.

SCAQMD petition also requests Agency action under section 213 of the CAA and states that it has a strong interest in the regulation of GHG emissions from ships including emissions of NO_X, PM, and CO_2. SCAQMD states that the net global warming effect of NO_X emissions is potentially comparable to the climate effect from ship CO_2 emissions and that PM emissions from ships in the form of black carbon can also increase climate change.[171] Finally, because international shipping activity is increasing yearly, SCAQMD asserts that if EPA dos not act quickly, future ship pollution will become even worse, increasing both ozone and GHG levels in the South Coast area of California. As with other petitioners, SCAQMD states that there is a clear legal basis for EPA to regulate ships GHG emissions under section 213(a)(4).

SCAQMD makes two additional assertions in its petition which mirror the California and Environmental Petitions. First, EPA can avoid regulation of ship GHG emissions only if it determines that "endangerment" can be avoided without regulation of ship emissions.[172] Second, SCAQMD believes that EPA has the authority to regulate foreign-flagged vessels under at ***44460** least two circumstances: (1) For a foreign owned and operated vessel, where the regulation(s) would not interfere with matters that "involve only the internal order and discipline of the vessel," *Spector* v. *Norwegian Cruise Lines*, 545 U.S. 119, 131 (2005), and (2) where the vessel is owned and operated by a U.S. corporation, even if it is foreign-flagged.[173]

SCAQMD requests two types of relief: (1) That EPA, within six months of receiving its petition, make a positive endangerment determine for CO_2, NO_X, and black carbon emissions from new marine engines and vessels "because of their contribution to climate change;" and (2) that EPA promulgate regulations under CAA section 213 (a)(4) to obtain the maximum feasible reductions in emissions of these pollutants. We invite comment on all elements of the petitioners' assertions and requests.

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[171] SCAQMD, Petition for Rulemaking under the Clean Air Act to Reduce Global Warming Pollutants from Ships, page 2, January 10, 2008.

[172] SCAQMD Petition, page 9.

[173] SCAQMD Petition, page10.

b. Aircraft Petitions

The Agency has received two petitions to reduce GHG emissions from aircraft.[174] The first petition was submitted on December 4, 2007, by California, Connecticut, New Jersey, New Mexico, Pennsylvania's Department of Environmental Protection, the City of New York, the District of Columbia, and the SCAQMD ("State Petitioners"). A second petition was filed on December 31, 2007, by Earthjustice on behalf of four environmental organizations: Friends of the Earth, Oceana, Center for Biological Diversity and NRDC ("Environmental Petitioners").

All petitioners request that EPA exercise its authority under section 231(a) of the CAA to regulate GHG emissions from new and existing aircraft and/or aircraft engine operations, after finding that aircraft GHG emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.[175] Petitioners suggest that these regulations could allow compliance through technological controls, operational measures, emissions fees, or a cap-and-trade system.

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[174] While aircraft engines are not "nonroad engines" as defined in CAA section 216(10) and aircraft are not "nonroad vehicles" as defined in CAA section 216(11), such that aircraft could be subject to regulation under CAA section 213, for organizational efficiency we include aircraft in this "Nonroad Sector Sources" section of today's notice.

[175] Petitioners maintain that aircraft engine emissions of CO_2, NO_x, water vapor, carbon monoxide, oxides of sulfur, and

Both petitions discuss how aircraft engines emit GHG emissions which they assert have a disproportionate impact on climate change. Petitioners cite a range of scientific documents to support their statements. They assert that ground-level aircraft NO_X, a compound they identify as a GHG, contributes to the formation of ozone, a relatively short-lived GHG. NO_X emissions in the upper troposphere and tropopause, where most aircraft emissions occur, result in greater concentrations of ozone in those regions of the atmosphere compared to ground level ozone formed as a result of ground level aircraft NO_X emissions. Petitioners contend that aircraft emissions contribute to climate change also by modifying cloud cover patterns. Aircraft engines emit water vapor, which petitioners identify as a GHG that can form condensation trails, or "contrails," when released at high altitude. Contrails are visible line shaped clouds composed of ice crystals that form in cold, humid atmospheres. Persistent contrails often evolve and spread into extensive cirrus cloud cover that is indistinguishable from

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other trace components including hydrocarbons such as methane and soot contribute to global warming and that in 2005, aircraft made up 3% of U.S. CO_2 emissions from all sectors, and 12% of such emissions from the transportation sector. States of California *et al*, Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Aircraft, page 11, December 4, 2007, and Friends of the Earth *et al.*, Petition for Rulemaking under the Clean Air Act to Reduce the Emissions of Air Pollutants from Aircraft that Contribute to Global Climate Change, pages 6-7, December 31, 2007.

naturally occurring cirrus clouds. The petitioners state that over the long term this contributes to climate change.

State Petitioners highlight the effects climate change will have in California and the City of New York as well as efforts underway in both places to reduce GHG emissions. They argue that without federal government regulation of GHG emissions from aircraft, their efforts at mitigation and adaptation will be undermined. Both petitioners urge quick action by EPA to regulate aircraft GHG emissions since these emissions are anticipated to increase considerably in the coming decades due to a projected growth in air transport both in the United States and worldwide. They cite numerous reports to support this point, including an FAA report, which indicates that by 2025 emissions of CO_2 and NO_X from domestic aircraft are expected to increase by 60%.[176]

We request comment on all issues raised in the petitions, particularly on two assertions made by Environmental Petitioners: (1) That technology is available to reduce GHG emissions from aircraft allowing EPA to take swift action, and (2) that EPA has a mandatory duty to control GHG emissions from aircraft and can fulfill this duty consistent with international law governing aircraft. In addition, we invite comment on the petitioners' assessment of the impact of aircraft GHG emissions on climate change, including the scientific understanding of these impacts, and whether aircraft GHG emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.

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[176] FAA, Office of Environment and Energy, Aviation and Emission: *A Primer*, January 2005, page 10, available at *http://www.faa.gov/regulations—policies/policy—guidance/envir—policy/media/aeprimer.pdf*.

With regard to technology, petitioners highlight existing and developing aviation procedures and technologies which could reduce GHG emissions from new and existing aircraft. For example, they point to various aviation operations and procedures including minimizing engine idling time on runways and employing single engine taxiing that could be undertaken by aircraft to reduce GHG emissions. Petitioners also discuss the availability of more efficient aircraft designs to reduce GHG emissions, such as reducing their weight, and they suggest that using alternative fuels could also reduce aviation GHG emissions.

Environmental Petitioners contend that once EPA makes a positive endangerment finding for aircraft GHG emissions, EPA has a mandatory duty to act, but that the potential regulatory responses available to EPA are quite broad and should be considered for all classes of aircraft, including both new and in-use aircraft and aircraft engines. In addition, petitioners argue that EPA's authority to address GHG emissions from aircraft is consistent with international law-in particular the Convention on International Civil Aviation (the "Chicago Convention")—and that the United States" obligations under the Convention do not constrain EPA's authority to adopt a program that addresses aviation's climate change impacts, including those from foreign aircraft.

The State and Environmental Petitioners each request the following relief: (1) That EPA make an explicit finding under CAA section 231(a)(2)(A) that

GHG emissions from aircraft cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare; (2) that EPA propose and adopt standards for GHG emissions from both new and in-use aircraft as soon as possible; (3) that EPA adopt regulations that allow a range of compliance approaches, including emissions limits, operations practices and/or fees, a cap-and-trade system, as well as measures that are more near-***44461** term, such as reduced taxi time or use of ground-side electricity measures. The Environmental Petitioners' also request that EPA issue standards 90 days after proposal. We invite comment on all elements of the petitioners' assertions and requests, as well as the scientific and technical basis for their assertions and requests.

c. Nonroad Engine and Vehicle Petitions

On January 29, 2008, EPA received two petitions to reduce GHG emissions from nonroad engines and vehicles. The first petition was submitted by California, Connecticut, Massachusetts, New Jersey and Oregon and Pennsylvania's Department of Environmental Protection ("State Petitioners"). The second petition was submitted by the Western Environmental Law Center on behalf of three nongovernmental organizations: the International Center for Technology Assessment, Center for Food Safety, and Friends of the Earth ("NGO Petitioners").

Both petitions request that EPA exercise its authority under CAA section 213(a)(4) to adopt emissions standards to control and limit GHG emissions from new nonroad engines excluding aircraft and vessels. Both petitions seek EPA regulatory action on a wide range of nonroad engines and equipment, which the petitioners believe, contribute substantially to GHG emissions, including outdoor power equipment, recreational vehicles, farm and construction machinery, lawn and garden equipment, logging equipment and marine vessels.[177]

The State Petitioners, mirroring the earlier State petitions on ocean-going vessels and aircraft, describe the harms which they believe will occur due to climate change, including reduced water supplies, increased wildfires, and threats to agricultural outputs in California; loss of coastal wetlands, beach erosion, saltwater intrusion of drinking water in Massachusetts and Connecticut; and similar harms to the Pennsylvania, New Jersey and Oregon. The petition highlights actions that California has already taken to reduce its own contributions to global warming but points out that only EPA has authority to regulate emissions from new farm and construction equipment under 175 horsepower, "which constitutes a sizeable portion of all engines in this category.* * * "[178]

The State Petitioners present three claims which, they believe compel EPA action to reduce GHG emissions from nonroad sources. First, petitioners claim that GHG emissions from these sources are significant.[179] Petitioners cite various reports documenting national GHG emissions from a broad range of nonroad categories which, they contend, provide evidence that nonroad GHG emissions are already substantial, and will continue to increase in the future. Petitioners, also cite additional inventory reports that nonroad GHG emissions already exceed total U.S. GHG emissions from aircraft as well as from boats and ships, rail, and pipelines combined.[180] Petitioner's present California nonroad GHG emissions data which, they contend, mirror national GHG emission trends for nonroad engines and bolster their claim that GHG emissions from the nonroad sector, as a whole, are significant and are substantial for three categories: Construction and mining equipment, agricultural, and industrial equipment.

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[177] The two petitions request that EPA regulate slightly different categories of nonroad engines and vehicles under CAA section 213. State Petitioners exclude from their request aircraft, locomotives and ocean-going vessels and do not include rebuilt heavy-duty engines. The *NGO Petitioners* exclude only aircraft and ocean-going vessels but also request that EPA use its CAA section 202 authority to regulate GHG emissions from rebuilt heavy-duty engines.

[178] States Petition for Nonroad, page 7-8.

State Petitioners' second claim is that EPA has the authority to regulate GHG emissions from nonroad sources, although they acknowledge that CAA section 213(a)(4) is discretionary. Petitioners contend this discretion is not unlimited and that the structure of the CAA must guide EPA's actions. Petitioners maintain that since the CAA prohibits States from undertaking their traditional police power role in regulating pollution from new construction or agricultural sources under 175 horsepower, "Congress has implicitly invested EPA with the responsibility to act to prevent [these] harmful emissions."The third and final claim raised by State Petitioners is that both physical and operational controls are currently available to achieve fuel savings and/or to limit GHG emissions. Such measures include idle reduction, electrification of vehicles, the use of hybrid or hydraulic-hybrid technology, as well as use of "cool paints" that reduce the need for air conditioning.

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[179] Petitioners indicate that in 2007, non-transportation mobile vehicles and equipment were responsible for approximately 220 million tons of CO_2 emissions (data derived from EPA's Nonroad Emissions model for 2007). State of California et al, Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Nonroad Vehicles and Engines, page 8, January 29, 2008, and International Center for Technology Assessment et al, Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Nonroad Vehicles and Engines, page 5, January 29, 2008.

[180] State Petition for Nonroad, page 9.

NGO petitioners make three similar claims in their petition. First, petitioners argue that serious public health and environmental consequences are projected for this century unless effective and timely action is taken to mitigate climate change. Petitioners further contend that GHG emissions from nonroad engines and vehicles are responsible for a significant and growing amount of GHG emissions and, like the State petitioners previously, they highlight three nonroad sectors responsible for a large portion of these GHG emission—construction, mining, and agriculture.

Petitioners' second claim is that once EPA renders a positive endangerment determination under CAA section 202 for motor vehicles and engines, this finding should also satisfy the endangerment determination required under CAA section 213(a)(4) for nonroad engines. EPA's discretion under CAA section 213(a)(4) is limited, petitioners assert, by the relevant statutory considerations, as held by the Supreme Court in *Massachusetts v. EPA*, so that the Agency "can decline to regulate nonroad engine and vehicle emissions only if EPA determines reasonably that such emissions do not endanger public health or welfare, or else, taking into account factors such as cost, noise, safety and energy, no such regulations would be appropriate."[181] Like State petitioners, NGOs point out that because the CAA restricts states' ability to regulate pollution from new construction or farm vehicles and engines under 175 horsepower, Congress "implicitly invested EPA with unique responsibility to act in the states" stead so as to prevent such harmful emissions." Petitioners also argue that the National Environment Policy Act (NEPA) section 101(b) compels EPA action to fulfill its duty "as a trustee of the environment for succeeding generations."

NGO Petitioners' third claim is that a wide range of technology is currently available to reduce GHG emissions from nonroad engines and vehicles and that, in addition, the CAA was intended to be a technology-forcing statute so that EPA "can and should" establish regulations that "substantially limit GHG emissions.* * * even where those regulations force the development of new technology."Regarding technology availability, petitioners provide a list of technologies that they believe are currently available to reduce GHG emissions from nonroad vehicles and engines, including auxiliary power unit systems to avoid engine use solely to ***44462** heat or cool the cab; tire inflation systems; anti-idling standards; use of hybrid or hydraulic-hybrid technology; use of low carbon fuels; and use of low viscosity lubricants.

Both State and NGO Petitioners request three types of relief: (1) That EPA make a positive endangerment determination for GHG emissions from nonroad vehicles and engines;[182] (2) that EPA adopt regulations to reduce GHG emissions from this sector; and (3) that regulations necessary to carry out the emissions standards also be adopted.[183] We invite comment on all of the petitioners' assertions and requests.

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[181] *NGO Petition*, page 8.

2. Nonroad Engines and Vehicles

In this section, we discuss the GHG emissions and reduction technologies that are or may be available for the various nonroad engines and vehicles that are the subject of the petitioners described above. Since section 213 was added to the CAA in 1990, the Agency has completed a dozen major rulemakings which established programs that reduce traditional air pollutants from nonroad sources by over 95%, benefitting local, regional, and national air quality. EPA's approach has been to set standards based on technology innovation, with flexibility for the regulated industries to meet environmental goals through continued innovation that can be integrated with marketing plans.

With help from industry, environmental groups and state regulators, EPA has designed nonroad regulatory programs that have resulted in significant air quality gains with little sacrifice of products' ability to serve their purpose. In fact, manufacturers have generally added new features and performance improvements that are highly desirable to users. Because GHG reductions from nonroad sources can be derived from fuel use reductions that directly benefit the user's bottom line, we expect that manufacturers' incentive to increase the fuel efficiency of their products will be even stronger in the future. This potential appears higher for nonroad engines compared to highway engines because in the past energy consumption has been less of a focus in the nonroad sector, so there may be more opportunity for improvement, while at the same time higher fuel prices are now beginning to make fuel expenses more important to potential equipment purchasers.

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[182] In addition, NGO Petitioners also request that EPA make a determination under CAA section 202 (a)(3)(D) that GHG emissions from rebuilt heavy-duty engines also are significant contributors to air pollution which may reasonably be anticipated to endanger public health and welfare. NGO Petition, page 11.

[183] State Petitioners indicate that adopting regulations specifying fuel type, for example, may be necessary to carry out the emission limitations.

The Agency and regulated industries have in the past grouped nonroad engines in a number of ways. The first is by combustion cycle, with two primary cycles in use: compression-ignition (CI) and spark-ignition (SI). The combustion cycle is closely linked to grouping by fuel type, because CI engines largely burn diesel fuel while SI engines burn gasoline or, for forklifts and other indoor equipment, liquefied petroleum gas (LPG). It has also been useful to group nonroad engines by application category. Regulating nonroad engine application categories separately has helped the Agency create effective control programs, due to the nonroad sector's tremendous diversity in engine types and sizes, equipment packaging constraints, affected industries, and control technology opportunities. Although for the sake of discussion we use these application groupings, we solicit comment on what grouping engines and applications would make the most sense for GHG regulation, especially if flexible emissions credit and averaging concepts are pursued across diverse applications.

a. Nonroad Engine and Vehicle GHG Emissions

Nonroad engines emitted 249 million metric tons of CO_2 in 2006, 12% of the total mobile source CO_2 emissions.[184] CO_2 emissions from the nonroad sector are expected to increase significantly in the future, approximately 46% between 2006 and 2030. Diesel engines emit 71% of the total nonroad CO_2 emissions. The other 29% comes from gasoline, LPG, and some natural gas-fueled engines. CO_2 emissions from individual nonroad application categories in decreasing order of prominence are: Nonroad diesel (such as farm tractors, construction and mining equipment), diesel locomotives, small SI (such as lawn mowers, string trimmers, and portable power generators), large SI (such as forklifts and some construction machines), recreational marine SI, and recreational offroad SI (such as all terrain vehicles and snowmobiles).

GHG emissions from nonroad applications are dominated by CO_2 emissions which comprise approximately 97% of the total. Approximately 3% of the GHG emissions (on a CO_2 equivalent basis) from nonroad applications are due to hydrofluorocarbon emissions, mainly from refrigerated rail transport. Methane and N_2O make up less than 0.2% of the nonroad sector GHG emissions on a CO_2 equivalent basis. Much of the following discussion focuses on technology opportunities for CO_2 reduction, but we note that these technologies will generally reduce N_2O and methane emissions as well, and we ask for comment on measures and options for specifically addressing N_2O and methane emissions.

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[184] Emissions data in this section are from *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006*. EPA 430-R-08-005. April 2008, and EPA NONROAD2005a model.

b. Potential for GHG Reductions From Nonroad Engines and Vehicles

The opportunity for GHG reductions from the nonroad sector closely parallels the highway sector, especially for the heavy-duty highway and nonroad engines that share many design characteristics. In addition, there is potential for significant further GHG reductions from changes to vehicle and equipment characteristics. A range of GHG reduction opportunities is summarized in the following discussion. Comment is requested on these opportunities and on additional suggestions for reducing GHGs from nonroad sources.

It should be noted that any means of reducing the energy requirements necessary to power a nonroad application can yield the desired proportional reductions of GHGs (and other pollutants as well). Although in past programs, the Agency has typically focused on a new engine's emissions per unit of work, such as gram/brake horsepower-hour (g/bhp-hr), it may prove more effective to achieve GHG reductions by redesigning the equipment or vehicle that the engine powers so that the nonroad application accomplishes its task while expending less energy. Improvements such as these do not show up in measured g/bhp-hr emissions levels, but would be reflected in some other metric such as grams emitted by a locomotive in moving a ton of freight one mile.

EPA solicits comment on possible nonroad GHG emissions reduction strategies for the various "pathways" by which GHGs can be impacted. Although it is obvious that internal combustion engines emit GHGs via the engine exhaust, it is helpful to take the analysis to another level by putting it in the context of energy use and examining the pathways by which energy is expended in a nonroad application, such as through vehicle braking. Because of the diversity of nonroad applications, we are taking a different approach here than in other sections of this notice: first, we summarize some of the engine, equipment, and operational pathways ***44463** and opportunities for GHG reductions that are common to all or at least a large number of nonroad applications; next, we examine more closely just one of the hundreds of nonroad applications, locomotives, to illustrate the many additional application-specific pathways for GHG reductions that are available. Our assessment is that, despite the great diversity in nonroad applications, technology-based solutions exist for every application to achieve cost-effective and substantial GHG emissions reductions.

i. Common GHG Reduction Pathways

To ensure that this advance notice initiates the widest possible discussion of potential GHG control solutions, the following discussion includes all three types of possible control measures: engine, equipment, and operational.

(1) Engine Pathways

To date, improving fuel usage in many nonroad applications has not been of great concern to equipment users and therefore to designers. There is potential for technologies now fairly commonplace in the highway sector, such as advanced lubricants and greater use of electronic controls, to become part of an overall strategy for GHG emissions reduction in the nonroad sector. We welcome comment on the opportunities and limitations of doing so.

One engine technology in particular warrants further discussion. Two-stroke gasoline engines have been popular especially in handheld lawn care applications and recreational vehicles because they are fairly light and inexpensive. However, they also produce more GHGs than four-stroke engines. Much progress has been made in recent years in the development of four-stroke engines that function well in these applications. We ask for comment on the extent to which a shift to four-stroke engines would be feasible and beneficial.

Although today's nonroad gasoline and diesel engines produce significantly less GHGs than earlier models, further improvements are possible. Engine designers are continuing to work on new designs incorporating technologies that produce less GHGs, such as homogeneous charge CI, waste heat recovery through turbo compounding, and direct fuel injection in SI engines. Most of this work has already been done for the automotive sector where economies of scale can justify the large investments. Much of this innovation can eventually be adapted to nonroad applications, as has occurred in the past with such technologies as electronic fuel injection and common rail fueling. We therefore request comment on the feasibility and potential for these advanced highway sector technologies, discussed in section VI.B, to be introduced or accelerated in the nonroad sector.

(2) Equipment and Operational Pathways

Technology solutions in both the equipment design and operations can reach beyond the engine improvements to further reduce GHG emissions. We broadly discuss the following technologies below: Regenerative energy recovery and hybrid power trains, CVT transmissions, air conditioning improvements, component design improvements, new lighting technologies, reduced idling, and consumer awareness.

Locomotives, as an example, have significant potential to recover energy otherwise dissipated as heat during braking. An 8,000-ton coal train descending through 5,000 feet of elevation converts 30 MW-hrs of potential energy to frictional and dynamic braking energy. Storing that energy on board quickly enough to keep up with the energy generation rate presents a challenge, but may provide a major viable GHG emissions reduction strategy even if only partially effective. Another regenerative opportunity relates to the specific, repetitive, predictable work tasks that many nonroad machines perform. For example, a forklift in a warehouse may lift a heavy load to a shelf and in doing so expend work. Just as often, the forklift will lower such a load from the shelf, and recover that load's potential energy, if a means is provided to store that energy on board.

There are, however, many nonroad applications that may not have much potential for regenerative energy recovery (a road grader, for example), but in those applications a hybrid diesel-electric or diesel-hydraulic system without a regenerative component may still provide some GHG benefits. A machine that today is made with a large engine to handle occasional peak work loads could potentially be redesigned with a smaller engine and battery combination sized to handle the occasional peak loads.

Besides pre-existing electrical or hydraulic systems, some nonroad applications have one additional advantage over highway vehicles in assessing hybrid prospects: They often have quite predictable load patterns. A hybrid locomotive, for example, can be assigned to particular routes, train sizes, and consist (multi-locomotive) teams, to ensure it is used as close to full capacity as possible. The space needs of large battery banks could potentially be accommodated on a tender car, and the added weight would be offset somewhat by a smaller diesel fuel load (typically 35,000 lbs today) and dynamic brake grid. At least one locomotive manufacturer, General Electric, is already developing a hybrid design, and battery energy storage has been demonstrated for several years in rail yard switcher applications.

We request comment on all aspects of the hybrid and regeneration opportunity in the nonroad sector, including the extent to which the electric and hydraulic systems already designed into many nonroad machines and vehicles could provide some cost savings in implementing this technology, and the extent to which plug-in technologies could be used in applications that have very predictable downtime such as overnight at construction sites, or that can use plug-in electric power while working or while sitting idle between tasks.

A Continuously Variable Transmission (CVT) has an advantage over other conventional transmission designs by allowing the engine to operate at its optimum speed over a range of vehicle speeds and typically over a wider range of available ratios, which can provide GHG emission reductions. It has been estimated that CVTs can provide a 3 to 8% decrease in fuel use over 4-speed automatic transmissions.[185] They are already in use some in nonroad vehicles such as snowmobiles and all-terrain vehicles, and could possibly be used in other nonroad applications as well. We request comment on the opportunities to apply CVT to various nonroad applications.

Some nonroad applications have air conditioning or refrigeration equipment, including large farm tractors, highway truck transport refrigeration units (TRUs), locomotives, and refrigerated rail cars. Reducing refrigerant leakage in the field or reducing its release during maintenance would work to reduce GHG emissions In addition, a switch to refrigerants with lower GHG emissions than the currently-used fluorinated gases can have a significant impact. We expect that the measures used to reduce nonroad equipment refrigerant GHGs would most likely involve the same strategies that have been or could be pursued in the highway and stationary ***44464** source sectors, and the reader is referred to section VI.B.1 for additional discussion. We request comment on the degree to which nonroad applications emit fluorinated gases, and on measures that may be taken to reduce these emissions.

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[185] "Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards," National Research Council, National Academy of Sciences, 2002.

An extensive variety of energy-consuming electrical, mechanical, and hydraulic accessories are designed into nonroad machines to help them perform their tasks. Much of the energy output of a nonroad engine passes through these components and systems in making the machine do useful work, and all of them have associated energy losses through bearing friction, component heating, and other pathways. Designing equipment to use components with lower GHG impacts in these systems can yield substantial overall reductions in GHG emissions.

Some nonroad applications expend significant energy in providing light, such as locomotive headlights and other train lighting. Furthermore, diesel-powered portable light towers for highway construction activities at night are increasingly being used to reduce congestion from daytime lane closures. We request comment on the extent to which a switch to less energy-intensive lighting could reduce GHG emissions.

Many nonroad diesel engines are left idling during periods when no work is demanded of them, generally as a convenience to the operator, though modern diesel engines are usually easy to restart. In some applications this may occupy hours every day. Even though the hourly fuel rate is fairly low during idle, in the past several years railroads have saved considerable money by adding automatic engine stop start (AESS) systems to locomotives. These monitor key parameters such as state of battery charge, and restart the engine only as needed, thereby largely eliminating unnecessary idling. They reduce GHG emissions and typically pay for themselves in fuel savings within a couple of years. Our recent locomotive rule mandated these systems for all new locomotives as an emission control measure (40 CFR 1033.115(g)). AESS or similar measures may be feasible for other nonroad applications with significant idling time as well. We request comment on the availability and effectiveness of nonroad idle reduction technologies.

ii. Application-Specific GHG Pathways

As mentioned above, we discuss application-specific approach for further reducting GHG emissions from one nonroad application, locomotives, to illustrate application-specific opportunities for GHG emission reductions beyond those discussed above that apply more generally. We note that some of these application-specific opportunities, though limited in breadth, may be among the most important, because of their large GHG reduction potential.

We have chosen locomotives for this illustration in part because rail transportation has already been the focus of substantial efforts to reduce its energy use, resulting in generally favorable GHG emissions per ton-mile or per passenger-mile. The Association of American Railroads calculates that railroads move a ton of freight 423 miles on one gallon of diesel fuel.[186] Reasons for the advantage provided by rail include the use of medium-speed diesel engines, lower steel-on-steel rolling resistance, and relatively gradual roadway grades. Rail therefore warrants attention in any discussion on mode-shifting as a GHG strategy.

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[186] Comments of the Association of American Railroads on EPA's locomotive and marine engine proposal, July 2, 2007. Available in EPAdocket EPA-HQ-OAR-2003-0190.

Even if GHG emissions reduction were not at issue, shippers and travelers already experience substantial mode-shift pressure today from long-term high fuel prices. Growth in the rail sector highlights the critical importance of locomotive GHG emissions reduction.

We have listed some key locomotive-specific opportunities below. We note that a number of these are aimed at addressing GHG pathways from rail cars. Rail cars create very significant GHG reduction pathways for locomotives, because all of the very large energy losses from railcar components translate directly into locomotive fuel use. This is especially important when one considers that an average train has several dozen cars. We request comment on the feasibility of the ideas on this list and on other possible ways to reduce GHG emissions.

Opportunities for Rail GHG Reduction

Locomotives

- Low-friction wheel bearings
- Aerodynamic improvements
- Idle emissions control beyond AESS (such as auxiliary power units)
- Electronically-controlled pneumatic (ECP) brakes
- High-adhesion trucks (wheel assemblies)
- Global positioning system (GPS)-based speed management (to minimize braking, over-accelerations, and run-out/run-in losses at couplings)

Railcars

- Low-torque rail car wheel bearings
- Tare weight reduction
- Aerodynamic design of rail cars and between-car gaps
- Better insulated refrigeration cars

Rail Infrastructure

- Application of lubricants or friction modifiers to minimize wheel-to-track friction losses
- Higher-speed railroad crossings
- Targeted-route electrification
- Rail yard infrastructure improvements to eliminate congestion and idling

Operational

- Consist manager (automated throttling of each locomotive in a consist team for lowest overall GHG emissions)
- Optimized GPS-assisted dispatching/routing/tracking of rail cars and locomotives
- Optimized matching of locomotives with train load for every route (including optimized placement of each locomotive along the train)
- Expanded resource sharing among railroads
- Reduction of empty-car trips
- Early scrappage of higher-GHG locomotives

c. Regulatory Options for Nonroad Engines and Vehicles

There is a range of options that could be pursued under CAA section 213 to control nonroad sector GHGs. The large diversity in this sector allows for a great number of technology solutions as discussed above, while also presenting some unique challenges in developing a comprehensive, balanced, and effective regulatory program, and highlights the importance of considering multiple potential regulatory strategies. We have met similar challenges in regulating traditional air pollutants from this sector, and we request comment on the regulatory approaches discussed below and whether they would address the challenges of regulating GHGs from nonroad engines.

As discussed in our earlier section on heavy-duty vehicles, the potential regulatory approaches that we discuss here should be considered not as discrete options but as a continuum of possible approaches to address GHG emissions from this sector. Just as we have in our technology discussion, these regulatory approaches begin with the engine and then expand to included potential approaches to realize reductions through vehicle and operational changes. In approaching the discussion in this way, each step along such a path has the potential to greater regulatory complexity but also has the ***44465** potential for greater regulatory flexibility, GHG reduction, and program benefits. For large GHG reductions in the long term we expect to give consideration to approaches that accomplish the largest reductions, but we also note that, given the long time horizons for GHG issues, we can consider a number of incremental regulatory steps along a longer path. Also, given the absence of localized effects associated with GHG emissions, EPA is interested in considering the incorporation of banking, averaging, and/or credit trading into the regulatory options discussed below.

The first regulatory approach we consider is a relatively straightforward extension of our existing criteria pollutant program for nonroad engines. In its simplest form, this approach would be an engine GHG standard that preserves the current regulatory structure for nonroad engines. Nonroad engine manufacturers are already familiar with today's certification testing and procedures. Just like the highway engine manufacturers, they have facilities, engine dynamometers, and test equipment to appropriately measure GHG emissions. Further, technologies developed to reduce GHG emissions from heavy-duty engines could be applied to the majority of diesel nonroad engines with additional development to address differences in operating conditions and engine applications in nonroad equipment. Hence, this approach would benefit from both regulatory work done to develop a heavy-duty engine GHG program and technology development for heavy-duty engines to comply with a GHG program. While we do not expect that new test cycles would be needed to effect meaningful GHG emissions control, we request comment on whether new test cycles would allow for improved control, and especially on whether there are worthwhile GHG control technologies that would not be adequately exercised and measured under the current engine test cycles and test procedures.

A second approach that would extend control opportunities beyond engine design improvements involves developing nonroad vehicle and equipment GHG standards. Changes to nonroad vehicles and equipment can offer significant opportunity for GHG emission reductions, and therefore any nonroad GHG program considered by EPA would need to evaluate the potential for reductions not just from engine changes but from vehicle and equipment changes as well. In section VI.B.2 we discussed a potential heavy-duty truck GHG standard (e.g., a gram per mile or gram per ton-mile standard). A similar option could be considered for at least some portion of nonroad vehicles and equipment. For example, a freight locomotive GHG standard could be considered on a similar mass per ton mile basis. This would be a change from our current mass per unit work approach to locomotive regulation, but section 213 of the Clean Air Act does authorize the Agency to set vehicle-based and equipment-based nonroad standards as well.

However, we are concerned that there may be significant drawbacks to widespread adoption of this application-specific standards-setting approach. For the freight locomotive example given above, a gram per ton-mile emissions standard measured over a designated track route might be a suitable way to express a GHG standard, but such a metric would not necessarily be appropriate for other applications. Instead each application could require a different unit of measure tied to the machine's mission or output—such as grams per kilogram of cuttings from a "standard" lawn for lawnmowers and grams per kilogram-meter of load lift for forklifts. Such application-specific standards would provide the clearest metric for GHG emission reductions. The standards would directly reflect the intended use of the equipment and would help drive equipment and engine designs that most effectively meet that need while reducing overall GHG emissions. However, the diversity of tasks performed by the hundreds of nonroad applications would lead to a diverse array of standard work units and measurement techniques in such a nonroad GHG program built on equipment-based standards. We request comments on this second regulatory approach, and in particular comments that identify specific nonroad applications that would be best served by such a nonroad vehicle-based regulatory approach.

A variation on the above-described approaches would be to maintain the relative simplicity of an engine-based standard while crediting the GHG emission reduction potential of new equipment designs. Under this option, the new technology would be evaluated by measuring GHG emissions from a piece of equipment that has the new technology while performing a standard set of typical tasks. The results would then be compared with data from the same or an identical piece of equipment, without the new technology, performing the same tasks. This approach could be carried out for a range of equipment models to help improve the statistical case for the resulting reductions. The percentage reduction in GHG emissions with and without the new equipment technology could then be applied to the GHG emissions measured in certification testing of engines used in the equipment in helping to demonstrate compliance with an engine-based GHG standard. Thus if a new technology were shown to reduce the GHG emissions of a typical piece of equipment by 20%, that 20% reduction could be applied at certification to the GHG emission results from a more traditional engine-based test procedure and engine-based standard.

In fact, a very similar approach has been adopted in EPA's recently established locomotive program (see 73 FR 25155, May 6, 2008). In this provision, credit is given to energy-saving measures based on the fact that they provide proportional reductions in the criteria pollutants. This credit takes the form of an adjustment to criteria pollutant emissions measured under the prescribed test procedure for assessing compliance with engine-based standards.

A more flexible extension of this approach would be to de-link the equipment-based GHG reduction from the compliance demonstration for the particular engine used in the same equipment. Instead the GHG difference would provide fungible credits for each piece of equipment sold with the new technology, credits that then could be used in a credit averaging and trading program. Under this concept it would be important to collect and properly weight data over an adequate range of equipment and engine models, tasks performed, and operating conditions, to ensure the credits are deserved. We request comments on the option of applying the results of equipment testing to an engine-based GHG standard and the more general concept of generating GHG emission credits from such an approach. We also request comment on whether such credit-based approaches to accounting for the many promising equipment measures are likely to obtain similar GHG reductions as the setting of equipment based standards, and on whether some combined approach involving both standards and credits may be appropriate.

There are also a number of ways to reduce GHG emissions in the nonroad sector that do not involve engine or equipment redesign. Rather, reductions can be achieved by altering the way in which the equipment is used. For example, intermodal shipping moving freight from trucks and onto lower GHG rail or marine services, provides a means of reducing these emissions for ***44466** freight shipments that can accommodate the logistical constraints of intermodal shipping. Many of the operational measures with GHG-reducing potential do involve a significant technology component, perhaps even hardware changes, but they can also involve actions on the part of the equipment operator or owner that go beyond simply maintaining and not tampering with the emission controls. For example, a railroad may make the capital and operational investment in sophisticated computer technology to dispatch and schedule locomotive resources, using onboard GPS-based tracking hardware. The GHG reduction benefit, though enabled in part by the onboard hardware, is not realized without the people and equipment assigned to the dispatch center.

Credit for such operational measures could conceivably be part of a nonroad GHG control program and could be calculated and assigned using the same "with and without" approach to credit generation described above for equipment-based changes. However, some important implementation problems arise from the greater human element involved. This human element becomes increasingly significant as the scope of creditable measures moves further away from automatic technology-based solutions. Assigning credits to such measures must involve good correlation between the credits generated and the GHG reductions achieved in real world applications. It therefore may make sense to award these credits only after an operational measure has been implemented and verified as effective. This might necessitate that such credits have value for equipment or sources other than the equipment associated with the earning of the credit, such as in a broader credit market. This is because nonroad equipment and engines must demonstrate compliance with EPA standards before they are put into service. They therefore cannot benefit from credits created in the future unless through some sort of credit borrowing mechanism.

Once verified, however, we would expect credits reflecting these operational reductions could be banked, averaged and traded, just as much as credits derived from equipment- or engine-based measures. Verifiable GHG reductions, regardless of how generated, have equal value in addressing climate change. We also note, however, that an effective credit program, especially one with cross-sector utility, should account for the degree to which a credit-generating measure would have happened anyway, or would have happened eventually, had no EPA program existed; this is likely to be challenging. We request comment on the appropriateness of a much broader GHG credit-based program as described here.

In this section, we have laid out a range of regulatory approaches for nonroad equipment that takes us from a relatively simple extension of our existing engine-based regulatory program through equipment based standards and finally to a fairly wide open credit scheme that would in concept at least have the potential to pull in all aspects of nonroad equipment design and operation. In describing these approaches, we have noted the increasing complexity and the greater need for new mechanisms to ensure the emission reductions anticipated are real and verifiable. We seek comment on the relative merits of each of these approaches but also on the potential for each approach along the continuum to build upon the others.

3. Marine Vessels

Marine diesel engines range from very small engines used to propel sailboats, or used for auxiliary power, to large propulsion engines on ocean-going vessels. Our current marine diesel engine emission control programs distinguish between five kinds of marine diesel engines, defined in terms of displacement per cylinder. These five types include small (≤37 kW), recreational, and commercial marine engines. Commercial marine engines are divided into three categories based on per cylinder displacement: Category 1 engines are less than 5 l/cyl, Category 2 engines are from 5 l/cyl up to 30 l/cyl, and Category 3 engines are at or above 30 l/cyl. Category 3 engines are 2- or 4-stroke propulsion engines that typically use residual fuel; this fuel has high energy content but also has very high fuel sulfur levels that result in high PM emissions. Most of the other engine types are 4-stroke and can be used to provide propulsion or auxiliary power. These operate on distillate fuel although some may operate on a blend of distillate and residual fuel or even on residual fuel (for example, fuels commonly known as DMB, DMC, RMA, and RMB).

There are also a wide variety of vessels that use marine diesel engines and they can be distinguished based on where they are used. Vessels used on inland waterways and coastal routes include fishing vessels that may be used either seasonally or throughout the year, river and harbor tug boats, towboats, short- and long-distance ferries, and offshore supply and crew boats. These vessels often have Category 2 or smaller engines and operate in distillate fuels. Ocean-going vessels (OGVs) include container ships, bulk carriers, tankers, and passenger vessels and have Category 3 propulsion engines as well as some smaller auxiliary engines. As EPA deliberates on how to potentially address GHG emissions from marine vessels, we will consider the significance of the different engine, vessel, and fuel types. We invite comment on the marine specific issues that EPA should consider; in particular, we invite commenters to compare and contrast potential marine vessel solutions to our earlier discussions of highway and nonroad mobile sources and our existing marine engine criteria pollutant control programs.

a. Marine Vessel GHG Emissions

Marine engines and vessels emitted 84.2 million metric tons of CO_2 in 2006, or 3.9 percent of the total mobile source CO_2 emissions. CO_2 emissions from marine vessels are expected to increase significantly in the future, more than doubling between 2006 and 2030. The emissions inventory from marine vessels comes from operation in ports, inland waterways, and offshore. The CO_2 inventory estimates presented here refer to emissions from marine engine operation with fuel purchased in the United States.[187] OGVs departing U.S. ports with international destinations take on fuel that emits 66 percent of the marine vessel CO_2 emissions; the other 34 percent comes from smaller commercial and recreational vessels.

GHG emissions from marine vessels are dominated by CO_2 emissions which comprise approximately 94 percent of the total. Approximately 5.5 percent of the GHG emissions from marine vessels are due to HFC emissions, mainly from reefer vessels (vessels which carry refrigerated containers). Methane and nitrous oxide make up less than 1 percent of the marine vessel sector GHG emissions on a CO_2 equivalent basis. Comment is requested on the contribution of marine vessels to GHG emissions and on projections for growth in this sector.

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[187] U.S. EPA, "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006," April 15, 2008.

b. Potential for GHG Reductions From Marine Vessels

There are significant opportunities to reduce GHG emissions from marine vessels through both traditional and innovative strategies. These strategies include technological improvements to engine and vessel design as well as changes in vessel operation. This ***44467** section provides an overview of these strategies, and a more detailed description is available in the public docket.[188] EPA requests comment on the advantages and drawbacks of each of the strategies described below, as well as on additional approaches for reducing greenhouse gases from marine vessels.

i. Reducing GHG Emissions Through Marine Engine Changes

GHG emissions may be reduced by increasing the efficiency of the marine engine. As discussed earlier for heavy-duty trucks, there are a number of improvements for CI engines that may be used to lower GHGs. These improvements include higher compression ratios, higher injection pressure, shorter injection periods, improved turbocharging, and electronic fuel and air management. Much of the energy produced in a CI engine is lost to the exhaust. Some of this energy can be reclaimed through the use of heat recovery systems. We request comment on the feasibility of reducing GHG emissions through better engine designs and on additional technology which could be used to achieve GHG reductions.

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[188] "Potential Technologies for GHG Reductions from Commercial Marine Vessels", memorandum from Michael J. Samulski, U.S. EPA, to docket xx, DATE.

As discussed above, marine engines are already subject to exhaust emission standards. Many of the noxious emissions emitted by internal combustion engines may also be GHGs. These pollutants include NO_X, methane, and black carbon soot. Additionally, some strategies used to mitigate NO_X and PM emissions can also indirectly impact GHGs through their impact on fuel use—for example, use of aftertreatment rather than injection timing retard to reduce NO_X emissions. We request comment on the GHG reductions associated with $HC+NO_X$ and PM emissions standards for these engines.

The majority of OGVs operate primarily on residual fuel, while smaller coastal vessels operate primarily on distillate fuel. Shifting more shipping operation away from residual fuel would reduce GHG emissions from the ship due to the lower carbon/hydrogen ratio in distillate fuel. Marine engines have been developed that operate on other lower carbon fuels such as natural gas and biodiesel. Because biodiesel is a renewable fuel, lifecycle GHG emissions are much lower than for operation on petroleum diesel. We request comment on these and other fuels that may be used to power marine vessels and the impact these fuels would have on lifecycle GHG emissions.

A number of innovative alternatives are under development for providing power on marine vessels. These alternative power sources include fuel cells, solar power, wind power, and even wave power. While none of these technologies are currently able to supply the total power demands of larger, ocean-going vessels, they may prove to be capable of reducing GHG emissions through auxiliary power or power-assist applications. Hybrid engine designs are used in some vessels where a bank of engines is used to drive electric motors for power generation. The advantage of this approach is that the same engines may be used both for propulsion and auxiliary needs. Another advantage is that alternative power sources could be used with a hybrid system to provide supplemental power. We request comment on the extent to which alternative power sources and hybrid designs may be applied to marine vessels to reduce greenhouse gases.

ii. Reducing GHG Emissions Through Vessel Changes

GHG emissions may be reduced by minimizing the power needed by the vessels to perform its functions. The largest power demand is generally for overcoming resistance as the vessel moves through the water but is also affected by propeller efficiency and auxiliary power needs.

Water resistance is made up of the effort to displace water and drag due to friction on the hull. The geometry of the vessel may be optimized in many ways to reduce water resistance. Ship designers have used technologies such as bulbous bows and stern flaps to help reduce water resistance from the hull of the vessel. Marine vessels typically use surface coatings to inhibit the growth of barnacles or other sea life that would increase drag on the hull. Innovative strategies for reducing hull friction include coatings with textures similar to marine animals and reducing water/hull contact by enveloping the hull with small air bubbles released from the sides and bottom of the ship.

Both the wetted surface area and amount of water displaced by the hull may be reduced by lowering the weight of the vessel. This may be accomplished through the use of lower weight materials such as aluminum or fiberglass composites or by simply using less ballast in the ship when not carrying cargo. Other options include ballast-free ship designs such as constantly flowing water through a series of pipes below the waterline or a pentamaran hull design in which the ship is constructed with a narrow hull and four sponsons which provide stability and eliminate the need for ballast water. We request comment to the extent that these approaches may be used to reduce GHGs by reducing fuel consumption from marine vessels in the future. We also request comment on other design changes that may reduce the power demand due to resistance on the vessel.

In conventional propeller designs, a number of factors must be considered including load, speed, pitch, diameter, pressure pulses, and cavitation (formation of bubbles which may damage propeller and reduce thrust). Proper maintenance of the propeller can minimize energy losses due to friction. In addition, propeller coatings are available that reduce friction on the propeller and lead to energy savings. Because of the impact of the propeller on the operation of the vessel, a number of innovative technologies have been developed to increase the efficiency of the propeller. These technologies include contra-rotating propellers, azimuth thrusters, ducted propellers, and grim vane wheels. We request comment on the GHG reductions that may be achieved through improvements in vessel propulsion efficiency, either through the approaches listed here or through other approaches.

Power is also needed to provide electricity to the ship and to operate auxiliary equipment. Power demand may be reduced through the use of less energy intensive lighting, improved electrical equipment, improved reefer systems, crew education campaigns, and automated air-conditioning systems. We request comment on the opportunities to provide auxiliary power with reduced GHG emissions.

In addition, GHG emissions may be released from leaks in air conditioning or refrigeration systems. There is a large amount of fluorinated and chlorinated hydrocarbons used in refrigeration and air-conditioning systems on ships. We request comment on the degree to which marine vessels emit fluorinated and chlorinated hydrocarbons to the atmosphere, and on measures that may be taken to mitigate these emissions.

iii. Reducing GHG Emissions Through Vessel Operational Changes

In addition to improving the design of the engine and vessel, GHG emissions may be reduced through operational measures. These operational measures include reduced speeds, improved routing and fleet planning, and shore-side power.

*44468 In general, the power demand of a vessel increases with at least the square of the speed; therefore, a 10 percent reduction in speed could result in more than a 20 percent reduction in fuel consumption, and therefore in GHG emissions. An increased number of vessels operating at slower speeds may be able to transport the same amount of cargo while producing less GHGs. In some cases, vessels operate at higher speeds than necessary simply due to inefficiencies in route planning or congestion at ports. Ship operators may need to speed up to correct for these inefficiencies. GHG reductions could be achieved through improved route planning, coordination between ports, and weather routing systems. GHG reductions may also be achieved by using larger vessels and through better fleet planning to minimize the time ships operate at less than full capacity. We request comment on the extent to which greenhouse gas emissions may be practically reduced through vessel speed reductions and improved route and fleet planning.

Many ports have shore-side power available for ships as an alternative to using onboard engines at berth. To the extent that the power sources on land are able to produce energy with lower GHG emissions than the auxiliary engines on the vessel, shore-side power may be an effective strategy for GHG reduction. In addition to more traditional power generation units, shore-side power may come from renewable fuels, nuclear power, fuel cells, windmills, hydro-power, or geothermal power. We request comment on GHG reductions that could be achieved through the use of shore-side power.

c. Regulatory Options for Marine Vessels

EPA could address GHG emissions from marine vessels using strategies from a continuum of different regulatory tools, including emission standards, vessel design standards, and strategies that incorporate a broader range of operational controls. These potential regulatory strategies are briefly described below. As is the case with other source categories, EPA is also interested in exploring the potential applicability of flexible mechanisms such as banking and credit trading. With regard to ocean-going vessels, we are also exploring the potential to address GHG emissions through the International Maritime Organization under a program that could be adopted as a new Annex to the International Convention for the Prevention of Pollution from Ships (MARPOL). Those efforts are also described below. EPA requests comment on the advantages and drawbacks of each of these regulatory approaches.

As with trucks and land-based nonroad equipment, the first regulatory approach we could consider entails setting GHG emission limits for new marine diesel engines. For engines with per cylinder displacement up to 30 liters (i.e., Category 1 and Category 2), EPA has already adopted stringent emission limits for several air pollutants that may be GHGs, including NO_X, methane (through hydrocarbon standards) and black carbon soot (through PM standards). This emission control program could be augmented by setting standards for GHG emissions that could be met through the application of the technologies described above (e.g., improved engine designs, hybrid power). We request comment regarding issues that EPA should consider in evaluating this approach and the most appropriate means to address the issues raised.

We recognize that an engine-based regulatory structure would limit the potential GHG emission reductions compared to programs that include vessel technologies and crediting operational improvements. In the remainder of this section, we consider other options that would have the potential to provide greater GHG reductions by providing mechanisms to account for vessel and operational changes.

A second regulatory approach to address GHG emissions from marine vessels is to set equipment standards. As described above, these could take the form of standards that require reduced air and/or water resistance, improved propeller design, and auxiliary power optimization. Equipment standards could also address various equipment onboard vessels, such as refrigeration units. While Annex VI currently contains standards for ozone depleting substances, this type of control could be applied more broadly to U.S. vessels that are not subject to the Annex VI certification requirements.

A critical characteristic of marine vessels that must be taken into account when considering equipment standards is that not all marine vessels are designed alike for the same purpose. A particular hull design change that would lower GHGs for a tugboat may not be appropriate for a lobster vessel or an ocean-going vessel. These differences will have an impact on how an equipment standard would be expressed. We request comment on how to express equipment standards in terms of an enforceable limit, and on whether it is possible to set a general standard or if separate standards would be necessary for discrete vessel types/sizes. We also request comment on the critical components of a compliance program for an equipment standard, how it can be enforced, and at what point in the vessel construction process it should be applied.

In addition to the above, the spectrum of regulatory approaches we outline in section VI.C.2.c for nonroad engines and vehicles could potentially be applied to the marine sector as well, with corresponding GHG reductions. These would include: (1) Setting mission-based vessel standards (such as GHG gram per ton-mile shipping standards) for at least some marine applications where this can be reliably measured and administered, (2) allowing vessel changes such as lower resistance hull designs to generate credits against marine engine-based standards, (3) granting similar credits for operational measures such as vessel speed reductions, and (4) further allowing such credits to be used in wider GHG credit exchange programs. We note too that the implementation complexities for these approaches discussed in section VI.C.2.c apply in the marine sector as well, and these complexities increase as regulatory approaches move further along the continuum away from engine-based standards.

Separate from the Annex VI negotiations for more stringent NO_X and PM standards discussed above, the United States is working with the Marine Environment Protection Committee of the IMO to explore appropriate ways to reduce CO_2 emissions from ships for several years. At the most recent meeting of the Committee, in April 2008, the Member States continued their work of assessing short- and long-term GHG control strategies. A variety of options are under consideration, including all of those mentioned above. The advantage of an IMO-based program is that it could provide harmonized international standards.

This is important given the global nature of vessel traffic and given that this traffic is expected to increase in the future.

4. Aircraft

In this section we discuss and seek comment on the impact of aircraft operations on GHG emissions and the potential for reductions in GHG emissions from these operations. Aircraft emissions are generated from aircraft used for public, private, and national defense purposes including air carrier commercial aircraft, air taxis, general aviation, and military aircraft. ***44469** Commercial aircraft include those used for scheduled service transporting passengers, freight, or both. Air taxis fly scheduled and for-hire service carrying passengers, freight or both, but they usually are smaller aircraft than those operated by commercial air carriers. General aviation includes most other aircraft (fixed and rotary wing) used for recreational flying, business, and personal transportation (including piston-engine aircraft fueled by aviation gasoline). Military aircraft cover a wide range of airframe designs, uses, and operating missions.

As explained previously, section 231 of the CAA directs EPA to set emission standards, test procedures, and related requirements for aircraft, if EPA finds that the relevant emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. In setting standards, EPA is to consult with FAA, particularly regarding whether changes in standards would significantly increase noise and adversely affect safety. CAA section 232 directs FAA to enforce EPA's aircraft engine emission standards, and 49 U.S.C. section 44714 directs FAA to regulate fuels used by aircraft. Historically, EPA has worked with FAA and the International Civil Aviation Organization (ICAO) in setting emission standards and related requirements. Under this approach international standards have first been adopted by ICAO, and subsequently EPA has initiated CAA rulemakings to establish domestic standards that are at least as stringent as ICAO's standards. In exercising EPA's own standard-setting authority under the CAA, we would expect to continue to work with FAA and ICAO on potential GHG emission standards, if we found that aircraft GHG emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.

Over the past 25-30 years, EPA has established aircraft emission standards covering certain criteria pollutants or their precursors and smoke; these standards do not currently regulate emissions of CO_2 and other GHGs.[189] However, provisions addressing test procedures for engine exhaust gas emissions state that the test is designed to measure various types of emissions, including CO_2, and to determine mass emissions through calculations for a simulated aircraft landing and takeoff cycle (LTO). Currently, CO_2 emission data over the LTO cycle is collected and reported.[190] Emission standards apply to engines used by essentially all commercial aircraft involved in scheduled and freight airline activity.[191]

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[189] Our existing standards include hydrocarbon emissions and CH_4 is a hydrocarbon. If CH_4 is present in the engine exhaust, it would be measured as part of the LTO test procedure. There is not a separate CH_4 emission standard for aircraft engines.

[190] Certification information includes fuel flow rates over the different modes (and there are specified times in modes) of the LTO cycle. Utilizing this information, the ICAO Engine Emissions Databank reports kilograms of fuel used during

a. GHG Emissions From Aircraft Operations

Aircraft engine emissions are composed of about 70 percent CO_2, a little less than 30 percent water vapor, and less than one percent each of NO_X, CO, sulfur oxides (SO_X), non-methane volatile organic carbons (NMVOC), particulate matter (PM), and other trace components including hazardous air pollutants (HAPs). Little or no nitrous oxide (N_2O) emissions occur from modern gas turbines. Methane (CH_4) may be emitted by gas turbines during idle and by relatively older technology engines, but recent data suggest that little or no CH_4 is emitted by more recently designed and manufactured engines.[192] By mass, CO_2 and water vapor are the major compounds emitted from aircraft operations that relate to climate change.

In 2006, EPA estimated that among U.S. transportation sources, aircraft emissions constituted about 12 percent of CO_2 emissions, and more broadly, about 12 percent of the combined emissions of CO_2, CH_4, and N_2O. Together CH_4 and N_2O aircraft emissions constituted only about 0.1 percent of the combined CO_2, CH_4, and N_2O emissions from U.S. transportation sources, and they make up about one percent of the

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the entire LTO cycle (see *http:// www.caa.co.uk/ default.aspx?catid=702&pagetype=90).*

[191] Regulated aircraft engines are used on commercial aircraft including small regional jets, single-aisle aircraft, twin-aisle aircraft, and 747s and larger aircraft.

[192] IPCC, Aviation and the Global Atmosphere, 1999, at *http:// www.grida.no/climate/ipcc/aviation/index.htm.*

total aircraft emissions of CO_2, CH_4, and N_2O.[193] Aircraft emissions were responsible for about 4 percent of CO_2 emissions from all U.S. sources, and about 3 percent of CO_2, CH_4, and N_2O emissions collectively. While aircraft CO_2 emissions have declined by about 6 percent between 2000 and 2006, from 2006 to 2030, the U.S. Department of Energy projects that the energy use of aircraft will increase by about 60 percent (excluding military aircraft operations).[194] Commercial aircraft make up about 83 percent of both CO_2 emissions and the combined emissions of CO_2, CH_4, and N_2O for U.S. domestic aircraft operations. In addition, U.S. domestic commercial aircraft activity represents about 24 percent of worldwide commercial aircraft CO_2 emissions. With international aircraft departures, the total U.S. CO_2 emissions from commercial aircraft are about 35 percent of the total global commercial aircraft CO_2 emissions.[195] [196] Globally, 93 percent of the fuel burn (a surrogate for CO_2) and 92 percent of NO_X emissions from commercial aircraft occur outside of the basic LTO cycle (i.e., operations nominally above 3,000 feet).[197]

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[193] U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006*, April 2008, USEPA #430-R-08-005, available at *http:// www.epa.gov/climatechange/emissions /usinventoryreport.html.*

[194] Energy Information Administration, Annual Energy Outlook 2008, Report No.: DOE/EIA-0383 (2008), March 2008, available at *http:// www.eia.doe.gov/oiaf/aeo/.* These Department of Energy projections are similar to FAA estimates (FAA, Office of Environment and Energy, Aviation and Emission: A Primer, January 2005, at pages 10 and 23, available at *http://www.faa.gov/regulations—policies /policy—guidance/envir—policy/media/aeprimer.pdf*). The FAA projections were based on FAA long-range activity forecasts that assume a constant rate of emissions from aircraft engines in conjunction with an increase in aviation operations. It does not take into account projected improvements in aircraft, aircraft engines, and operational efficiencies.

The compounds emitted from aircraft that directly relate to climate change are CO_2, CH_4, N_2O and, in highly specialized applications, SF_6.[198] Aircraft also emit other compounds that are indirectly related to climate change such as NO_X, water vapor, and PM. NO_X is a precursor to cruise-altitude ozone, which is a GHG. An increase in ozone also results in increased tropospheric hydroxyl radicals (OH) which reduces ambient CH_4, thus potentially at least partially offsetting the warming effect from the increase in ozone. Water vapor and PM modify or create cloud cover, which in turn can either amplify or *44470 dampen climate change.[199] Contrails are unique to aviation operations, and persistent contrails are of interest because they increase cloudiness.[200] The IPCC Fourth Assessment Report (2007) has characterized the level of scientific understanding as low to very low regarding the radiative forcing of contrails and aviation induced cirrus clouds.[201] EPA requests information on the climate change compounds emitted by aircraft and the scientific understanding of their climate effects, including contrail formation and persistence.

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[195] FAA, System for Assessing Aviation's Global Emissions, Version 1.5, *Global Aviation Emissions Inventories for 2000 through 2004*, FAA-EE-2005-02, September 2005, available at *http://www.faa.gov/about/office—org/headquarters—offices/aep/models/sage/*.

[196] International flights are those that depart from the U.S. and arrive in a different country.

[197] FAA, System for Assessing Aviation's Global Emissions, Version 1.5, *Global Aviation Emissions Inventories for 2000 through 2004*, FAA-EE-2005-02, September 2005, at page 10, at Table 3, available at *http:// www.faa.gov/about/office—org/headquarters—offices/aep/models/sage/*.

[198] SF_6 is used as an insulating medium in the radar systems of some military reconnaissance planes. *2006 IPCC Guidelines for National Greenhouse Gas Inventories*, Volume 3, Industrial Processes and Product Use, Chapter 8, Other Product Manufacture and Use, Section 8.3, Use of SF_6 and HFCs in Other Products; *http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.htm*.

b. Potential for GHG Reductions From Aircraft Operations

There are both technological controls and operational measures potentially available to reduce GHG emissions from aircraft and aircraft operations. These are discussed below.

i. Reducing GHG Emissions Through Aircraft Engine Changes

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[199] IPCC, Climate Change 2007—The Physical Science Basis, Contribution of Working Group I to the Fourth Assessment Report of the IPCC, Chapter 2, Changes in Atmospheric Constituents and in Radiative Forcing.

[200] EPA, *Aircraft Contrails Factsheet*, EPA430-F-00-005, September 2000, developed in conjunction with NASA, the National Oceanic and Atmospheric Administration (NOAA), and FAA, available at *http:// www.epa.gov/otaq/aviation.htm.*

[201] IPCC, Climate Change 2007—The Physical Science Basis, Contribution of Working Group I to the Fourth Assessment Report of the IPCC, Chapter 2, Changes in Atmospheric Constituents and in Radiative Forcing, (page 202).

Fuel efficiency and therefore GHG emission rates are closely linked to jet aircraft engine type (e.g., high bypass ratio) and choice of engine thermodynamic cycles (e.g., pressure and temperature ratios), but modifications in the design of the engine's combustion system can also have a substantial effect on the composition of the exhaust.[202] Turbofan engines, with their high bypass ratios and increased temperatures, introduced in the 1970s and 1980s reduced CO_2, HC, and CO emissions, but in many cases put upward pressure on NO_X emission rates. Also, a moderate increase in the engine bypass ratio (high bypass turbofan) decreases fuel burn (and CO_2) by enhancing propulsive efficiency and reduces noise by decreasing exhaust velocity, but it may lead to increased engine pressure ratio and potentially higher NO_X.[203] There is no single relationship between NO_X and CO_2 that holds for all engine types. As the temperatures and pressures in the combustors are increased to obtain better efficiency, emissions of NO_X increase, unless there is also a change in combustor technology.[204] There are interrelationships among the different emissions and noise to be considered in engine design.

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[202] IPCC, Aviation and the Global Atmosphere, 1999, at Aircraft Technology and Its Relation to Emissions, at page 221, at section 7.1, available at *http://www.grida.no/climate/ipcc/aviation/index.htm*.

[203] ICCIA, Technical Design Interrelationships, Presentation by Dan Allyn, ICCAIA Chair, at Aviation and the Environment Conference, March 19, 2008, available at *http://www.airlines.org/government/environment/Aviation+and+the+Environment+Conference+Presentations.htm*.

[204] IPCC, Aviation and the Global Atmosphere, 1999, at Aircraft Technology and Its Relation to Emissions, at page 237, at section 7.5.6, available at *http://www.grida.no/climate/ipcc/aviation/index.htm*.

The three major jet engine manufacturers in the world are General Electric (GE), Pratt and Whitney, and Rolls-Royce. All of these manufacturers supply engines to both U.S. and non-U.S. aircraft manufacturers, and their engines are installed on aircraft that operate worldwide. These three manufacturers are now (or will be in the future) producing more fuel efficient (lower GHG) engines with improved NO_X. The General Electric GEnx jet engine is being developed for the new Boeing 787, and GE's goal is to have the GEnx engine meet NO_X levels 50 percent lower than the ICAO standards approved in 2005.[205] The combustor technology GE is employing is called the Twin Annular, Pre-mixing Swirler (TAPS) combustor. In addition, the GEnx is expected to improve specific fuel consumption by 15 percent compared to the previous generation of engine technology (GE's CF6 engine).[206]

Pratt and Whitney has developed the geared turbofan technology that is expected to deliver 12 percent reduction in fuel burn while emitting half of the NO_X emissions compared to today's engines. In addition to an advanced gear system, the new engine design includes the next generation technology for advanced low NO_X (TALON). The rich-quench-lean TALON combustor utilizes advanced fuel/air atomizers and mixers, metallic liners, and advanced cooling management to decrease NO_X emissions during the LTO and high-altitude cruise operations. Flight testing of the engine is expected this year, and introduction into service is expected in 2012.[207] Mitsubishi Heavy Industries has chosen the engine for its regional jet.[208] [209]

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[205] The NO_x standards adopted at the sixth meeting of ICAO's Committee on Aviation Environmental Protection (CAEP) in February 2004 were approved by ICAO in 2005.

[206] General Electric, Press Release, Driving GE Ecomagination with the Low-Emission GEnx Jet Engine, July 20, 2005, available at *http:// www.geae.com/aboutgeae/presscenter/ genx/genx—20050720.html.*

Rolls-Royce's Trent 1000 jet engine will power the Boeing 787s on order for Virgin Atlantic airlines. The Trent 1000 powered 787 is expected to improve fuel consumption by up to 15 percent compared to the previous generation of engines (Rolls-Royce's Trent 800 engine).[210] The technology in the Trent 1000 improves the operability of the compressors, and enables the engine to run more efficiently at lower speeds. This contributes to better fuel burn, especially in descent.[211]

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[207] Engine Yearbook, *Pratt & Whitney changing the game with geared turbofan engine*, 2008, at page 96.

[208] Aviation, Japanese Airliner to Introduce PW's New Engine Technology, by Chris Kjelgaard, October 9, 2007, available at *http:// www.aviation.com/technology/071009-pw-geared-turbofan-powering-mrj.html*.

[209] The New York Times, *A Cleaner, Leaner Jet Age Has Arrived*, by Matthew L. Wald, April 9, 2008, available at *http:// www.nytimes.com/2008/04/09/technology/techspecial/09jets.html?—r=1&ex=1208491200&en=6307ad7d1372acdf&ei=5070&emc=eta1&oref=slogin*.

[210] Rolls-Royce, Trent and the environment, available at *http://www.rolls-royce.com/community/downloads/trent—env.pdf* and the Rolls-Royce environmental report, Powering a better world: Rolls-Royce and the environment, 2007, available at *http://www.rolls-royce.com/community/ environment/default.jsp*.

[211] Green Car Congress, *Rolls-Royce Wins $2.6B Trent 1000 Order from Virgin Atlantic; The Two Launch Joint Envi-*

ii. Reducing GHG Emissions Through Aircraft Changes

Aircraft (or airframe) efficiency gains are mainly achieved through aerodynamic drag and weight reduction.[212] Most of the fuel used by aircraft is needed to overcome aerodynamic drag, since they fly at very high speeds. Reduction of aerodynamic drag can substantially improve the fuel efficiency of aircraft thus reducing GHG emissions. Aerodynamic drag can be decreased by installing add-on devices, such as film surface grooves, hybrid laminar flow technology, blended winglets, and spiroid tips, and GHG emissions can be reduced by each of these measures from 1.6 to 6 percent. ***44471** Further discussion of these devices is provided below.

—Film surface grooves: This technology is undergoing testing, and it is an adhesive-backed film with micro-grooves placed on the outer surfaces of the wings and the fuselage of the aircraft. Film surface grooves are estimated to reduce total aerodynamic drag and GHG emissions by up to 1.6 percent.

—Hybrid laminar flow technology: Contamination

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ronmental Initiative, March 3, 2008, available at *http://www.greencarcongress.com/2008/03/rolls-royce-win.html.*

[212] U.S. Department of Transportation, *Best Practices Guidebook for Greenhouse Gas Reductions in Freight Transportation—Final Report*, Prepared for U.S. Department of Transportation via Center for Transportation and the Environment, Prepared by H. Christopher Frey and Po-Yao Kuo, Department of Civil, Construction, and Environmental Engineering, North Carolina State University, October 4, 2007, available at *http://www4.ncsu.edu/ frey/Frey—Kuo—071004.pdf*

on the airframe surface, such as the accumulation of ice, insects or other debris, degrades laminar flow. A newly developed concept, hybrid laminar flow technology (replace turbulent air flow), integrates approaches to maintain laminar flow. This technology can reduce fuel use by 6 to 10 percent and potentially GHG emissions by 6 percent.

—Blended winglets: A blended winglet is a commercially available wing-tip device that can decrease lift-induced drag. This technology is an extension mounted at the tip of a wing. The potential decreases in both GHG emissions and fuel use are estimated to be 2 percent.

—Spiroid tip: A spiroid tip has been pilot tested and, similar to blended winglets, it is intended to reduce lift-induced drag. This technology is a spiral loop formed by joining vertical and horizontal winglets. Greenhouse gas emissions and fuel use are both potentially estimated to be decreased by 1.7 percent.

Reductions in the weight of an aircraft by utilizing light-weight materials and weight reduction of non-essential components could lead to substantial decreases in fuel use. The weight of an airframe is about 50 percent of an aircraft's gross weight. The use of advanced lighter and stronger materials in the structural components of the airframe, such as aluminum alloy, titanium alloy, and composite materials for non-load-bearing structures, can decrease airframe weight. These materials can reduce structural weight by 4 percent. The potential reduction in greenhouse gas emissions and fuel use are estimated to both be 2 percent.

iii. Reducing GHG Emissions Through Operational Changes

Rising jet fuel prices tend to drive the aviation industry to implement practices to decrease fuel usage and lower fuel usage reduces GHG emissions.[213] Indeed this has occurred in the recent past where several airlines have reduced flights and announced plans to retire older aircraft. However, such practices are voluntary, and there is no assurance that such practices would continue or not be reversed in the future. Technology developments for lighter and more aerodynamic aircraft and more efficient engines which reduce aircraft fuel consumption and thus GHG emissions are expected to improve in the future. However, technology changes take time to find their way into the fleet. Aircraft and aircraft engines operate for about 25 to 30 years.

Air traffic management and operational changes are governed by FAA. The FAA, in collaboration with other agencies, is in the process of developing the next generation air transportation system (NextGen), a key environmental goal of which is to decrease aviation's contribution to GHG emissions by reducing aviation system-induced congestion and delay and accelerating air traffic management improvements and efficiencies. As will be discussed below, measures of this type implemented together with technology changes may be a way to reduce GHG emissions in the near term. A few examples of the advanced systems/procedures and operational measures are provided below.

Reduced Vertical Separation Minimum (RSVM) allows air traffic controllers and pilots to reduce the standard required vertical separation from 2,000 feet to 1,000 feet for aircraft flying at altitudes between 29,000 and 41,000 feet. This increases the number of flight altitudes at which aircraft maximize fuel and time efficiency. RSVM has led to about a 2 percent decrease in fuel burn.[214] Continuous Descent Approach is a procedure that enables continuous descent of the aircraft on a constant slope toward landing, as opposed to a staggered or staged approach, thus allowing for a more efficient speed requiring less fuel and reducing GHG emissions. Aircraft auxiliary power units (APUs) are engine-driven generators that supply electricity and pre-conditioned cabin air for use aboard the aircraft while at the gate. Ground-based electricity sources or electrified gates combined with preconditioned air supplies can reduce APU fuel use and thus CO_2 emissions substantially. Single-engine taxiing, a practice already used by some airlines, could be utilized more broadly to reduce CO_2 emissions.[215] Fuel consumption, and thus GHG emissions, could be reduced by decreasing the aircraft weight by reducing the amount of excess fuel carried. More efficient routes and aircraft speeds would be directly beneficial to reducing full flight GHG emissions. Operational safety must be considered in the application of all of these measures.

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[213] According to the Energy Information Administration, jet fuel prices increased by about 140 percent from 2000 to 2007 (see *http:// tonto.eia.doe.gov/dnav/pet/hist/rjetnyhA.htm.*).

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[214] PARTNER, Assessment of the impact of reduced vertical separation on aircraft-related fuel burn and emissions for the domestic United States, PARTNER-COE-2007-002, November 2007, available at *web.mit.edu/aeroastro/partner/ reports/rsvm-caep8.pdf.*

[215] ICAO, *Operational Opportunities to Minimize Fuel Use and Reduce Emissions*, Circular 303 AN/176, February 2004, available at *http:// www.icao.int/icao/en/m— publications.html.*

In regard to the above three sections, we request information on potentially available technological controls (technologies for airframes, main engines, and auxiliary power units) and operational measures to reduce GHG emissions from aircraft operations. Since FAA currently administers and implements air traffic management and operational procedures, EPA would share information on these items with FAA.

Efforts are underway to potentially develop alternative fuels for aircraft in the future. Industry (manufacturers, operators and airports) and FAA established the Commercial Aviation Alternative Fuels Initiative (CAAFI) in 2006 to explore the potential use of alternative fuels for aircraft for energy security and possible environmental improvements. CAAFI's goals are to have available for certification in 2008 a 50 percent Fischer-Tropsch synthetic kerosene fuel, 2010 for 100 percent synthetic fuel, and as early as 2013 for other biofuels. However, any alternative fuel would need to be compatible with current jet fuel for commercial aircraft to prevent the need for tank and system flushing on re-fueling and to meet comprehensive performance and safety specifications. In February 2008, Boeing, General Electric, and Virgin Atlantic airlines tested a Boeing 747 that was partly powered by a biofuel made from babassu nuts and coconut oil, a first for a commercial aircraft.

EPA requests information on decreasing aircraft emissions related to climate change through the use of alternative fuels, including what is feasible in the near-term and long-term and information regarding safety, distribution and storage of fuels at airports, life-cycle impacts, and cost information. Given the

Agency's work to develop a lifecycle methodology for fuels as required by the Energy Independence and Security Act, EPA also is interested in information on the lifecycle impacts of alternative fuels.

***44472** c. Options To Address GHG Emissions From the Aviation Sector

In the preceding nonroad sections, we have described a continuum of regulatory approaches that take us from traditional engine standards through a range of potential approaches for vehicle standards and even potential mechanisms to credit operational changes. For commercial aircraft, although the reasons to consider such continuum are just as valid, the means to accomplish these could be simpler. We see at least two potential basic approaches for regulating aircraft GHG emissions under the CAA, engine emission standards or a fleet average standard. These approaches are discussed further below.

The first approach we can consider is setting emission standards as an extension of our current program. Under this approach we would establish, for example, CO_2 exhaust emission standards and related requirements for all newly and previously certified engines applicable in some future year and later years. These standards could potentially cover all phases of flight. Depending on timing, this first set of standards could effectively be used to either establish baseline values and/or to require reductions.

As described earlier, ICAO and EPA currently require measurement and reporting of CO_2 emissions during engine exhaust gaseous emissions testing for the current certification cycle (although the current absence of this information for other GHGs does not rule out a similar approach for those GHGs).[216] Although test procedures for measuring CO_2 are in place already and LTO cycle CO_2 data exists, test requirements to simulate full-flight emissions are a significant consideration. Further work is needed to determine how CO_2 and other GHG emissions measured over the various modes of LTO cycle might be used to as a means to estimate or simulate cruise or full-flight emissions. A method has been developed by ICAO for determining NO_X for climb/cruise operations (outside the LTO) based on LTO data, and this could be a good starting point.[217] [218] For CO_2, and potentially NO_X and other GHGs as well, the climb/cruise methods could then be codified as test procedures, and we could then establish emission standards for these GHGs. We request comments on the need to develop a new test procedure for aircraft engines and the best approach to developing such a procedure, including the viability and need for altitude simulation tests for emissions certification.

Furthermore, to drive the development of engine technology, we could pursue near- and long-term GHG exhaust emission standards. Near-term standards, which could for example apply 5 years from their promulgation, would encourage engine manufacturers to use the best currently available technology. Long-term standards could require more significant reductions in emissions beyond the near-term values. In both cases, new standards could potentially apply to both newly and previously certified engines, but possibly at different levels and implementation dates based on lead time considerations. Under this approach, we would expect that no engines would be able to be produced indefinitely if they did not meet the new standards, except possibly based on the inclusion of an emissions averaging program for GHG as discussed below.

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[216] EPA's regulations at 40 CFR 87.62 require testing at each of the following operating modes in order to determine mass emission rates: taxi/idle, takeoff, climbout, descent and approach.

[217] ICAO, CAEP/7 Report, Working Paper 68, CAEP/7-WP/68, February 2007, see *http://www.icao.int*.

[218] ICAO has deferred work on using the NO_x climb/cruise method for a certification procedure and standards since future engines (potential new technologies) may behave in a different way. There may need to be future work to consider the aircraft mission, taking into account all phases of flight and the performance of the whole aircraft.

For emission standards applied to other mobile sources, EPA has often incorporated emission averaging, banking and trading (ABT) programs to provide manufacturers more flexibility in phasing-in and phasing-out engine models as they seek to comply with emission standards. In these types of programs, the average emissions within a manufacturer's current year product line are required to meet the applicable standard, which allows a manufacturer to produce some engines with emission levels above the standard provided they are offset with some below the standard. The calculation for average compliance is usually sales, activity, and power weighted. In addition, emissions credits and debits may be generated, banked and traded with other engine manufacturers. We request comment on the approaches to engine standards for reducing GHG emissions and an engine ABT program for new GHG emission standards, including whether certain GHGs, such as CO_2, are more amenable than are other GHGs to being addressed by such a program.

As part of this option, we could pursue new standards and test procedures for PM that would encompass LTO and climb/cruise operations (ICAO and EPA currently do not have test procedures or emission standards for PM from aircraft), if we find that aircraft PM emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.[219] Work has been underway for several years under the auspices of the Society of Automotive Engineers E-31 Committee, and EPA/FAA are working actively with this committee to bring forth a draft recommended test procedure. In addition, requirements could potentially be proposed and adopted using the same approach as discussed above for GHGs for near- and long-term standards and newly and already certified engines.

In the preceding nonroad sections, we have discussed several approaches or variations on approaches to include vehicle and operational controls within a GHG emission control program for nonroad equipment. In doing so, we have not discussed direct regulation of equipment or fleet operators. Instead, we have focused on approaches that would credit fleet operators for improvements in operational controls within a vehicle or engine GHG standards program.

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[219] As mentioned earlier, PM modifies or creates cloud cover, which in turn can either amplify or dampen climate change. Aircraft are also a source of PM emissions that contribute to local air quality near the ground, and the public health and welfare effects from these emissions are an important consideration.

Those approaches described in section VI.C.2 could apply to aircraft GHG emissions as well, and we request comments on the potential to apply those approaches to aircraft.

As a second approach, in the case of aircraft, it may be more practical and flexible to directly regulate airline fleet average GHG emissions. Under such an approach we would set a declining fleet average GHG emission standard for each airline, based on the GHG emission characteristics of its entire fleet. This would require GHG certification emission information for all engines in the fleet from the aircraft engine manufacturers and information on hours flown and average power (e.g., thrust). Airlines would have GHG emission baselines for a given year based on the engine emission characteristics of their fleet, and beginning in a subsequent year, airlines would be required to reduce their emissions at some annual rate, at some rolling average rate, or perhaps to some prescribed lower level in a future year. This could be done as a fleet average GHG emission standard for each airline or through a surrogate measure of GHGs such as airline total fuel consumption, perhaps adjusted for flight activity in some way. This could ***44473** cover all domestic operations and international departures of domestic airlines. The fleet average program could potentially be implemented in the near term since it is not as reliant on lead times for technology change.

Although we might develop such a declining fleet average emissions program based on engine emissions, an operational declining fleet average program could potentially be designed to consider the whole range of engine, aircraft and operational GHG control opportunities discussed above. Under this approach compliance with a declining fleet average standard would be based not only on parameters such as engine emission rates and activity, but could also consider efficiencies gained by use of improved operational controls. It is important to note that as part of this approach, a recordkeeping and reporting system would need to be established for airlines to measure and track their annual GHG emissions. Perhaps this could be accomplished through a surrogate measure of GHGs such as airline total fuel consumption. Today each airline reports its annual fuel consumption to the Department of Transportation. We request comment on the operational fleet average GHG emission standard concept, how it could be designed and implemented, what are important program design considerations, and what are potential metrics for establishing standards and determining compliance. While we have discussed two basic concepts above, we invite comment and information on any other approaches for regulating aircraft GHG emissions.

d. Other Considerations

We are aware that the European Commission (EC) has proposed a program to cap aviation-related CO_2 emissions (cap is 100% of sector's emissions during 2004-2006). They would by 2012 include CO_2 emissions from all flights arriving at and departing from European airports, including U.S.-certified aircraft, in the European Union Emissions Trading Scheme (ETS),[220] [221] If the proposal is adopted, airlines from all countries (EU and non-EU) will be required to submit allowances to cover emissions from all such aircraft flights over the compliance period (e.g., 5 years). The EU has expressed some interest in developing a program to waive this requirement for foreign-flagged carriers (non-EU carriers) whose nations develop "equivalent" measures. The petitioners discussed this program, and we invite comments on it.

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[220] *Commission Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community, 2006/0304 (COD), COM*(2006) 818 final, December 20, 2006,

The 36th Session of ICAO's Assembly met in September 2007 to focus on aviation emissions related to climate change, including the use of emissions trading.[222] In response to the EC's proposed aviation program, the Assembly agreed to establish a high-level group through ICAO to develop a framework of action that nations could use to address these emissions. A report with recommendations is due to be completed before the next Assembly Session in 2010. In addition, the Assembly urged all countries to not apply an emissions trading system to other nations' air carriers except on the basis of mutual consent

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available at *http://eur-lex.europa.eu/smartapi/cgi/sga—doc?smartapi!celexplus!prod!DocNumber&lg=en&type—doc = COMfinal&an—doc=2006&nu—doc=818.*

[221] Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community—Political agreement, December 21, 2007 available at *http://register.consilium.europa.eu/pdf/en/07/st16/st16855.en07.pdf.*

[222] ICAO, Assembly—36th Session, Report of the Executive Committee on Agenda Item 17, A36-WP/355, September 27, 2007.

between those nations.[223]

To address greenhouse gas emissions, ICAO's focus currently appears to be on the continued development of guidance for market-based measures.[224] These measures include emissions trading (for CO_2), environmental levies, and voluntary measures. Emissions trading is when an overall target or cap is established and a market for carbon is set. This approach allows participants to buy and sell allowances, the price of which is established by the market. Environmental levies include taxes and charges with the objective of generating an economic incentive to decrease emissions. Voluntary measures are unilateral actions by industry or in an agreement between industry and government to decrease emissions beyond the base case. Note, for ICAO's efforts on CO_2 emission charges, it evaluated an aircraft efficiency parameter, and in early 2004 ICAO decided that there was not enough information available at the time to create a parameter that correlated properly with aircraft/engine performance.[225] However, it is important to note, that unlike EPA, ICAO has not been petitioned under applicable law to determine whether GHG emissions from aircraft may reasonably be anticipated to endanger public health or welfare or to take any action if such a finding is made. We invite information on reducing overall emissions that relate to climate change from aircraft through a cap-and-trade system or other market-based system.

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[223] ICAO, Assembly—36th Session, Report of the Executive Committee on Agenda Item 17, A36-WP/355, September 27, 2007.

[224] ICAO, ICAO Environmental Report 2007, available at *http:/ / www.icao.int / env /.*

[225] ICAO, CAEP/6 Report, February 2004, available at *http:/www.icao.int.*

Another consideration in the GHG program is the regulation of emissions from engines commonly used in general aviation aircraft. As indicated earlier, our current aircraft engine requirements apply to gas turbine engines that are mainly used by commercial aircraft, except in cases where general aviation aircraft sometimes use commercial engines. Our requirements do not currently apply to many engines used in business jets or to piston-engines used in aircraft that fall under the general aviation category, although our authority under the Clean Air Act extends to any aircraft emissions for which we make the prerequisite finding that those emissions cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.[226] In 2006, general aviation made up about one percent of the CO_2 emissions from U.S. domestic transportation sources, and about 8 percent of CO_2 emissions from U.S. domestic aircraft operations.[227] Regulating GHG emissions from this sector of aviation would require the development of test procedures and emission standards. EPA requests comment on this matter and on any elements we should consider in potentially establishing test procedures and emission standards for these currently unregulated engines.

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[226] As specified in 40 CFR 87.10, our emission standards apply to different classes of aircraft gas turbine engines, which have a particular minimum rated output. The engine class and rated output specifications correspond to certain engine operational or use practices, but we do not, by the terms of the rule, exempt general aviation aircraft or engines as such.

[227] U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006*, April 2008, USEPA #430-R-08-005, available at *http:// www.epa.gov/climatechange/emissions/ usinventoryreport.html.*

5. Nonroad Sector Summary

There are a number of potential approaches for reducing GHG emissions from the nonroad sector within the regulatory structure of the CAA. In considering our next steps to address GHG emissions from this sector, we seek comment on all of the issues raised in this notice along with recommendations ***44474** on the most appropriate means to address the issues.

D. Fuels

1. Recent Actions Which Reduce GHG Impacts of Transportation Fuels

Historically under Title II of the CAA, EPA has treated vehicles, engines and fuels as a system. The interactions between the designs of vehicles and the fuels they use must be considered to assure optimum emission performance at minimum cost. While EPA continues to view its treatment of vehicles, engines and fuels as a system as appropriate, we request comment on whether it would continue to be advantageous to take this approach for the purpose of controlling GHG emissions from the transportation sector. This section describes existing authorities under the CAA for regulating the GHG emissions contribution of fuels. In this discussion, we ask for comment on the combination of authorities that would suit the goal of GHG emission reductions from transportation fuel use.

In response to CAA section 211(o) adopted as part of the Energy Policy Act of 2005 (Energy Act of 2005), EPA issued regulations implementing a Renewable Fuels Standard (RFS) program (72 FR 23900, May 1, 2007). These regulations were designed to ensure that 4.0 billion gallons of renewable fuel were used in motor vehicles beginning in 2006, gradually increasing to 7.5 billion gallons in 2012. While the primary purpose of this provision of the Energy Act of 2005 was to reduce U.S. dependence on petroleum-based fuel and promote domestic sources of energy, EPA analyzed the extent to which reductions in GHG emissions would also result from the new RFS program. Therefore, for the first time in a major rule, EPA presented estimates of the GHG impacts of replacing petroleum-based transportation fuel with fuel made from renewable feedstocks.

In December 2007, EISA revised section 211(o) to set three specific volume standards for biomass-based diesel, cellulosic biofuel, and advanced biofuel as well as a total renewable fuel standard of 36 billion gallons annually by 2022. Certain eligible fuels must also meet specific GHG performance thresholds based upon a lifecycle GHG assessment. In addition to being limited to renewable fuels, EISA puts constraints on what land sources can be used to produce the renewable fuel feedstock, requires assessment of both primary and significant secondary land use impacts as part of the required lifecycle GHG emissions assessment, and has a number of other specific provisions that affect both the design of the rule and the required analyses. EISA requires that EPA adopt rules implementing these provisions by January 2009.

The U.S. federal government is not alone in considering or pursuing fuel changes which can result in reductions of GHG emissions from the transportation sector California is moving toward adopting a low carbon fuel standard that it anticipates will result in significant reductions in GHG emissions through such actions as increasing the use of renewable fuel and requiring refiners to offset any emission increases that might result from changes in crude oil supply. Canada, the countries of the European Union, and a number of other nations are considering or in the process of requiring fuel changes as part of their strategy to reduce GHG emissions from the transportation sector.

2. GHG Reductions Under CAA Section 211(o)

The two principal CAA authorities available to EPA to regulate fuels are sections 211(c) and 211(o). As explained in previously, section 211(o), added by the Energy Act of 2005 and amended by EISA, requires refiners and other obligated parties to assure that the mandated volumes of renewable fuel are used in the transportation sector. Section 211(o) only addresses renewable fuels; other alternative fuels such as natural gas are not included nor are any requirements imposed on the petroleum-based portion of our transportation fuel pool. EPA is authorized to waive or reduce required renewable fuel volumes specified in EISA under certain circumstances, and is also authorized to establish required renewable fuel volumes after the years for which volumes are specified in the Act (2012 for biomass-based diesel and 2022 for total renewable fuel, cellulosic biofuel and advanced biofuel). One of the factors EPA is to consider in setting standards is the impact of production and use of renewable fuels on climate change. In sum, EPA has limited discretion under 211(o) to improve GHG performance of fuels.

Changes in fuel feedstock sources (for example, petroleum versus biomass) and processing technologies can have a significant impact on GHG emissions when assessed on a lifecycle basis. As analyzed in support of the RFS rules, a lifecycle approach considers the GHG emissions associated with producing a fuel and bringing it to market and then attributes those emissions to the use of that fuel. In the case of petroleum, the lifecycle would account for emissions resulting from extraction of crude oil, shipping the oil to a refiner, refining the oil into a fuel, distributing the fuel to retail markets and finally the burning the gasoline or diesel fuel in an engine. This assessment is sometimes referred to as a "well-to-wheels" assessment. A comparable assessment for renewable fuel would include the process of growing a feedstock such as corn, harvesting the feedstock, transferring it to a fuel production facility, turning the feedstock into a fuel, getting the renewable fuel to market and then assessing its impact on vehicle emissions. EPA presented estimates of GHG impacts as part of the assessment for the Energy Act of 2005 RFS rulemaking that increasing renewable fuel use from approximately 4 billion gallons to 7.5 billion gallons by 2012. However, as noted below, the methodology used in that RFS rulemaking did not consider a number of relevant issues.

The 7.5 billion gallons of renewable fuel required by the Energy Act of 2005 program represents a relatively small portion of the total transportation fuel pool projected to be used in 2012 (add figure as % of energy). The much larger 36 billion gallons of renewable fuel required by EISA for 2022 would be expected to displace a much larger portion of the petroleum-based fuel used in transportation and would similarly be expected to have a greater impact on GHG emissions. Comments on the RFS proposal suggested improvements to the lifecycle assessment used in that rule. For instance, the RFS analysis did not fully consider the impact of land use changes both domestically and abroad that would likely result from increased demand for corn and soybeans as feedstock for ethanol and biodiesel production in the U.S. EPA largely agreed with these comments but was not able to incorporate a more thorough assessment of land use impacts and other enhancements in its lifecycle emissions modeling in time. We are undertaking such a lifecycle assessment as we develop the proposal to implement EISA fuel mandates. Because this updated lifecycle assessment will incorporate more factors and the latest data, it will undoubtedly change the estimates of GHG reductions included in the Energy Act 2005 RFS package.

EISA recognizes the importance of distinguishing between renewable fuels on the basis of their impact on lifecycle GHG emissions. Nevertheless, EISA stops short of directly comparing and crediting each fuel on the basis of its ***44475** estimated impact on GHG emissions. For example, while requiring a minimum of 60% GHG emission reduction for cellulosic biomass fuel compared to the petroleum-based fuel displaced, EISA does not distinguish among the multiple pathways for producing cellulosic biofuel even though these pathways might differ significantly in their lifecycle GHG emission performance. It may be that the least costly fuels meeting the cellulosic biofuel GHG performance threshold will be produced which may not be the fuels with the greatest GHG benefit or even the greatest GHG benefit when considering cost (e.g., GHG reduction per dollar cost). The same consideration applies to other fuels and pathways. Without further delineating fuels on the basis of their lifecycle GHG impact, no incentive is provided for production of particular fuels which would minimize lifecycle GHG emissions within the EISA fuel categories.

We request comment on the importance of distinguishing fuels beyond the categories established in EISA and how an alternative program might further encourage the development and use of low GHG fuels. We also request comment on the ability (including considerations of uncertainty and the measurement of both direct and indirect emissions associated with the production of fuels) of lifecycle analysis to estimate the GHG emissions of a particular fuel produced and used for transportation and how EPA should delineate fuels (e.g., on the basis of feedstock, production technology, etc.). EPA notes that a certain level of aggregation in the delineation of fuels may be necessary, but that the greater the aggregation in the categories of fuels, the fewer incentives exist for changes in behavior that would result in reductions of GHG emissions. EPA asks for comment on this idea as well as how and whether methods for estimating lifecycle values for use in a regulatory program can take into account the dynamic nature of the market. EPA also requests comment on the relative efficacy of a lifecycle-based regulatory approach versus a price-based (e.g., carbon tax or cap and trade) approach to incentivize the multitude of actors whose decisions collectively determine the GHG emissions associated with the production, distribution and use of transportation fuels. Finally, we request comment on the ability to determine lifecycle GHG performance for fuels and fuel feedstocks that are produced outside the U.S.

EISA addresses impacts of renewable fuels other than GHG impacts. Section 203 of EISA directs that the National Academy of Sciences be asked to consider the impacts on producers of feed grains, livestock, and food and food products, energy producers, individuals and entities interested in issues relating to conservation, the environment and nutrition, users and consumers of renewable fuels, and others potentially impacted. Section 204 directs EPA to lead a study on environmental issues, including air and water quality, resource conservation and the growth and use of cultivated invasive or noxious plants. We request comment on what impacts other than GHG impacts should be considered as part of a potential fuels GHG regulation and how such other impacts should be reflected in any policy decisions associated with the rule. These impacts could include the potential impacts on food prices and supplies.

Programs under section 211(o) are subject to further limitations. Limited to renewable fuels, these programs do not consider other alternative fuels such as coal-to-liquids fuel that could be part of the transportation fuel pool and could impact the lifecycle GHG performance of the fuel pool. Additionally, EISA's GHG performance requirements are focused on the renewable fuels, not the petroleum-based fuel being replaced. Under EISA, the GHG performance of renewable fuels is tied to a 2005 baseline for petroleum fuel. No provision is included for considering how the GHG impacts of the petroleum-based fuel pool might change over time, either for the purpose of determining the comparative performance for threshold compliance of renewable fuels or for assessing the impact of the petroleum fuel itself on transportation fuel GHG emissions. Thus, for example, there is no opportunity under EISA to recognize and credit improvements in refinery operation which might improve the lifecycle GHG performance of the petroleum-based portion of the transportation fuel pool. Comments are requested on the importance of lowering GHG emissions from transportation fuels via the inclusion of alternative, non-renewable fuels in a GHG regulatory program as well as the petroleum portion of the fuel pool, thus providing opportunity to reflect improvements in refinery practices.

Finally while the current RFS and anticipated EISA programs will tend to improve the GHG performance of the transportation fuel pool compared to a business as usual case, they would not in any way cap the GHG emissions due to the use of fuels. In fact, under both programs, the total amount of fuel consumed and thus the total amount of GHG emissions from those fuels can both increase. We note that other lifecycle fuel standard programs being developed such as those in California, Canada, and Europe, while also taking into account the GHG emissions reduction potential from petroleum fuels, do not cap the emissions from the total fuel pool; the GHG per gallon of transportation fuel consumed may decrease but the total gallons consumed are not constrained such that the total GHG emissions from fuel may continue to grow. We request comment on setting a GHG control program covering all transportation fuels used in the United States which would also cap the total emissions from these transportation fuels.

Elsewhere in this notice, comments are solicited on the potential for regulating GHG emissions from stationary sources which could include petroleum refineries and renewable and alternative fuel production facilities. EPA recognizes the potential for overlapping incentives to control emissions at fuel production facilities. We request comment on the implications of using a lifecycle approach in the regulation of GHG emissions from fuels which would include refinery and other fuel production facilities while potentially also directly regulating such stationary source emission under an additional control program. Recognizing that the use of biomass could also be a control option for stationary sources seeking to reduce their lifecycle GHG impacts, EPA requests comment on the implications of using biomass for transportation fuel in potential competition as an energy source in stationary source applications.

3. Option for Considering GHG Fuel Regulation Under CAA Section 211(c)

Section 211(c)(1) of the CAA has historically been the primary authority used by EPA to regulate fuels. It provides EPA with authority to "control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle, motor vehicle engine, or nonroad engine of nonroad vehicle [(A)] if in the judgment of the Administrator any emission product of such fuel or fuel additive causes or contributes to air pollution or water pollution (including any degradation in the quality of groundwater) which may reasonably be anticipated to endanger public health or welfare."Section 211(c)(2) specifies that EPA must consider all available relevant medical and scientific information, including consideration of other technologically or economically feasible means of ***44476** achieving vehicle emission standards under CAA section 202 before controlling a fuel under section 211(c)(1)(A). A prerequisite to action under 211(c)(1) is an EPA finding that a fuel or fuel additive, or emission product of a fuel or fuel additive, causes or contributes to air or water pollution that may reasonably be anticipated to endanger public health or welfare. Issues related to an endangerment finding are discussed in section V of this advance notice.

EPA asks for comment on whether section 211(c) could be read as providing EPA a broader scope of authority to establish a new GHG fuel program than section 211(o). Specifically, EPA asks for comment on whether section 211(c)(1)(A) could allow EPA to start the program as soon as appropriate in light of our analysis and similarly cover the time period most appropriate; whether it could allow a program that would encourage the use of both renewable and alternative fuels with beneficial GHG emissions impacts and discourage those fuels with relatively detrimental GHG impacts; and whether it could allow EPA to establish requirements for all fuels (gasoline, diesel, renewables, alternative and synthetic fuel, etc.) used in both highway and nonroad vehicles and engines. EPA requests comment on whether the flexibilities under section 211(c) allow it to consider a broad set of options for controlling GHG emissions through fuels, including those that solely regulate the final point of emissions such as tailpipe emissions rather than also controlling the emissions at the fuel production facility through a lifecycle approach.

Typically EPA has acted through CAA section 211(c) to prohibit the use of certain additives (e.g., lead) in fuel, to control the level of a component of fuel to reduce harmful vehicle emissions (e.g., sulfur, benzene), or to place a limit on tailpipe emissions of a pollutant (e.g., the reformulated gasoline standards for volatile organic compounds and toxics emissions performance). While multiple approaches may be available to regulate GHG emissions under section 211(c), one option could require refiners and importers of gasoline and diesel meet a GHG performance standard based on reducing their lifecycle GHG emissions of the fuel they import or produce. They would comply with this performance standard by ensuring the use of alternative and/or renewable fuels that have lower lifecycle GHG emissions than the gasoline and diesel they displace and through selection of lower petroleum sources that also reduce the lifecycle GHG performance of petroleum-based fuel. EPA asks comment on whether section 211(c) could authorize such an approach because it would be a control on the sale or manufacture of a fuel that addresses the emissions of GHGs from the transportation fuels that would be the subject the endangerment finding discussed in section V. Comments are requested on this interpretation of 211(c) authority.

As pointed out above, neither the Energy Act of 2005 RFS program nor the forthcoming program under EISA directly addresses the varying GHG emission reduction potential of each fuel type and production pathway. EPA asks comment on whether it could have the authority under CAA section 211(c) to design and implement a program that includes not only renewable fuels but other alternative fuels, considers the GHG emissions from the petroleum portion of the fuel pool and reflects differences in fuel production not captured by the GHG thresholds established under

EISA, including differences in technology at the fuel production facility. We request comment on the factors EPA should consider in developing a GHG fuel control program under section 211(c) and how including such factors could serve to encourage the use of low GHG-emitting practices and technology.

We note that the RFS and the forthcoming EISA programs require refiners and other obligated parties to meet specified volume standards and that these programs are anticipated to continue. We request comment on the impacts and opportunities of implementing both a GHG program under 211(c) and volume mandates under 211(o).

EPA seeks comment on the potential for reducing GHG emissions from transportation fuel over and above those reductions that could be achieved by RFS and the anticipated EISA requirements. Although EPA has not completed its analysis of the GHG emission reductions expected under the combined RFS and EISA programs, EPA seeks comment on how it might structure a program that could reduce GHG emissions from transportation fuel over and above those reductions that could be achieved by the RFS and anticipated EISA requirements.

VII. Stationary Source Authorities and Potential Options for Regulating Greenhouse Gases Under the Clean Air Act

In this section, we explore three major pathways that the CAA provides for regulating stationary sources, as well as other stationary source authorities of the Act, and their potential applicability to GHGs. The three pathways include NAAQS and implementation plans (sections 107-110 and related provisions); performance standards for new and existing stationary sources (section 111); and hazardous air pollutant standards for stationary sources (section 112).[228] Special provisions for regulating solid waste incinerators are contained in section 129.

We also review the implications of regulating GHGs under Act's programs for preconstruction permitting of new emissions sources, with emphasis on the PSD program under Part C of the Act. These programs require permits and emission controls for major new sources and modifications of existing major sources. The permitting discussion closes by examining the implications of requiring operating permits under Title V for major sources of GHGs. Finally, we describe four different types of market-oriented regulatory designs that (in addition to other forms of regulation) could be considered for programs to reduce GHG emissions from stationary sources to the extent permissible under the CAA: cap-and-trade, rate-based emissions trading, emissions fees, and a hybrid approach.

For each potential pathway of stationary source regulation, this notice discusses the following basic questions:

- What does the section require?
- What sources would be affected if GHGs were regulated under this authority?

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[228] As explained in this section, the NAAQS pathway is not solely a stationary source regulatory authority; plans for implementating the NAAQS can involve regulation of stationary and mobile sources.

- What would be the key milestones and implementation timeline?
- What are key considerations regarding use of this authority for GHGs and how could potential issues be addressed?
- What possible implications would use of this authority for GHGs have for other CAA programs?

In discussing these questions, EPA considers the President's core principles and other policy design principles enumerated in Section III.F.1. EPA seeks comment on the advantages and disadvantages of alternative regulatory authorities in light of those policy design principles. EPA further invites comments on the following aspects of each CAA stationary source authority:

- How much flexibility does the CAA section provide for implementing its requirements? For example, can EPA set compliance dates that reflect the global ***44477** and long-lived nature of GHGs and that allow time for technological advances and new technology deployment?
- To what extent would the section allow for consideration of the costs and economic impacts of regulating GHGs? For example, would the section provide opportunities for sending a price signal, such as through cap and trade programs (with or without cost containment mechanisms) and emission fees.
- To what extent can each section account for the international aspects of GHG emissions, atmospheric concentrations, and emission impacts, including ways for potentially addressing international pollutant transport and emission leakage?
- How does each section address the assessment of available technologies, and to what extent could the

section promote or require the advancement of technology?

- To what extent does the section allow for the ability to prioritize regulation of significant emitting sectors and sources?
- To what extent could each authority be adapted to GHG regulation without compromising the Act's effectiveness in regulating traditional air pollutants?

Finally, for each regulatory authority, EPA requests comment on a range of program-specific issues identified in the discussion below. EPA also requests comment on whether there are specific statutory limitations that would best be addressed by new legislation. Additional information concerning potential CAA regulation of stationary source GHGs may be found in the Stationary Source Technical Support Document (Stationary Source TSD) placed in the docket for this notice.

A. National Ambient Air Quality Standards (NAAQS)

1. What Are the Requirements for Setting and Implementing NAAQS?

a. Section 108: Listing Pollutant(s) and Issuing Air Quality Criteria

Section 108(a)(1) establishes three criteria for listing air pollutants to be regulated through NAAQS. Specifically, section 108(a)(1) states that: EPA "shall from time to time * * * list * * * each air pollutant—

(A) emissions of which, in [the Administrator's] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(C) for which air quality criteria had not been issued before the date of enactment of the Clean Air Amendments of 1970, but for which [the Administrator] plans to issue air quality criteria under this section."

In determining whether a pollutant meets these criteria, EPA must consider a number of issues, including many of those discussed in section IV above regarding an endangerment finding. As discussed there, in the context of the ICTA petition remand, EPA is considering defining the "air pollution" as the elevated current and future concentration of six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6). Also in that context, EPA is considering alternative definitions of "air pollutant" as the group of GHGs or each individual GHG for purposes of the "cause or contribute" determination.

In considering the potential listing of GHGs under section 108, EPA solicits input on appropriate definitions of both the "air pollution" and the "air pollutants." With regard to section 108, it is important to note that EPA has clear precedents for listing related compounds as groups rather than as individual pollutants. For example, photochemical oxidants, oxides of nitrogen, and particulate matter all comprise multiple compounds, but the listing under section 108 is for the group of compounds, not the individual elements of the group. The Agency is soliciting comment on the relevance of these precedents for GHGs. In addition, as discussed later, there would be increased complexity in setting NAAQS for individual GHGs than for GHGs as a group. We are particularly interested in comments on how to apply the terms "air pollution" and/or "air pollutants" under sections 108 and 109 in the context of GHGs, and the implications of taking consistent or different approaches under other Titles or sections of the Act.

A positive endangerment finding for GHGs under section 202(a) or other sections of the CAA could have significant and direct impacts on EPA's consideration of the first two criteria for listing the pollutant(s) under section 108, as explained in section IV.B.2 of this notice. The third criterion for listing under section 108, however, may be unrelated to the issues involved in any motor vehicle or other endangerment finding. Moreover, this third criterion could provide EPA discretion to decide whether to list those pollutants under section 108 for purposes of regulating them via the NAAQS.[229] EPA requests comment on the effect of a positive finding of endangerment for GHGs under section 202(a) of the Act on potential listing of the pollutant(s) under section 108.

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[229] With respect to the third criterion, while there is a decision of U.S. Court of Appeals for the Second Circuit to the contrary, *NRDC* v. *Train*, 545 F.2d 320 (2nd Cir. 1978), EPA notes that that decision was rendered prior to the Supreme Court's decision in *Chevron* v. *Natural Resources Defense Council*, 467 U.S. 837 (1984). Thus, a proper and reasonable question to ask is whether this criterion affords EPA discretion to decide whether it is appropriate to apply the NAAQS structure to a global air pollution problem like GHGs.

Section 108 also requires that once a pollutant is listed, EPA issue "air quality criteria" encompassing "all identifiable effects on public health or welfare," including interactions between the pollutant and other types of pollutants in the atmosphere. We are interested in commenters' views on whether and how developing air quality criteria for GHGs would differ from developing such criteria for other pollutants such as ozone and particular matter, given the long-lived nature of GHGs and the breadth of impacts and other special issues involved with global climate change. EPA also invites comment on the extent to which it would be appropriate to use the most recent IPCC reports, including the chapters focusing on North America, and the U.S. government Climate Change Science Program synthesis reports as scientific assessments that could serve as an important source or as the primary basis for the Agency's issuance of "air quality criteria."

Finally, section 108 requires EPA to issue information on air pollution control techniques at the same time it issues air quality criteria. This would include information on the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impacts of these techniques. Generally, the Agency defers this obligation until the time a standard is actually issued. As required under Executive Order 12866, EPA must issue a Regulatory Impact Analysis (RIA) for major rulemaking actions, and it is in this context that EPA has previously described the scope and effectiveness of available pollution control techniques. EPA requests comment on whether this approach is appropriate in the case of GHGs.

b. Section 109: Standard-Setting

Section 109 requires that the Administrator establish NAAQS for any air pollutant for which air quality criteria are issued under section 108. Both the air quality criteria and the standards are to be reviewed and, as appropriate, revised by the Administrator, every five years. These decisions are to be informed by an *44478 independent scientific review committee, a role which has been fulfilled by the Clean Air Scientific Advisory Committee (CASAC) of EPA's Science Advisory Board. The committee is charged with reviewing both the air quality criteria for the pollutant(s) and the standards, and recommending any revisions deemed appropriate.

The statute specifically provides that primary NAAQS "shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health," including the health of sensitive groups. The requirement that primary standards provide an adequate margin of safety was intended to address uncertainties associated with inconclusive scientific and technical information available at the time of standard setting. It was also intended to provide a reasonable degree of protection against hazards that research has not yet identified. *Lead Industries Association* v. *EPA*, 647 F.2d 1130, 1154 (DC Cir 1980), *cert. denied*, 449 U.S. 1042 (1980); *American Petroleum Institute* v. *Costle*, 665 F.2d 1176, 1186 (DC Cir 1981), *cert. denied*, 455 U.S. 1034 (1982). The selection of any particular approach to providing an adequate margin of safety is a policy choice left specifically to the Administrator's judgment. *Lead*

Industries Association v. *EPA*, 647 F.2d at 1161-62.

With regard to secondary NAAQS, the statute provides that these standards "specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator * * * is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air."Welfare effects as defined in CAA section 302(h) include, but are not limited to, "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being."

One of the central issues posed by potential regulation of GHGs through the NAAQS is the nature of the health and environmental effects to be addressed by the standards and, thus, what effects should be addressed when considering a primary (public health) standard and what effects should be addressed when considering a secondary (public welfare) standard. This issue has implications for whether it would be appropriate to establish a primary standard as well as a secondary standard for these pollutants. As discussed above in section V, the direct effects of GHG emissions appear to be principally or exclusively welfare-related. GHGs are unlike other current NAAQS pollutants in that direct exposure to GHGs at current or projected ambient levels appears to have no known adverse effects on human health. Rather, the health impacts associated with ambient GHG concentrations are a result of the changes in climate at the global, regional, and local levels, which trigger myriad ecological and meteorological changes that can adversely affect public health (e.g., increased viability or altered geographical range of pests or diseases; increased frequency or severity of severe weather events including heat waves) (see section V above). The effects on human health are thus indirect impacts resulting from these ecological and meteorological changes, which are effects on welfare. This raises the question of whether it is more appropriate to address these health effects as part of our consideration of the welfare effects of GHGs when setting a secondary NAAQS rather than a primary NAAQS. Control of GHGs would then occur through implementation of the secondary NAAQS rather than the primary NAAQS. EPA invites comment on whether and how these indirect human health impacts should be addressed in the context of setting a primary or a secondary NAAQS.

Past experience suggests EPA may have discretion to decline to set either a primary or a secondary standard for a pollutant if the evidence shows that there are no relevant adverse effects at or near current ambient concentrations, and therefore that no standard would be requisite to protect public health or welfare. In 1985, for example, EPA determined that it was appropriate to revoke the secondary standard for carbon monoxide (CO) after a review of the scientific evidence indicated that there was no evidence of known or anticipated adverse welfare effects associated with CO at or near ambient levels. 50 FR 37484, 37494 (September 13, 1985). This decision was reaffirmed by the Agency in the 1994 CO NAAQS review, and there remains only a primary standard for this pollutant. EPA requests comment on whether it would be necessary and/or appropriate for the Agency to establish both primary and secondary NAAQS for GHGs if those pollutants were listed under section 108.

It is also important to consider how a NAAQS for GHGs would interface with existing NAAQS for other pollutants, particularly oxides of nitrogen (NO_X) and ozone (O3), as well as particulate matter. EPA's approach in other NAAQS reviews has been to consider climate impacts associated with any pollutant as part of the welfare impacts evaluated for that pollutant in setting secondary standards for the pollutant. If separate NAAQS were established for GHGs, EPA would likely address the climate impacts of each specific GHG in the NAAQS for GHGs, and would not need to address the climate impacts of that GHG when addressing other NAAQS, thus avoiding duplication of effort.

In considering the application of section 109 to GHGs and whether it would be appropriate to regulate GHGs through the NAAQS, EPA must evaluate a number of other standard-setting issues, as discussed below.

i. Level

For potential GHG standards, EPA would face special challenges in determining the level of the NAAQS. As noted above, the primary standard must be "requisite to protect public health with an adequate margin of safety" and the secondary standard "requisite to protect public welfare against any known or anticipated adverse effects."EPA's task is to establish standards that are neither more nor less stringent than necessary for the purposes of protecting public health or welfare. *Whitman* v. *American Trucking Associations*, 531 U.S. 457, 473. Under established legal interpretation, the costs of implementation associated with various potential levels cannot be factored into setting a primary or secondary standard.[230] Any determinations by the EPA Administrator regarding the appropriate level (and other elements of) of a NAAQS for GHGs must based on the available scientific evidence of adverse public health and/or public welfare impacts, without consideration of the costs of implementation.

EPA expects it would be difficult to determine what levels and other elements of NAAQS would meet these criteria for GHGs, given that the full effects associated with elevated atmospheric concentrations of these ***44479** pollutants occur over a long period of time and there are significant uncertainties associated with the health or welfare impacts at any given concentration. The delayed nature of effects and the complex feedback loops associated with global climate change would require EPA to consider both the current effects and the future effects associated with current ambient concentrations. In making a determination of what standard is sufficient but not more stringent than necessary, EPA would also have to grapple with significant scientific uncertainty. As with other NAAQS, however, the iterative nature of the 5-year review cycle means the standards could be revised as appropriate in light of new scientific information as it becomes available. EPA requests comment on the scientific, technical, and policy challenges of determining appropriate levels for NAAQS for GHG pollutants, for both primary and secondary standards.

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[230] The Supreme Court has confirmed EPA's long-standing interpretation and ruled that "[t]he text of § 109(b), interpreted in its statutory and historical context and with appreciation for its importance to the CAA as a whole, unambiguously bars cost considerations from the NAAQS-setting process."The court also noted that consideration of costs occurs in the state's formulation of the implementation plan with the aid of EPA cost data. *Whitman* v. *American Trucking Associations,* 531 U.S. at 472.

As with all pollutants for which EPA establishes NAAQS, EPA would need to evaluate what constitutes an "adverse" impact in the climate context. EPA notes that the 1992 UNFCCC calls for the avoidance of "dangerous anthropogenic interference with the climate system."However, it is possible that the criteria for setting a NAAQS may call for protection against risks and effects that are less egregious than "dangerous interference." Furthermore, international agreement has not been reached on either the metric (e.g., atmospheric concentrations of the six major directly emitted anthropogenic GHGs, radiative forcing, global average temperature increase) or the level at which dangerous interference would occur. EPA requests comment on whether it would be appropriate, given the unique attributes of GHGs and the significant contribution to total atmospheric GHG contributions from emissions emanating outside the United States, to establish a level for a GHG NAAQS based on an internationally agreed-upon target GHG level, considering legal and policy factors.

Another key question is the geographical extent of the human health and welfare effects that should be taken into consideration in determining what level and other elements of a standard would provide the appropriate protection. The pollutants already subject to NAAQS are typically local and/or regional in nature, so the standards are designed to limit ambient concentrations of pollutants associated with emissions typically originating in and affecting various parts of the United States. In assessing what standard is requisite to protect either public health or welfare, EPA has focused in the past on analyzing and addressing the impacts in the United States. It may be appropriate to interpret the Act as requiring standards that are requisite for the protection of U.S. public health and welfare. However, atmospheric concentrations of GHGs are relatively uniform around the globe, the impacts of climate change are global in nature, and these effects, as described in section V, may be unequally distributed around the world. The severity of impacts in the U.S. might differ from the severity of impacts in the rest of the world. In light of these factors, EPA invites comment on whether it would be appropriate to consider adverse effects on human health and welfare occurring outside the U.S. Specifically, we invite comment on whether, and if so, on what legal basis, it would be appropriate for EPA to consider impacts occurring outside the U.S. when those impacts, either in the short or long term, may reasonably be anticipated to have an adverse effect on health or welfare in the U.S.

As noted briefly above, if each GHG is listed as a separate pollutant under section 108, rather than as a group or category of pollutants, then EPA arguably would have to establish separate NAAQS for each listed GHG. This scenario raises significant challenges for determining which level of any particular standard is appropriate, especially as the science of global climate change is generally focused on the total radiative impact of the combined concentration of GHGs in the atmosphere. Since for any one pollutant, the standard that is requisite to protect public health with an adequate margin of safety or public welfare from known or anticipated adverse effects is highly dependent upon the concentration of other GHGs in the atmosphere, it would be difficult to establish independent standards for any of the six principal GHGs. EPA requests comments on possible approaches for determining appropriate levels for GHG NAAQS if these pollutants are listed individually under section 108.

ii. Indicator

If each GHG is listed as an individual pollutant under section 108, the atmospheric concentration of each pollutant could be measured separately, and establishing an indicator for each pollutant would be straightforward. However, if GHGs are listed as a group, it would be more challenging to determine the appropriate indicator for use in measuring ambient air quality in comparison to a GHG NAAQS. One approach could be to measure the total atmospheric concentration of a group of GHGs on a CO_2 equivalent basis, by assessing their total radiative forcing (measured in W/m^2).[231] Radiative forcing is a measure of the heating effect caused by the buildup of the GHGs in the atmosphere. Estimating CO_2 -equivalent atmospheric concentrations, however, would not be a simple matter of multiplying emissions times their respective GWP values. Rather, the heating effect (radiative forcing) due to concentrations of each individual GHG would have to be estimated to define CO_2 -equivalent concentrations. EPA invites comment on the extent to which radiative forcing could be an effective metric for capturing the heating effect of all

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[231] See footnote 13 for an explanation of CO_2 equivalency.

GHGs in a group (or for each GHG individually). For example, in the year 2005 global atmospheric CO_2 concentrations were 379 parts per million (ppm), but the CO_2-equivalent concentration of all long-lived GHGs was 455 ppm. This approach would not require EPA to specify the allowable level of any particular GHG, alone or in relation to the concentration of other GHGs present in the atmosphere.

A second option would be to select one GHG as the indicator for the larger group of pollutants intended to be controlled under the standard. This kind of indicator approach is currently used in regulating photochemical oxidants, for which ozone is the indicator, and oxides of nitrogen, for which NO_2 has been used as an indicator. There are several reasons, however, that this approach may not be appropriate for GHGs. For example, in the instances noted above, the indicator species is directly related to the other pollutants in the group, either through common precursors or similar chemical composition, and there is a basis for expecting that control of the indicator compound will lead to the appropriate degree of control for the other compounds in the listed pollutant. In the case of GHGs, it would be more difficult to select one species as the indicator for the larger group, given that the GHGs are distinct in origin, chemical composition, and radiative forcing, and will require different control strategies. Furthermore, this approach raises an issue regarding whether states would have the appropriate incentive to address all pollutants within the group. For example, there could be a focus on controlling the single indicator species at the expense of other species also associated with the adverse effects from *44480 which the standard(s) are designed to offer protection.

EPA seeks comment on the merits and drawbacks of these various approaches, as well as suggestions for other possible approaches, to defining an indicator for measuring allowable concentrations of GHGs in the atmosphere.

c. Section 107: Area Designations

After EPA establishes or revises a NAAQS, the CAA requires EPA and the states to begin taking steps to ensure that the new or revised NAAQS are met. The first step is to identify areas of the country that do not meet the new or revised NAAQS. This applies to both the primary and secondary NAAQS. EPA is required to identify each area of the country as "attainment," "nonattainment," or "unclassifiable."[232]

For a GHG NAAQS, the designations given to areas would depend on the level of the NAAQS and the availability of ambient data to make informed decisions for each area. For GHGs, in contrast to current NAAQS pollutants, it would likely make sense to conduct the air quality assessment at the national scale rather than at a more localized scale. All of the potential indicators discussed above for measuring ambient concentrations of GHGs for purposes of a NAAQS involve globally averaged metrics. Therefore, the ambient concentrations measured across all locations within the U.S. for purposes of comparison to the level of the standard would not vary, and all areas of the country would have the same designation—that is, the entire U.S. would be designated either attainment or non-attainment, depending on the level of the NAAQS compared to observed GHG ambient concentrations.

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[232] CAA Section 107(d)(1) requires EPA to establish a deadline for states to submit recommendations for area designations that is no later than one year after promulgation of the new or revised NAAQS. Section 107(d)(1) also directs states to recommend appropriate area boundaries. A nonattainment area must consist of that area that does not meet the new or revised NAAQS, and the area that contributes to ambient air quality in a nearby area that does not meet the new or revised NAAQS. Thus, a key factor in setting boundaries for nonattainment areas is determining the geographic extent of nearby source areas contributing to the nonattainment problem. EPA then reviews the states' recommendations, collects and assesses additional information as appropriate, and issues final designations no later than 2 years following the date EPA promulgated the new or revised NAAQS. EPA may take one additional year (meaning final designations can be up to 3 years after promulgation of new or revised NAAQS) if the Administrator has insufficient information to promulgate the designations. Whether or not a state or a Tribe provides a recommendation, EPA must promulgate the designation that it deems appropriate.

If, in making decisions about the appropriate level of the GHG NAAQS, EPA were to determine that current ambient concentrations are not sufficient to cause known or anticipated adverse impacts on human health or welfare now or in the future, then it is possible that the NAAQS would be set at some level higher than current ambient concentrations. In that case, the entire country would likely be designated nonattainment. If, on the other hand, EPA were to set the NAAQS at a level above current ambient concentrations, the entire country would likely be designated attainment.

d. Section 110: State and Federal Implementation Plans

i. State Implementation Plans

The CAA assigns important roles to EPA, states, and tribal governments in implementing NAAQS and in ensuring visibility protection in Class I areas. States have the primary responsibility for developing and implementing state implementation plans (SIPs). A SIP is the compilation of authorities, regulations, control programs, and other measures that a state uses to carry out its responsibilities under the CAA to attain, maintain, and enforce the NAAQS and visibility protection goals, and to prevent significant deterioration of air quality in areas meeting the standard. Additional specifics on SIP requirements are contained in other parts of the CAA.

EPA assists states and tribes in their efforts to clean the air by promulgating national emissions standards for mobile sources and selected categories of stationary sources. Also, EPA assists the states in developing their plans by providing technical tools, assistance, and guidance, including information on potentially applicable emissions control measures.

Historically, the pollutants addressed by the SIP program have been local and regional pollutants rather than globally mixed pollutants like GHGs. The SIP development process, because it relies in large part on individual states, is not designed to result in a uniform national program of emissions controls.

(1) Generic Requirements for All SIPs

This section discusses the specific CAA requirements states must address when implementing any new or revised NAAQS.[233]

Under section 110(a)(1) and (2) of the CAA, all states are required to submit plans to provide for the implementation, maintenance, and enforcement of any new or revised NAAQS. Section 110(a)(1) and (2) require states to address basic program elements, including requirements for emissions inventories, monitoring, and modeling, among other things. These requirements apply to all areas of the state regardless of whether those areas are designated nonattainment for the NAAQS.

In general, every state is required to submit to EPA within 3 years of the promulgation of any new or revised NAAQS a SIP demonstrating that these basic program elements are properly addressed. Subsections (A) through (M) of section 110(a)(2) enumerate the elements that a state's program must contain. See the Stationary Source TSD for this list.

Other statutory requirements for state implementation plans vary depending on whether an area is in nonattainment or attainment. There are four specific scenarios that could hypothetically apply, depending on whether a primary or a secondary standard, or both, are established, and on the level(s) set for those standards. Because we are proposing no scientific determinations in this notice, our discussion of NAAQS implementation addresses all four of these scenarios.

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[233] The visibility protection program required by CAA sections 169A and 169B, and as implemented through state compliance with EPA's 1999 Regional Haze Rule, will only be raised again here in this section of the ANPR in the context of a framework for implementing a secondary GHG NAAQS.

(2) Scenario 1: Primary GHG Standard With Country in Nonattainment

If the entire country were designated nonattainment for a primary GHG NAAQS, each state would be required to develop and submit a SIP that provided for attainment and met the other specific requirements of Part D of Title I of the Act by the specified deadline.

Requirements for the general contents of a nonattainment area plan are set forth in section 172 of the CAA. Section 172(c) specifies that SIPs must, among other things:[234]

- Include all Reasonably Available Control Measures (RACM) (including, at a minimum, emissions reductions obtained through adoption of Reasonably Available Control Technology (RACT)) and provide for attainment of the NAAQS;
- Provide for Reasonable Further Progress (RFP), which means reasonable interim progress toward attainment;
- Include an emissions inventory;
- Require permits for the construction and operation of major new or modified stationary sources, known as *44481 "nonattainment new source review" (see also section 173 of the Act and section VII.E. of this notice);
- Contain contingency measures that are to be implemented in the event the air quality standard is not met by the area's attainment deadline; and

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[234] For additional information about nonattainment area planning requirements, please see the Technical Support Document.

- Meet the applicable provisions of section 110(a)(2) of the CAA related to the general implementation of a new or revised NAAQS.

In addition, all nonattainment areas must meet requirements of section 176(c) known as "general conformity" and "transportation conformity."[235] In brief, general conformity requires the federal government only to provide financial assistance, issue a permit or approve an activity that conforms to an approved SIP for a NAAQS. Transportation conformity requires metropolitan planning organizations and the U.S. Department of Transportation only to approve or fund transportation plans, programs and projects that conform to an approved SIP for a NAAQS. For the scenario of the country in nonattainment with a GHG NAAQS, these requirements would apply nationwide one year after the effective date of EPA's nonattainment designations.

For nonattainment areas, SIPs must provide for attainment of the primary NAAQS as expeditiously as practicable, but no later than 5 years from the effective date of the nonattainment designation for the area—or no later than 10 years if EPA finds additional time is needed considering the severity of nonattainment and the availability and feasibility of pollution control measures.

At the outset, it would appear to be an inescapable conclusion that the maximum 10-year horizon for attaining the primary NAAQS would be ill-suited to GHGs. The long atmospheric lifetime of the six major emitted GHGs means that atmospheric concentrations will not quickly respond to emissions reduction measures (with the possible exception of methane, which has an atmospheric lifetime of approximately a decade). In addition, in the absence of substantial cuts in worldwide emissions, worldwide concentrations of GHGs would continue to increase despite any U.S. emission control efforts. Thus, despite active control efforts to meet a NAAQS, the entire U.S. would remain in nonattainment for an unknown number of years. If States were unable to develop plans demonstrating attainment by the required date, the result would be long-term application of sanctions, nationwide (e.g., more stringent offset requirements and restrictions on highway funding), as well as restrictions on approvals of transportation projects and programs related to transportation conformity. EPA is currently evaluating the extent to which section 179B might provide relief to states in this circumstance. As further explained below, section 179B is a waiver provision providing for SIP approval under certain circumstances when international emissions affect a U.S. nonattainment area.

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[235] These requirements also apply to "maintenance areas"—former nonattainment areas that have met the standard and been redesignated according to a formal EPA determination.

In addition to submitting plans providing for attainment within the state, each state would be required to submit, within 3 years of NAAQS promulgation, a plan under section 110(a)(2)(D) prohibiting emissions that would significantly contribute to nonattainment in another state. EPA requests comments on what approaches could be utilized for purposes of addressing this requirement as well as the general matter of controlling GHGs to meet a NAAQS.

Impact of section 179B on nonattainment requirements: States may use section 179B of the CAA to acknowledge the impact of emissions from international sources that may contribute to violations of a NAAQS. Section 179B provides that EPA shall approve a SIP for a nonattainment area if: (1) The SIP meets all applicable requirements of the CAA; and (2) the submitting state can satisfactorily demonstrate that "but for emissions emanating from outside of the United States," the area would attain and maintain the applicable NAAQS. EPA has historically evaluated these "but for" demonstrations on a case-by-case basis, based on the individual circumstances and the data provided by the submitting state. These data might include ambient air quality monitoring data, modeling scenarios, emissions inventory data, and meteorological or satellite data. In the case of GHGs, however, where global emissions impact all areas within the United States, the federal government may be best suited for establishing whether a "but for" demonstration can be made for the entire country.

If a "but for" conclusion is affirmed, section 179B would allow EPA to approve a SIP that did not demonstrate attainment or maintenance of the relevant NAAQS. Section 179B does not provide authority to exclude monitoring data influenced by international transport from regulatory determinations related to an area's status as an attainment or nonattainment area. Thus, even if EPA approves a section 179B "but for" demonstration for an area, the area would continue to be designated as nonattainment and subject to certain applicable nonattainment area requirements, including nonattainment new source review, conformity, and other measures prescribed for nonattainment areas by the CAA. EPA requests comment on the practical effect of application of section 179B on the global problem of GHG emissions and on the potential for controls based on the attainment plan requirement and other requirements directly related to the attainment requirement, including the reasonable further progress requirement and the RACM requirement.[236]

(3) Scenario 2: Secondary Standard With Country in Nonattainment (No Primary Standard)

As noted above in the NAAQS standard-setting discussion, depending on the nature and bases of any endangerment finding under section 108, EPA may be able to consider setting only a secondary NAAQS for GHGs and not also a primary NAAQS.

In general, the same nonattainment requirements that apply to SIPs for a primary standard apply for a secondary standard, including nonattainment new source review and the other programs listed under the Scenario 1 subsection above.

A notable difference in nonattainment requirements for primary and secondary standards is the time allowed for attainment. Under a secondary standard, state plans must achieve attainment as expeditiously as practicable, but there is no statutory maximum date for attainment. The general requirement to attain as expeditiously as practicable includes consideration of required controls, including "reasonably available control measures." These requirements do allow for consideration of cost. What would constitute "as expeditiously as practicable" would be determined based on the entire set of facts and circumstances at issue. EPA requests comment on how to interpret ***44482** the requirement that state plans demonstrate that attainment will be achieved "as expeditiously as practicable" in the context of a secondary NAAQS for GHGs.

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[236] EPA has interpreted RACM as emissions reducing measures that are technically and economically feasible, and considered collectively would advance the nonattainment area's attainment date by at least one year. RACT has been interpreted in two different ways, depending on the applicable statutory requirements. In the case of ozone, RACT consists of measures that are technically and economically feasible, without regard to whether the measures would result in earlier attainment. In recent rules on PM2.5, EPA interpreted RACT for PM2.5 as essentially the same as RACM, with RACT referring to the stationary source component of RACM, which applies to all types of sources.

Potential implementation approach based on regional haze model: For a secondary GHG NAAQS with no prescribed attainment date, EPA requests comment on the concept of implementing a GHG secondary NAAQS standard in a way roughly analogous to an approach used in the long-term regional visibility program, known as the regional haze program. This program is based on a goal of achieving natural visibility conditions in our nation's parks and wilderness areas (Class I areas) by 2064. The program requires states to develop reasonable progress goals every 10 years and implement emissions control programs to achieve those goals, ultimately achieving the 2064 natural condition goal in each Class I area. At the midpoint of every 10-year period, states must assess the progress being made and take corrective action if necessary to maintain reasonable progress toward the 10-year progress milestone.

The regional haze program's model for goal planning, control strategy development, and control strategy implementation could offer a possible framework for achieving a GHG secondary NAAQS. This framework potentially could be designed to address the RACM, RACT and Reasonable Further Progress requirements, as well as the attainment planning requirement. This framework may also provide a mechanism for implementing a nationwide GHG emissions cap and trade program adopted and implemented through state plans. However, EPA recognizes that the global nature of GHGs and their persistence in the atmosphere make an approach based on "reasonable" progress more difficult to implement than in the case of regional haze. For example, despite domestic emissions reductions, it might not be possible to discern improvement in atmospheric concentrations of GHGs due to their relatively long atmospheric lifetimes or to growth in emissions from other countries which could eclipse reductions made in the U.S. We note that using this framework would not provide relief from any of the applicable nonattainment area requirements of the Act. EPA requests comment on whether, and if so how, the regional haze approach could be adapted for use in the GHG context.

(4) Scenarios 3 and 4: Primary and/or Secondary Standard With Country in Attainment

If a primary or secondary GHG NAAQS were set at a level higher than ambient GHG levels at the time of designations, then the country would be in attainment. (See preceding section on NAAQS standard-setting for discussion of this issue.) In this case, a much shorter list of requirements would apply than if the country were in nonattainment.

SIPs would be required to include PSD programs for GHGs, which would require preconstruction permitting of new major sources and significant modifications to existing major sources. (See section VII.D on PSD.)

EPA has identified two other requirements that potentially could apply, both of which could provide authority for a nationwide cap-and-trade program implemented at the state level. First, section 110(a)(1) requires states to submit a SIP providing for "implementation, maintenance, and enforcement" of primary and secondary NAAQS. Under the scenario of a GHG NAAQS with the country in attainment, where states may need more than PSD/NSR to maintain attainment, EPA could consider using this provision to require SIPs to provide for maintenance of air quality consistent with the GHG standard. This requirement could be implemented through a nationwide cap-and-trade program designed at the federal level and adopted by individual states in their SIPs, a program similar but broader in scope than existing programs such as the more limited NO_X SIP Call regional cap-and-trade system for EGUs and selected industrial source categories. If a state failed to submit an adequate maintenance SIP, EPA would be required to develop and implement a federal implementation plan for that state. EPA could design the FIP to enable the state to participate in a nationwide cap-and-trade system.

Second, section 110(a)(2)(D) requires SIPs to prohibit emissions that would interfere with maintenance of the standard by other states. Because GHGs are globally well-mixed, it may be that GHGs emitted from any state could be found to interfere with maintenance of a GHG NAAQS in every other state. In the past, EPA has issued rules that have resulted in states adopting interstate cap-and-trade programs (e.g., the Clean Air Interstate Rule) implemented through SIPs to address the requirements of this provision. In the case of GHGs, this authority could potentially support a nationwide cap-and-trade program for GHGs, adopted through SIPs. If a state failed to submit its section 110(a)(2)(D) SIP, EPA would be required to develop and implement a FIP for that state. EPA could design the FIP to enable the state to participate voluntarily in a nationwide cap-and-trade system. We request comment on the suitability of adopting either of these approaches under section 110(a).

ii. Additional CAA Provisions Affecting SIP Obligations and FIPs

(1) Section 179(a)

The CAA requires states to submit SIPs to EPA for review, and EPA must approve or disapprove them based on whether the state plan or component meets the Act's requirements. An EPA finding that a state has failed to submit a nonattainment plan or plan component, or an EPA disapproval of such a plan because it does not meet the requirements of the Act, would start a "sanctions clock" under section 179(a). This means that sanctions would apply in the state if the deficiencies are not corrected within prescribed deadlines. These sanctions include additional requirements for major new sources (18 months after the finding of failure) and restrictions on federal highway funds (6 months after the offset sanction).[237] EPA must promulgate a FIP for the deficient component of the SIP if the state's plan component is not approved within 2 years of EPA's finding or disapproval action. In the case of GHGs, it is possible that EPA could design the FIP to enable the state to participate in a nationwide cap-and-trade system.

(2) Section 115

CAA section 115 creates a mechanism through which EPA can require states to amend their SIPs to address international transport issues. It is designed to protect public health and welfare in another country from air pollution emitted in the U.S. provided the U.S. is given essentially reciprocal rights with respect to prevention and control of air pollution originating in the other country. The Administrator could exercise his authority under this provision if EPA were to promulgate a NAAQS for GHG.

To act under section 115, the Administrator would need to make a finding that, based on information from any duly constituted international agency, he has reason to believe that air pollutants (GHGs) emitted in the U.S. causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country. Upon making such a finding, the Administrator would give ***44483** formal notification to the Governor of the state (or in this case potentially all of the states) where GHGs originate. A finding under this section has the same regulatory consequences as a finding that the state's existing SIP is inadequate to attain the NAAQS or otherwise meet the requirements of the Act. This notification would require the notified states to modify their SIPs to prevent or eliminate the endangerment.

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[237] 40 CFR 52.31.

Addressing GHGs under this authority could allow some flexibility in program design, subject to limitations of the SIP development process. Section 115 could not be used to require states to incorporate into their SIPs measures unrelated to attainment or maintenance of a NAAQS. A factor to consider is that this section of the Act only applies where countries that suffer possible endangerment give reciprocal rights to the U.S. However, reciprocity with one or more affected countries may be sufficient to trigger section 115. We request comment on the efficacy of using section 115 as a mechanism to facilitate more effective regulation of GHGs through a NAAQS.

2. What Sources Would Be Affected?

Sections 108 and 109 impose no controls directly on sources, but instead establish the air quality benchmarks that control requirements would be designed to meet. The precise nature of these controls would be determined through federal and state programs, as established via SIPs and, for states failing to submit an approvable plan, FIPs. Considering that GHGs are emitted by a wide array of sources, it is likely that NAAQS implementation would result in controls on numerous stationary and mobile sources through sections 110 and 172.

The federal government could have less flexibility under the NAAQS approach to target control efforts toward particular groups of existing stationary sources. Under the traditional SIP approach, emissions controls on specific source categories would flow from independent state-level decisions, and could result in a patchwork of regulations requiring different types and levels of controls in different states. However, the SIP approach could also be adapted for use in a more coordinated strategy. As mentioned above, EPA has in the past issued rules that have resulted in states adopting limited interstate cap-and-trade programs (e.g., NO_X SIP Call and the Clean Air Interstate Rule) implemented through state SIPs. Furthermore, the federal government would also have flexibility to design a national control program in the event that states did not adopt the required programs and EPA were required to promulgate a FIP.

EPA requests comment on whether and how the different implementation provisions within the NAAQS program could be adapted to be most suitable for application to control GHGs.

3. What Would Be the Key Milestones and Implementation Timeline?

The key milestones that would apply if EPA were to regulate GHGs as a NAAQS pollutant include: listing the pollutant(s); issuing air quality criteria; issuing information on air pollution control techniques; proposing primary and secondary NAAQS for the pollutants; issuing final standards; designating areas; development of SIPs/FIPs; and application of control measures.

EPA has discretion with regard to the date of listing of a pollutant under section 108. The statute does not prescribe any specific deadline for listing, instead stating that EPA "shall from time to time * * * list * * * each air pollutant" that EPA judges meets the three criteria discussed above. This could provide the Agency some latitude in determining the precise timing of any listing.

Once a pollutant is listed, the CAA specifies a very ambitious timeline for issuing the initial NAAQS for the pollutant. Section 108 allows 12 months between date of listing and issuance of air quality criteria for the pollutant(s). Since these criteria are intended to encompass "all identifiable effects on public health or welfare," it would be difficult to meet this timeline in the case of GHGs. In 1970, when the NAAQS program was first established under the CAA, air quality criteria either were in development or had already been issued for a variety of pollutants, and the process involved consideration of a much smaller body of science than is now available. Therefore, the 12-month period allotted for the initial issuance of air quality criteria appeared reasonable.[238] However, based on recent NAAQS reviews for ozone, particulate matter, lead, and other pollutants, it now generally takes several years for the Agency to complete the thorough scientific assessment necessary to issue air quality criteria.

Given the complexity of global climate change science, and the vast amount of research that would be relevant to the Agency's scientific assessment, EPA anticipates this task would be particularly time consuming in the case of GHGs, though relying on synthesis reports such as the Intergovernmental Panel on Climate Change's Fourth Assessment Report and various reports of the U.S. Climate Change Science Program could help expedite the process. The challenge of completing a thorough scientific assessment for GHGs could result in a significant delay in listing the pollutant(s) under section 108, since EPA would likely choose to list GHGs only when the scientific assessment had progressed sufficiently to enable the Agency to meet the statutory requirement to issue "air quality criteria" within one year of listing, and to meet the tight rulemaking timeframe, discussed below. To the extent that EPA addresses GHGs through this CAA mechanism, EPA requests comments on the issuance of "air quality criteria" following listing, as well as the adequacy of the available scientific literature.

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[238] For each air pollutant for which air quality criteria had already been issued prior to enactment of the Clean Air Act Amendments of 1970, section 109(a)(1) actually required EPA to issue proposed NAAQS within 30 days of enactment and to finalize those standards within 90 days of publication of the proposal. This included carbon monoxide, ozone, particulate matter, hydrocarbons, and sulfur oxides.

Under section 109, EPA must propose NAAQS for any newly listed pollutant at the same time it issues air quality criteria under section 108, and must finalize those standards within 90 days after proposal. Thus, from the date of listing a pollutant(s) under section 108, the Agency has only 12 months to propose standards, and only 3 additional months to issue final NAAQS for the pollutant(s). This tight timeframe would be particularly challenging in the case of GHGs, for which review and synthesis of an enormous body of literature would be required before a proposal could be issued. Furthermore, it is important to note that while subsequent NAAQS reviews of existing standards are required on a revolving 5-year cycle, EPA has found it challenging to meet even this extended schedule, which generally allows 9-12 months between issuance of the air quality criteria and proposal and an additional 6 months or more for issuance of final standards.

Once a new standard has been established, the CAA allows EPA to establish a deadline for states to submit designation recommendations that is no later than one year after promulgation of the new or revised NAAQS. EPA then reviews the states' recommendations, collects and assesses additional information as appropriate, and issues final designations no later than 2 years following the date EPA promulgated the new or revised NAAQS. EPA may take up to one additional year if the Administrator has insufficient *44484 information to promulgate the designations, which could push the date of final designations out to three years after promulgation of a new GHG NAAQS.

The timeline for SIP submittal and implementation of control requirements depends an area's designation status (attainment, nonattainment, unclassifiable) and whether there is only a secondary NAAQS, or both a primary and a secondary standard. These various scenarios are described above. As a first step, regardless of attainment status of level of the standard, states must submit infrastructure SIPs to EPA within 3 years of the promulgation of any new or revised NAAQS. These SIPs demonstrate that certain basic program elements (including emissions inventories, monitoring, and modeling) are properly addressed. Areas that are designated attainment would face a much shorter list of requirements, which are discussed above in the context of, Scenarios 3 and 4.

For areas designated nonattainment with a primary standard, states must submit nonattainment SIPs no more than 3 years after the effective date of designations, and must reach attainment no later than 5 years after the effective date designations. EPA can extend the attainment deadline by up to an additional 5 years—i.e., to no later than 10 years after the effective date of designations, if EPA finds additional time is needed considering the severity of nonattainment and the availability and feasibility of pollution control measures.

As noted above, the maximum 10-year horizon for attaining the primary NAAQS is ill-suited to pollutants such as GHGs with long atmospheric residence times. It is probable that, despite active control efforts, the entire U.S. would remain in nonattainment for an indefinite number of years if the level of a NAAQS were set at or below current atmospheric concentrations; whether attainment would ever be reached would depend on the timing and stringency of GHG control measures implemented on a global basis.

For areas designated nonattainment with a secondary standard only, the attainment schedule could be significantly longer. The CAA requires that state plans under a secondary standard must provide for reaching attainment as expeditiously as practicable, but there is no statutory maximum date for attainment (e.g., up to 10 years). EPA requests comment on the suitability of adapting this approach for use in the GHG context, and specifically, on the schedule that could reasonably be considered as "expeditious as practicable." We also request comment on how global emissions should be taken into consideration in this context.

EPA requests comment on whether the avenues discussed in this notice, or alternative approaches, could facilitate schedule adjustments that would better enable use of the NAAQS approach for regulating GHGs.

4. What Are Key Considerations Regarding Use of This Authority for GHGs?

a. Possible Cost and Emissions Impacts

Listing GHGs as pollutants under section 108 and setting NAAQS under section 109 would have no direct cost or emissions impacts. However, these actions would trigger further federal actions, including designations under section 107, and state or federal actions through SIPs or FIPs developed under section 110 and other provisions in title I of the CAA. Thus, the listing of GHGs as NAAQS pollutants would likely lead to the adoption of a substantial control program affecting sources across the nation.

Because establishing NAAQS for a pollutant sets in motion a broad and prescriptive implementation process that could affect a wide array of stationary and mobile sources, it is likely to entail substantial costs. The magnitude of these costs would depend, in part, on the relative reliance on technologies which are not yet suitable for commercial application or which have not yet been developed. Though this problem affects other pollutants, it is more acute in the case of GHGs. The timing and nature of controls instituted, and thus the costs, would depend to a significant extent on an area's designation status and whether EPA set only a secondary NAAQS (with a longer implementation time horizon), or a primary standard as well (with a more rapid and rigid compliance schedule, allowing less time for technological advances and efficiency improvements). The standard set and the nature of GHGs could also determine whether it is feasible to attain a NAAQS in the near-term, or how costly attainment could be over a longer term.

One important aspect of the NAAQS approach is that the standards themselves (both primary and secondary) are established without consideration of these costs. EPA requests comment on the suitability of establishing regulations to limit atmospheric concentrations of GHGs through a statutory mechanism that prohibits consideration of the costs such regulations might entail. EPA also requests comment on the extent to which various implementation mechanisms in Title I are available for addressing such costs.

As mentioned above, CAA section 108 requires EPA to issue information on air pollution control techniques at the same time it issues air quality criteria. This would include information on the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impacts. Generally, the Agency fulfills this obligation at the time a standard is issued; as required under Executive Order 12866, EPA must issue an RIA for major rulemaking actions. A NAAQS RIA provides an illustrative analysis of control options available to reduce emissions and ambient concentrations of the regulated pollutant(s); evaluates the costs of these controls; and estimates the human health and environmental benefits likely to accrue from the improved air quality resulting from the standards.

As required by EO 12866 and guidance from OMB, the analysis generally compares control options and estimated costs and benefits of multiple, specific standard options under consideration. While EPA recognizes the cost estimates for future GHG control technologies would potentially place more reliance on yet-to-be-developed options, the precedent exists for consideration of future, unknown controls. EPA requests comment on whether there are important distinctions between GHGs and previously regulated criteria pollutants that would make it appropriate in the case of a new NAAQS for GHG(s) to issue a separate air pollution control techniques document earlier in the process, specifically in conjunction with the air quality criteria as required by section 108, or whether such information is more useful if tailored to specific standard options under consideration, as in the RIA.

b. Technology Development and Leakage

Two of the policy design considerations noted in section III.F.1 include the potential to promote technology development and to address potential concerns about shifting emissions to other countries. The NAAQS establish standards based on ambient concentrations that must be attained and maintained everywhere, and are implemented through SIPs that establish emissions budgets consistent with meeting the standards. The limited emissions budget encourages state and local areas and affected sources to work together to identify least-cost emissions ***44485** controls to meet their SIP obligations and reduce ambient concentrations of the regulated pollutant(s). The NAAQS requirements help create market demand for technologies that can assist in meeting air quality standards at the least cost. As discussed in Section

III.C of this notice, this process has encouraged significant technological innovation. EPA requests comment on the extent to which the NAAQS can be an effective mechanism for encouraging technological innovation and development of least-cost controls for GHG emissions.

The 10-year maximum timeline for attaining a primary NAAQS would allow some time for development and deployment of emerging technologies, but longer timelines available under other forms of the NAAQS would provide greater flexibility to provide continuous incentives over a longer time period for major technology advances, and more time to deploy new technologies that are developed. EPA requests comment on the extent to which a GHG NAAQS could reasonably be expected to advance new control technologies, and on what timeframe.

With respect to the leakage issue, establishing a primary NAAQS could lead to high costs among affected industries unless a viable approach is identified to limit the control burden on U.S. sources. Because the standards themselves are set without consideration of cost or availability of control technologies, and because states would be required to adopt a plan to attain a primary standard within 10 years of designation, the NAAQS approach might offer less flexibility to delay emissions reductions in the absence of effective control technologies or when costs are prohibitive. This consideration may be particularly relevant in the case of GHGs, where highly efficient control technologies or mitigation options are currently limited, and where critical new control strategies, such as carbon capture and storage, are still in the early stages of development. In these instances, industries that are unable to locate cost-effective control strategies may consider relocating to non-regulated locations, resulting in significant emissions leakage.

We request comment on the cost-effectiveness of utilizing a NAAQS approach to regulating GHGs, and on the extent to which this approach might be expected to result in emissions leakage, especially as compared to other potential regulatory approaches outlined in this notice.

c. Summary of Opportunities and Challenges Afforded by NAAQS Pathway

Regulating GHGs through a NAAQS offers certain opportunities; however, there are also significant technological, legal and program design challenges that would tend to limit the appropriateness of the NAAQS program.

NAAQS are based purely on preventing adverse health and environmental impacts, rather than on considerations of cost, feasibility, or availability of technology. Our expectation is that the NAAQS approach would establish a goal tied to actual ambient concentrations of GHGs. A NAAQS would call for assessment of potential control strategies for a broad array of sources, rather than focusing only on emissions reductions from a specified (but potentially limited) list of sources. The NAAQS approach would allow for some flexibility in the design of control strategies and requirements, including the possibility of a cap-and-trade approach, and might spur significant technological innovation. It would provide a mechanism for reducing GHG emissions from current sources and limiting the growth of emissions from new sources. If the facts supported adopting only a secondary standard, this would somewhat reduce the specific obligations on states, and would allow a suitably extended timeline for achieving the emissions reductions necessary to stabilize and then reduce ambient GHG concentrations.

Though such an approach has the potential to be effective in reducing emissions, there would be a number of obstacles to overcome. Chief among these is that if worldwide (non-U.S.) emissons were to continue increasing, global concentrations of GHGs would continue to increase despite U.S. emission control efforts, and the NAAQS would be unachievable (depending on the level of the standards) even if U.S. emissions were reduced to zero. Unless viable legal approaches could be identified for limiting the control burden on U.S. sources, such as by defining a U.S. share of the emissions reductions needed to attain a NAAQS, the NAAQS approach would result in an expensive program. It would not achieve the adopted GHG NAAQS due to foreign emissions growth, although U.S. emissions reductions would be achieved. If the result of a NAAQS were stringent unilateral controls for vulnerable industries, this would encourage emissions leakage in the absence of comparable control efforts abroad.

Especially if the Agency were to set a primary as well as a secondary standard, a NAAQS would trigger a relatively rigid implementation apparatus, limiting the Agency's flexibility to target cost-effective emissions reductions and to shift the burden of control requirements among different industries based on the availability of new technological approaches. The lack of flexibility allowed under the CAA for many of the

NAAQS implementation requirements—especially those affecting areas designated nonattainment with a primary standard—makes them difficult to adapt effectively for application in the GHG context. For example, it would be challenging to apply requirements for transportation conformity under a GHG NAAQS, or for states to develop attainment demonstration SIPs. As discussed in section IV.E, a nonattainment new source review program requiring for GHGs would dramatically expand the scope of the preconstruction permitting program to include smaller sources and new types of sources such as apartment buildings with natural gas heat, unless EPA were successful in applying legal theories that justify deviating from statutory language. This would pose substantial administrative feasibility and cost issues. While implementation of an attainment-level NAAQS would involve fewer specific requirements, this avenue would only apply if the standard set by EPA under section 109 resulted in attainment designations. Section 109 calls for standards to be set based on science-based criteria, which exclude consideration of the cost or efficiency of the implementation requirements in determining the level of the standard.

We note that while the NAAQS implementation system is state-based, legislative proposals have focused on establishing federally administered national cap-and-trade strategies to address the global climate problem.

In closing, we request comment on our assessment of NAAQS approaches, and on how the NAAQS approach compares to other potential CAA approaches in light of the policy principles enunciated in section III.F.1.

5. Possible Implications for Other CAA Provisions

Listing a pollutant under section 108(a)(1) would preclude listing under section 112 or regulation under section 111(d), but would not preclude listing and regulation under section 111(a)-(c) New Source Performance Standards (NSPS) provisions as described below. Similarly, regulation of GHGs under section 111(a)-(c) NSPS provisions, as discussed further in other sections of ***44486** today's notice, would not preclude regulation of those pollutants through a NAAQS, although controls implemented through these provisions might influence the Agency's perspective on the appropriateness of establishing air quality criteria for GHGs. EPA requests comment on the extent to which regulatory action under section 111 could be considered in the context of exercising authority under section 108 relevant to GHGs.

B. Standards of Performance for New and Existing Sources

CAA section 111 provides EPA with authority to set national performance standards for stationary sources. There are two alternative pathways for using section 111 to regulate GHGs—as part of an implementation program for a GHG NAAQS or as a free-standing program.

- In the event of a GHG NAAQS, section 111 authorizes EPA to set emissions performance standards for new and modified sources but not for unmodified existing sources.
- In the absence of a GHG NAAQS, section 111 offers the potential for an independent, comprehen-

sive program for regulating most stationary sources of GHGs, except to the extent GHG emissions are regulated under section 112

Section 111 provides for consideration of cost, and allows substantial discretion regarding the types and size of sources regulated. As with most other CAA authorities, however, establishment of a section 111 standard for any source category of GHGs would trigger preconstruction permitting requirements for all types of GHG major sources under the PSD program.

The Stationary Source TSD for this ANPR identifies some specific industry sectors that EPA has evaluated for their emissions of multiple pollutants, including GHGs. EPA requests comment on this analysis. In addition, EPA requests comment on GHG emissions from these and all other categories and subcategories that have been subject to section 111 standards and on the relative costs that could be associated with employing certain identified control technology or practices affecting GHG emissions, including any positive or negative impacts on the emissions of traditional pollutants.

1. What Does Section 111 Require?

Section 111 establishes two distinct mechanisms for controlling emissions of air pollutants from stationary sources. Section 111(b) provides authority for EPA to promulgate New Source Performance Standards (NSPS) which may be issued regardless of whether there is a NAAQS for the pollutant being regulated, but apply only to new and modified sources. Once EPA has elected to set an NSPS for new and modified sources in a given source category, section 111(d) calls for regulation of existing sources with certain exceptions explained below. Taken together, the section 111 provisions could allow significant flexibility in regulation that may not be available under other CAA Title I provisions.

a. Section 111(b) New Source Performance Standards

Section 111(b) of the CAA requires EPA to establish emission standards for any category of new and modified stationary sources that the Administrator, in his judgment, finds "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."EPA has previously made endangerment findings under this section for more than 60 stationary source categories and subcategories that are now subject to NSPS.[239] An endangerment finding would be a prerequisite for listing additional source categories under section 111(b), but is not required to regulate GHGs from source categories that have already been listed.

For listed source categories, EPA must establish "standards of performance" that apply to sources that are constructed, modified or reconstructed after EPA proposes the NSPS for the relevant source category.[240]

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[239] EPA has developed NSPS for more than 70 source categories and subcategories. However, endangerment findings apply to the categories as a whole, while subcategories within them have been established for purposes of creating standards that distinguish among sizes, types, and classes of sources.

[240] Specific statutory and regulatory provisions define what constitutes a modification or reconstruction of a facility. 40 CFR 60.14 provides that an existing facility is modified, and

However, EPA has significant discretion to define the source categories, determine the pollutants for which standards should be developed, identify the facilities within each source category to be covered, and set the level of the standards. In addition, EPA believes that the NSPS program is flexible enough to allow the use of certain market-oriented mechanisms to regulate emissions, as discussed below.

As implemented over many years by EPA, the NSPS program has established standards that do not necessarily set emission limits for all pollutants or even all regulated pollutants emitted by sources within the relevant source category. Rather, the NSPS generally focus on specific pollutants of concern for a particular source category. Air pollutants currently regulated through section 111(b) include the criteria pollutants listed under section 108 and certain additional pollutants. These additional pollutants are acid mist, fluorides, hydrogen sulfide in acid gas, total reduced sulfur, and landfill gas. EPA has discretion to revise an existing NSPS to add standards for pollutants not currently regulated for that source category, but has interpreted the section to not require such a result when an NSPS is reviewed pursuant to section 111(b)(1)(B). That section requires EPA to review and, if appropriate, revise NSPS every eight years unless

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therefore subject to an NSPS, if it undergoes "any physical change in the method of operation . . . which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted."40 CFR 60.15, in turn, provides that a facility is reconstructed if components are replaced at an existing facility to such an extent that the capital cost of the new equipment/components exceed 50 percent of what is believed to be the cost of a completely new facility.

the Agency determines that such review is not appropriate in light of readily available information on the efficacy of the standard.

Further, in contrast to other provisions in the CAA which require regulation of all sources above specific size thresholds, section 111 gives EPA significant discretion to identify the facilities within a source category that should be regulated. To define the affected facilities, EPA can use size thresholds for regulation and create subcategories based on source type, class or size. Emission limits also may be established either for equipment within a facility or for an entire facility.

EPA also has significant discretion to determine the appropriate level for the standards. Section 111(a)(1) provides that NSPS are to "reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated."This level of control is commonly referred to as best demonstrated technology (BDT). In determining BDT, we typically conduct a technology review that identifies what emission reduction systems exist and how much they reduce air pollution in practice. This allows us to identify potential emission limits. Next, we evaluate each limit in conjunction with costs, secondary air benefits (or disbenefits) resulting from energy *44487 requirements, and non-air quality impacts such as solid waste generation. The resultant standard is commonly a numerical emissions limit, expressed as a performance level (i.e., a rate-based standard). While such standards are based on the effectiveness of one or more specific technological systems of emissions control, unless certain conditions are met, EPA may not prescribe a particular technological system that must be used to comply with a NSPS. Rather, sources remain free to elect whatever combination of measures will achieve equivalent or greater control of emissions.

It is important to note that under section 111, the systems on which a standard is based need only be "adequately demonstrated" in EPA's view such that it would be reasonable to apply them to the regulated category. The systems, and corresponding emission rates, need not be actually in use or achieved in practice at potentially regulated sources or even at a commercial scale. Further, EPA believes that if a technology is "adequately demonstrated" for use at a date in the future, EPA could establish a future-year standard based on that technology. This would allow EPA to develop two- or multi-phased standards with more stringent limits in future years that take into account and promote the development of technology.

Costs are also considered in evaluating the appropriate standard of performance for each category or subcategory. We generally compare control options and estimated costs and emission impacts of multiple, specific emission standard options under consideration. As part of this analysis, we consider numerous factors relating to the potential cost of the regulation, including industry organization and market structure; control options available to reduce emissions of the regulated pollutant(s); and costs of these controls. Frequently, much of this information is presented in the Regulatory Impact Analysis (RIA) that is required for all major rulemaking actions.

b. Section 111(d) Emissions Guidelines for Existing Sources

Section 111(d) requires regulation of existing sources in specific circumstances. Specifically, where EPA establishes a NSPS for a pollutant, a section 111(d) standard is required for existing sources in the regulated source category except in two circumstances. First, section 111(d) prohibits regulation of a NAAQS pollutant under that section. Second, "where a source category is being regulated under section 112, a section 111(d) standard of performance cannot be established to address any HAP listed under 112(b) that may be emitted from that particular source category."[241]

Section 111(d) also uses a different regulatory mechanism to regulate existing sources than section 111(b) uses for new and modified sources in a source category. Instead of giving EPA direct authority to set national standards applicable to existing sources in the source category, section 111(d) provides that EPA shall establish a procedure for states to issue performance standards for existing sources in that source category. Under the 111(d) mechanism, EPA first develops regulations known as "emission guidelines." These may be issued at the same time or after an NSPS for the source category is promulgated. Although called "guidelines," they establish binding requirements that states are required to address when they develop plans to regulate the existing sources in their jurisdictions. These state plans are similar to state implementation plans and must be submitted to EPA for approval. Historically, EPA has issued model standards for existing sources that could then be adopted by states. Under this approach, creating an interstate trading system would require adoption of compatible state rules promoted by EPA rules and guidance. In the event that a state does not adopt and submit a plan, EPA has authority to then issue a federal plan covering affected sources.

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[241] See 70 FR 15994, 16029-32 (Mar. 29, 2005).

Section 111(d) guidelines, like NSPS standards, must reflect the emission reduction achievable through the application of BDT. However, both the statute and EPA's regulations implementing section 111(d) recognize that existing sources may not always have the capability to achieve the same levels of control at reasonable cost as new sources. The statute and EPA's regulations in 40 CFR 60.24 permit states and EPA to set less stringent standards or longer compliance schedules for existing sources where warranted considering cost of control; useful life of the facilities; location or process design at a particular facility; physical impossibility of installing necessary control equipment; or other factors making less stringent limits or longer compliance schedules appropriate.

2. What Sources Could Be Affected?

Section 111 has been used to regulate emissions of traditional and nontraditional air pollutants from a broad spectrum of stationary source categories. EPA has already promulgated NSPS for more than 70 source categories and subcategoriesand we could add GHG emission standards, as appropriate, to the standards for existing source categories.[242] EPA has begun a review of the existing NSPS source categories to determine whether it would be appropriate to regulate GHG emissions from sources in each category. In addition, EPA is in the process of responding to a remand from the D.C. Circuit requiring it to consider whether to add standards for GHGs to the NSPS for utility boilers, and EPA has received suggestions that it would be appropriate to add such standards to the NSPS for Portland cement kilns.[243]

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[242] Some of the existing source categories are very broad, comprising an entire industrial process such as steel making, while others are narrowly defined as a single piece of equipment within a broader production process. Examples of source categories subject to NSPS are fossil fuel-fired boilers, incinerators, sulfuric acid plants, petroleum refineries, lead smelters, and equipment leaks of VOCs in the synthetic organic chemicals manufacturing industry. A complete list of the NSPS source categories is found at 40 CFR part 60.

[243] The NSPS for Petroleum Refineries were recently amended, resulting in the promulgation of new Subpart Ja. These performance standards include emission limitations and work practice standards for fluid catalytic cracking units, fluid coking units, delayed coking units, fuel gas combustion devices, and sulfur recovery plants. As such, they regulate criteria pollutant emissions from the processes that are also responsible for most of the refinery GHG emissions. During the public comment period for Subpart Ja, we received several comments in favor of developing new source performance standards to address GHG emissions from refineries. However, we declined to adopt standards for GHG emissions in that rulemaking, in part because while doing so was within our discretion, we believed that it was important to fully consider the implications for programs under other parts of the CAA before electing to regulate GHG under section 111. This is a fundamental purpose for today's notice and request for comments.

To determine whether regulation of GHGs is appropriate for existing categories, we must evaluate whether it is reasonable to do so given the magnitude of emissions and availability of controls, considering the costs of control. Decisions in this regard could be influenced by several factors, including the magnitude of the GHG emissions from a source category; the potency of the particular GHG emitted; whether emissions are continuous, seasonal or intermittent; the availability of information regarding the category's GHG emissions; and whether regulating GHG emissions from the source category would be beneficial. EPA requests comment on the extent to which these factors should, if at all, influence EPA's decisions whether to add standards to existing NSPS and what additional factors should be taken into consideration. EPA also requests ***44488** comment on which of the previously regulated categories might be appropriate for GHG regulation and on the information on which such judgments might be based.

To inform the public of EPA's analytical work to date, we have provided descriptions of key industrial sectors, their GHG emissions, and information that we have collected to date on GHG control options for those sectors in the Stationary Source TSD in the docket for today's notice. It is important to note that, as described further in the technical support materials, many near-term technologies or techniques for reducing GHG, e.g., energy efficiency or process efficiency improvements, are relatively cost effective and achieve modest emission reductions when compared with the potential of some add-on control techniques. Other controls may become available in the future whose costs and emission reduction effectiveness may differ substantially from what is discussed here today.

The Stationary Source TSD also discusses various mechanisms, such as cap-and-trade programs or emissions averaging approaches across facilities or industries, that can help reduce costs of reducing emissions. EPA requests comment on the availability and extent of its legal authority for such mechanisms.

In addition to regulating GHGs from previously listed source categories, section 111 provides discretionary authority to list new source categories, or reformulate listed source categories, for purposes of regulating of GHG emissions. For example, such categories could include sources of emissions covered by existing NSPS source categories as well as sources not currently covered by any NSPS. One option available to EPA is the reorganization of source categories for purposes of GHG regulation. In creating new categories to be used for regulation of GHGs, EPA could consider factors unique to GHG emissions. For example, EPA could take into account concerns about emissions leakage (discussed in section III.F.5 of this notice), and structure categories to minimize opportunities for shifting emissions to other source categories. EPA could also explore how the rearrangement of source categories could facilitate netting arrangements through which a more broadly defined "source" could avoid triggering an GHG NSPS by off-setting its increased GHG emissions.[244] In addition, EPA could structure categories to take into account possible reductions from improvements at non-emitting parts of the plants, for example, by creating source categories that cover all equipment at particular plants, instead of using categories that cover only specific types of equipment at a plant. EPA invites comment on whether such rearrangement would be appropriate and what type of rearrangement would be desirable. We also solicit information on how rearrangement could facilitate netting and how we might structure such netting.

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[244] We recognize that the Court in *Asarco Inc.* v. *EPA*, 578 F.2d 326 (D.C. Cir. 1978) struck down an NSPS provision that allowed netting. The provision at issue there, however, permitted netting between sources, not within a source. See *Alabama Power* v. *EPA*, 636 F.2d 323, 401-02 (D.C. Cir. 1980).

An alternative, or complementary, scenario would be to create larger "super-categories" covering major groupings of stationary sources of GHG emissions. For example, it might be possible to create process-based categories (*i.e.*, all sources emitting CO_2 through a stack as a result of combustion processes) or vertically integrated categories which take more of a life-cycle approach to the control of GHG emissions and reduce the possibility of leakage of GHG reductions to other parts of the economy or other geographic regions.[245] The creation of such "super-categories" might provide additional opportunities for the development of innovative control mechanisms such as cap-and-trade programs covering multiple industry sectors. In light of these considerations, EPA requests comment on whether the creation of such "super categories" would be appropriate and what categories would be most useful for regulating GHGs.

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[245] For instance, a "super-category" could be created encompassing all aspects of the production, processing, and consumption of petroleum fuels, or to regulate the production and consumption of fossil fuels for heat and power, addressing all aspects of emissions-producing activity within a sector, including fuel production, consumption, and energy conservation.

Under either option, EPA possesses authority to distinguish among classes, types and sizes of sources within existing categories for purposes of regulating GHG emissions. For example, we have at times distinguished between new and modified/reconstructed sources when setting the standards. This may be appropriate, for instance, when a particular new technology may readily be incorporated into a new installation, but it may be technically infeasible or unreasonably costly to retrofit this technology to an existing facility undergoing modification or reconstruction. Alternatively, we have distinguished among sources within a category, for instance fossil fuel-fired boilers, for which we have subcategorized on the basis of fuel types (*e.g.*, coal, oil, natural gas). EPA requests comment on what considerations are relevant to determining whether it is appropriate and reasonable to establish subcategories for regulation under section 111.

3. What Are Possible Key Milestones and Implementation Timelines?

a. Priority Setting Among Source Categories

If EPA were to pursue section 111 regulation of GHGs, timetables for regulation would depend upon how EPA prioritized among source categories to determine which categories should be regulated first. In the near term, it may be possible to address GHGs under section 111 in a limited fashion by establishing control requirements for new and existing sources in some number of existing source categories, while information is developed on other source categories. Actions under other portions of the CAA may involve longer lead times to develop and implement, so that standards under section 111 for certain source categories could provide for emission reductions in the interim. We have begun to examine source categories subject to existing NSPS and other standards to consider how we might determine priorities among them for review and revisions, and whether GHGs could be addressed for specific sectors in a more coordinated, multi-pollutant fashion. EPA requests comment on the availability of its legal authority, if any, to prioritize among source categories in the event that regulation under section 111 was pursued.

Under a "prioritization" approach, EPA could seek to revise standards earliest for those categories offering the greatest potential for significant reductions in the emissions of covered pollutants, and either deferring action or determining that no further action is necessary or appropriate at this time for other categories. This conclusion could be based, for example, on the lack of significant improvements in technology since the last NSPS review or the fact that no new sources are considered to be likely in the foreseeable future.

Another possibility might be to schedule and structure the review and revision of standards for source categories to account for the fact that, in addition to the need to address GHG emissions, they may be subject to multiple standards for different pollutants under several sections of the CAA. Such standards may often be subject currently to different review ***44489** timetables resulting from when these standards were last established or revised. In addition, as discussed in section III.D of today's notice, they may have the potential for positive or negative interactions with one another and with opportunities for the control of GHG emissions.

Still another approach might consider the impacts of future reduction opportunities or enacted legislation so that standards under section 111 might focus initially on source categories for which near-term benefits might result largely from efficiency improvements which do not result in "stranded capital," or investment in systems that will be superseded by more effective systems that we determine will be available at some specific future date. Alternatively, standards could focus on those sectors of the economy which will not likely be subject to controls being addressed in enacted legislation.

We request comment on EPA's available legal authority, if any, to defer action with respect to any "class" of section 111 source categories or subcategories as well as how and under what circumstances EPA could also consider such approaches to the identification of source categories for standards to address GHGs. Assuming the existence of adequate authority, what, if any, additional criteria should be considered in our priority-setting analysis efforts? In considering such sector- or multi-pollutant-based approaches, we further request comment on the extent to which we could establish new or revised source categories which better accommodate these approaches, or whether we are bound by existing source categories and their definitions.

b. Timetables for Promulgation and Implementation

In our experience, collecting and analyzing information regarding available control technologies, resulting emission reductions, and cost effectiveness can take up to several years for a source category. However, this time period can be shortened to 1 1/2 to 2 years when information is readily available or is presented to the Agency in a form that facilitates efficient consideration. With respect to GHGs, there has been significant effort devoted to identifying and evaluating ways to reduce emissions within sectors such as the electricity generating industry, and we are aware of the potential for GHG reductions through energy efficiency and other means within other industries. However, for many others, technologies for reducing GHG emissions have not yet been identified or evaluated by EPA. EPA requests comment on whether and how the availability of current information should be considered when considering regulation under section 111.

As is the case with traditional pollutants, any new or revised NSPS for new and modified sources of GHGs under section 111(b) would be developed through a notice and comment rulemaking process and would be effective upon promulgation. As noted previously, EPA is also required to review, and if appropriate revise, existing NSPS every 8 years unless the Administrator determines that "such review is not appropriate in light of readily available information on the efficacy of such standard."Standards for pollutants not regulated by the existing NSPS may be added concurrent with the 8-year review, but such additions are not part of that review process.

Any section 111(d) emission guidelines associated with the revised NSPS standards would be promulgated either along with or after the NSPS. States are generally required to submit the required state plans containing the standards of performance applicable to existing sources in their jurisdictions within 9 months of EPA's promulgation of the guidelines.

In the case of existing sources regulated under section 111(d), affected sources are typically provided up to 3 years to comply with any resulting requirements; however, states have flexibility to provide longer or shorter compliance timeframes based on a number of source-specific factors. In addition, where we determine that a technology has been adequately demonstrated to be available for use by some particular future date, we believe it is possible to establish timeframes for compliance that reflect this finding.[246]

No explicit 8-year review requirement exists with regard to section 111(d) standards for existing sources. Nonetheless, it also may be appropriate to require existing source plans to periodically revise their control strategies to reflect changes in available technologies and standards over time, particularly where the existing limitations were based on more limited controls at the time they were established. EPA requests comment on its authority and the advisability of such periodic updating with respect to the possible control of GHG.

The CAA and EPA's regulations implementing section 111(d) permit states to consider a number of factors when determining the level of stringency of controls, but do not establish a bright line test when stricter requirements for existing sources are warranted. Many of these sources may also be subject to requirements for the control of other non-section

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[246] See *Portland Cement Association* v. *EPA*, 486 F.2d 275 (D.C. Cir. 1973).

111(d) pollutants as part of implementation plans to attain and maintain NAAQS for one or more pollutants, and in some cases, these provisions may result in more stringent coincidental control of section 111(d) pollutants. We request comment on how and when we should evaluate, review, and revise as appropriate any section 111(d) standards that might be established in the future for GHGs.

4. What Are the Key Considerations Regarding Use of This Authority To Regulate GHGs?

a. Key Attributes and Limitations of Section 111

As noted above, section 111 possesses certain flexible attributes that may be useful in tailoring emissions standards to address GHG emissions. Yet, regulation under this section also has important limitations. This section of today's notice briefly summarizes these attributes and limitations. We request comment on how these attributes and limitations relate to the policy design considerations set forth in section III.F.1.

Program scope: Section 111 provides EPA with authority to regulate GHG emissions from stationary source categories, but does not require EPA to regulate GHGs emitted by all source categories or even all listed source categories. EPA has flexibility to identify the source categories for which it is appropriate to establish GHG limits. For example, EPA could decide to set GHG limits for those source categories with the largest GHG emissions and reduction opportunities. EPA could postpone or decline to set GHG limits for source categories for which emissions contributions may be small or for which no effective means of reducing emissions exist, currently or within the reasonably foreseeable future. EPA also could consider traditional air pollutants as well as GHGs in setting its overall priorities for the NSPS program.

Source size: Section 111 does not require regulation of all sources above a certain size. Instead, EPA has discretion to use rational emission thresholds to identify which facilities within a source category are covered by NSPS standards.

Consideration of cost: Section 111 explicitly directs EPA to take "into account the cost of achieving" emission ***44490** reductions, as well as other nonair quality, health and environmental impact and energy requirements." This gives EPA significant flexibility to determine of appropriate levels of control, and can be an important source of distinctions between requirements for new sources and those for modified or reconstructed sources.

Potential for emissions trading: As EPA has interpreted the NSPS requirements in the past with respect to certain air pollutants, we believe that the NSPS program could use emissions trading, including cap-and-trade programs and rate-based regulations that allow emissions trading, to achieve GHG emission reductions. EPA believes such programs are consistent with the statutory requirements because they satisfy the three substantive components of the section 111(a)(1) definition of "standard of performance"—(1) a standard for emissions of air pollutants; that (2) reflects that degree of emission limitation available"; and (3) "constitutes the best system of emission reduction."A cap-and-trade program can constitute a "standard for emissions of air pollutants" because it is a system created by EPA for control of emissions. The use of emissions budgets does not make the system less of a "standard" since the budgets must be met regardless of the methodology used to allocate allowances to specific sources. Further, any such system would be based on our assessment of the overall degree of emission reduction available for the source category and our analysis of the available systems of emission reductions. EPA could select a market-oriented mechanism as the "standard of performance" if these analyses (including cost analyses) indicate that the system would "reflect the degree of emission limitation achievable" and "constitute the best system of emission reduction."EPA also believes that trading among new and existing sources could be permitted, and could offer, at least in some cases, cost efficiencies.[247] EPA also believes that because of the potential cost savings, it might be possible for the Agency to consider deeper reductions through a cap-and-trade program that allowed trading among sources in various source categories relative to other systems of emission reduction. We request comment on the extent of EPA's available legal authority in this area as well as the attributes such a program must possess to qualify as a standard of performance under section 111.

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[247] In the Clean Air Mercury Rule we concluded that new sources needed to comply with a unit specific control requirement in addition to participating in the trading program. We solicit comment on whether section 111 requires such controls for new sources or if it would be sufficient for them to participate in a trading program or other market based mechanism without this restriction. While not ensuring an equally stringent level of control at each new source, the latter approach would be expected to achieve the same total emissions reductions at a lower overall compliance cost.

Potential for declining performance standards: EPA believes that section 111 authority may be used to set both single-phase performance standards based upon current technology and to set two-phased or multi-phased standards with more stringent limits in future years. Future-year limits may permissibly be based on technologies that, at the time of the rulemaking, we find adequately demonstrated to be available for use at some specified future date. Alternatively, it may be possible to establish a goal based on future availability of a technology and to revise the standard to reflect technological advancements at appropriate intervals, such as the 8-year review cycles. We believe these concepts could be applied to standards for new and modified sources, as well as to standards for existing sources under section 111(d). In addition, this concept could be coupled with emissions trading.

We recognize that various legal issues and questions concerning legal authority may be involved in setting standards based on technology only adequately demonstrated for use at a future date. For example, there might be greater uncertainty regarding the cost of technology for such standards than for standards based only on technology that is already commercially demonstrated at the time of promulgation. In the Clean Air Mercury Rule (CAMR), which was vacated by the D.C. Circuit on other grounds, EPA interpreted section 111 to allow a two-phased "standard of performance" to reduce mercury emissions from existing sources. The compliance date for the more stringent second phase was 2018. EPA believed that it had greater flexibility to set such a standard for existing sources under section 111(d) because these standards, in contrast to section 111(b) standards for new sources, are not subject to the requirements of section 111(e). Section 111(e) makes unlawful to operate any new source in violation of a standard of performance after its effective date. EPA requests comment on this interpretation. We also request comment on the circumstances under which the requirements of section 111(e) would be satisfied by a standard requiring compliance with the initial requirements of a multi-phase standard. More generally, EPA seeks comment on its legal authority in this matter as well as the legal and factual conditions that must be satisfied to support a multi-phase standard with future-year standards based on technology adequately demonstrated for use by that future date. EPA also seeks comment on how far into the future multi-phase standards could extend and the degree of certainty with which EPA must make its determinations of availability for future use, considering the section 111 standard setting language.

Technology development: Section 111 also contains a waiver provision that can be used to encourage the development of innovative technologies, as described below.

Standards tied to available technology: The fact that section 111 requirements are based upon a demonstration of the availability of control technology could limit the amount of reductions achievable through section 111 regulations to demonstrably feasible and cost-effective levels. If a given level of overall emission reduction is determined to be necessary and that level exceeds what is currently demonstrated to be feasible now or by some future date, then section 111 may not provide adequate authority by itself to achieve needed reductions. Although section 111 provides certain opportunities and incentives for technology development, this feature may make it more difficult to set "stretch goals" without other companion mechanisms.

In light of these considerations, we request comment on whether and to what extent section 111 provides an appropriate means for regulating GHG emissions.

b. Additional Considerations

We also request comment on the questions presented below which relate to the manner in which EPA could or should exercise its authority under this section to regulate GHGs.

i. What Regulatory Mechanisms Are Available?

As noted above, NSPS standards and 111(d) emission guidelines most commonly establish numerical emission standards expressed as a performance level. Such rate-based limits, however, are not the only mechanisms that could be used to regulate GHGs.

Efficiency Standards: We believe that most reductions in stationary GHG emissions may occur initially as the result of increased energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes that could reduce inputs of carbon or other GHG-***44491** generating materials. Such emission reductions may range in the near term (e.g., 5-10 years) from 1 to 10%. Thus, it could be possible to utilize NSPS standards to ensure reductions from efficiency improvements are obtained. For such standards to be effective, they likely would generally need to apply to the entire facility, not just specific equipment at the facility. EPA requests comment on the availability of its legal authority in this area and whether and when it might be appropriate to establish efficiency standards for source categories as a way of reducing GHG emissions.

Plant-wide standards: EPA also believes there may be benefits to developing plant-wide or company-wide standards for GHG emissions. Section 111, however, requires each affected facility to comply with the standard. EPA believes that it could redefine the affected facility for certain categories, for purposes of GHG regulation only, to include an entire plant. EPA also requests comment on whether it would be consistent with the statutory requirements to establish company-wide limits.

Work practice standards: In some circumstances, it may not be possible to identify a specific performance level for sources in a particular category; however, section 111(h) permits promulgation of design, equipment, work practice, or operational standards but allows such standards to be established only in specific circumstances. Specifically, it provides that where we determine "that (A) a pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State, or local law, or (B) the application of measurement methodology to a particular class of sources is not practicable due to technological or economic limitations," we may establish a "design, equipment, work practice, or operational standard, or combination thereof, which reflects the best technological system of continuous mission reduction which . . . has been adequately demonstrated."EPA requests comment on the circumstances under which the section 111(h) criteria would be satisfied and when, and for which source categories, work practice standards could be appropriate standards to control GHGs.

Market-oriented regulatory mechanisms: As mentioned above, EPA believes that market-oriented regulatory approaches including emissions trading are worthy of consideration for applying NSPS to GHG emissions. Several market-oriented regulatory mechanisms are discussed in section VII.G of today's notice. EPA requests comment on which of these mechanisms are consistent with the section 111 definition of a "standard of performance."

ii. Request for Comment on Section 111 Regulatory Approaches

This notice and the Stationary Source TSD describe possible approaches for using section 111 to reduce GHG emissions, in general and in regard to particular source categories. We request comment on the following specific questions regarding potential regulatory approaches under section 111:

- What are the overall advantages and disadvantages of the regulatory approaches discussed above, in light of the policy design considerations in section III.F.1? Please describe in detail any approaches not discussed in today's notice that you think we should consider.
- What are the industry-specific advantages and disadvantages of the regulatory approaches discussed above and in the TSD?

In developing section 111 standards for a particular source category (e.g., refineries, cement plants, industrial commercial boilers, electric generating plants, etc.) we are requesting source category-specific comments on the following additional issues:

- What data are available, or would need to be collected, to support the development of performance standards, either by process, subcategory, or for the facility?
- Should the standards be different for new and existing sources, either in terms of the systems for emission reductions on which they should be based and/or on the regulatory structure and implementing mechanisms for such standards?
- To what extent, if any, should the standards be technology-forcing for existing sources?
- Should the standards require additional reductions over time? To what extent would such reductions be consistent with the authority and purpose of section 111, and how should they be designed and carried out to ensure consistency?

iii. What Reductions Could Be Achieved From Efficiency Improvements at Existing Sources?

Recognizing that existing sources do not have as much flexibility in the levels of control that may realistically be achieved at a new source, a section 111(d) standard regulating GHG from existing sources would at this time most likely focus on currently available measures to increase the energy efficiency at the facility, thereby reducing GHG emissions. Examples of typical measures that promote energy efficiency include the use of cleaner fuels and equipment replacement or process improvements which reduce energy consumption. How well a measure, or combination of measures, will reduce GHG emissions at an individual facility will vary. A review of available literature suggests a range of improvements for various industry sectors that may be achievable through energy and process efficiency improvements, and some representative examples are summarized below. This information is illustrative, and does not represent any final technical determination by the agency as to what emission reduction requirements might be appropriate to require from the source categories discussed below.

For example, reductions in emissions of GHG from cement plants would most likely occur from fuel efficiency and electric energy efficiency measures as well as raw material and product changes that reduce the amount of CO_2 generated per ton of cement produced. There are numerous efficiency measures generally accepted by much of the U.S. industry, and many of these measures have been adopted in recent cement plant improvements. Such measures may directly reduce GHG emissions by cement plants, or they may indirectly reduce GHG emissions at sources of power generation due to reduced electrical energy requirements. The range of effectiveness of the individual measures in reducing GHG is from less than 1% to 10%. [248] Benchmarking and other studies have demonstrated a technical potential for up to 40% improvement in energy efficiency for a new cement plant using the most efficient technologies compared to older plants using wet kilns.

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[248] U.S. EPA (2008), Air Pollution Controls and Efficiency Improvement Measures for Cement Kiln. Final Report.

A number of opportunities may exist within refineries to increase energy efficiency by optimizing utilities, fired heaters, heat exchangers, motors, and process designs. Competitive benchmarking data indicate that most petroleum refineries can economically improve energy efficiency by 10 to 20%.[249] Therefore, we would expect that a new refinery could be designed to be at least 20% more efficient than an existing one.

***44492** In the case of industrial boilers, measures applied to individual facilities could result in energy savings and GHG reductions on the order of 1% to 10%. Replacing an existing boiler with a combined heat and power plant could improve the energy efficiently of an existing plant by 10% to 33%.

Existing coal-fired power plants can reduce their fuel consumption (reduce heat rate) and reduce CO_2 emissions by performing well known modifications and upgrades to plant systems. Heat rate reductions of up to 10% may be feasible through various efficiency improvements at individual coal units, depending on site specific conditions. Because of plant age and other physical limitations, the potential average heat rate reduction for the coal fleet would likely not exceed about 5%. The existing fleet operates at an average net efficiency of about 33%. If the corresponding coal fleet average net heat rate were reduced by 5% via efficiency improvements, a potential 5% reduction in CO_2 emissions could be obtained as well.

As older, less efficient coal power plants are retired, their capacity may be replaced with new, more efficient coal-fired units. A new, fully proven supercritical coal plant design can operate at a heat rate 10-15% below the current coal fleet average, and therefore produce 10-15% less GHG than the average existing coal plant. Future more advanced ultra-supercritical plant designs with efficiencies above 40% would have heat rates that are 20-25% or more below the current coal fleet average, and therefore produce that much less GHG than the average existing coal plant.

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[249] Energy Efficiency Improvement and Cost Saving Opportunities for Petroleum Refineries, LBNL, 2005.

Technology to capture and geologically sequester CO_2 is the subject of ongoing projects in the U.S. and other countries and is a promising technology.[250] The electric power sector will most likely be the largest potential market for carbon capture and sequestration (CCS) technologies, with the potential to reduce CO_2 by approximately 80-90% at an individual plant.[251] It may become possible to apply CCS to some portion of the existing coal-fired fleet by retrofit to achieve significant CO_2 reductions. Other facilities that might be able to use CCS include refineries, chemical manufacturing plants, ethanol production facilities, cement kilns and steel mills. As advances in GHG reduction technologies continue, section 111(d) standards would be expected to consider and reflect those advances over time. We solicit comment on the criteria EPA should use to evaluate whether CCS technology is adequately demonstrated to be available for the electric power and other industrial sectors, including the key milestones and timelines associated with the wide-spread use of the technology.

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[250] See *http://www.netl.doe.gov/technologies/carbon—seq/partnerships/partnerships.html* for more information about the Regional Carbon Sequestration Partnerships in the United States.

[251] IPCC Special Report on Carbon Dixoide Capture and Storage, 2005, pp.3, 22.

iv. What Are the Possible Effects of Section 111 With Respect to Innovation?

As noted previously, whatever path may be pursued with respect to the control of GHG through the CAA or other authority, we believe it is likely that most early reductions in stationary GHG emissions may occur as the result of increased energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes that could reduce inputs of carbon or other GHG-generating materials. Clearly, more fundamental technological changes will be needed to achieve deeper reductions in stationary source GHG emissions over time. We request general comments on how to create an environment in which new, more innovative approaches may be encouraged pursuant to section 111, or other CAA or non-CAA authority.

Waiver authority under section 111(j) would be useful as one element of broader policies to encourage development of innovative technologies. Section 111(j) authorizes the Administrator to waive the NSPS requirements applicable to a source if he determines that the innovative technology the source proposes to use will operate effectively and is likely to achieve greater emission reductions, or at least equivalent reductions but at lower cost. Also, the Administrator must determine that the proposed system has not yet been adequately demonstrated (i.e. it is still an innovative technology), but that it will not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation, function, or malfunction. These waivers can be given for up to 7 years, or 4 years from the date that a source commences operation, whichever is earlier.

We believe that effective GHG reduction techniques for many source categories potentially subject to NSPS may at this time be limited and that additional research and development will be necessary before these controls are demonstrated to be effective. We ask for comment on how the use of innovative technology waivers could conceivably be used to foster the development of additional approaches for GHG reductions.

5. Possible Implications for Other CAA Provisions

Regulation of GHGs under a section 111 standard for any industry would trigger preconstruction permitting requirements for all types of GHG sources under the PSD program. NSPS are also incorporated into operating permits issued under Title V of the CAA. The consequences of triggering and the options for addressing these permitting requirements are addressed in detail in section VII.D of this notice.

Whether GHGs were regulated individually or as a group in NSPS standards would affect the definition of regulated pollutant for stationary sources subject to preconstruction permitting under the PSD program. Conversely, while the section 111 mechanisms are relatively independent of other CAA programs, NSPS decision-making as a practical matter would need to consider the pollutant definitions adopted under other CAA authorities. It would be advantageous to maintain consistency regarding the GHG pollutants subject to regulation elsewhere in the Act to avoid the potential for PSD review requirements for individual GHGs as well as for groups of the same GHGs.

In considering the impact that decisions to list pollutants under other authorities of the CAA might have on our use of section 111 authority, we note that some industries have processes that emit more than one GHG and a potential may exist among some of these industries to control emissions of one GHG in ways that may increase emissions of others (e.g., collecting methane emissions and combusting them to produce heat and/or energy, resulting in emissions of CO_2.) While an overall reduction in GHGs may occur, as well as a reduction in global warming potential, whether GHGs are regulated as a class of compounds or as individual constituents could have implications for the degree of flexibility and for the outcome of any regulatory decisions. More specifically, if we were to regulate GHGs as a group, then standards under section 111 might establish an overall level of performance that could accommodate increases in emissions of some gases together with reductions in others, so long as the overall performance target was met. If we were to regulate individual GHGs, then we may be less able to establish less stringent requirements for the control of some gases, while setting more stringent requirements for others. The extent to which we may be able to do so depends ***44493** on the significance of the emissions of each gas from the source category in question as well as the feasibility and cost-effectiveness of controlling each. One result of this lessened flexibility may be the preclusion of certain approaches that could yield greater net reduction in GHG emissions. For this reason, we request comments on (1) the extent to which we are limited in our flexibility to regulate GHG as a class if listed individually under other CAA authorities, and (2) whether regulation under section 111 should treat GHG emissions as a class for determining the appropriate systems for emissions reduction and resulting standards.

Finally, we note that our authority to promulgate 111(d) standards for existing sources depends on the two restrictions noted above. First, section 111(d) prohibits regulation of a NAAQS pollutant under that section. Second, "where a source category is being regulated under section 112, a section 111(d) standard of performance cannot be established to address any HAP listed under 112(b) that may be emitted from that particular source category."If we were to promulgate a section 111(d) emission standard and then subsequently take action under sections 108 or 112 such that we could not promulgate a section 111(d) standard had we not already done so, the continued validity of the section 111(d) regulations might become unclear. We request comment on the extent, if any, to which the requirements of section 111(d) plans would, or could, remain in force under such circumstances.

C. National Emission Standards for Hazardous Air Pollutants

Along with the NAAQS system and section 111 standards, section 112 is one of the three main regulatory pathways under the CAA for stationary sources. Section 112 is the portion of the Act that Congress designed for controlling hazardous air pollutant emissions from these sources, including toxic pollutants with localized or more geographically widespread effects. This focus is reflected in the statutory provisions, which, for example, require EPA to regulate sources with relatively small amounts of emissions. In comparison to section 111, section 112 provides substantially less discretion to EPA concerning the size and types of sources to regulate, and is specific about when EPA may and may not consider cost.

This section explores the implications if EPA were to list GHGs as hazardous air pollutants under section 112.

1. What Does Section 112 Require?

a. Overview

Section 112 contains a list of hazardous air pollutants (HAPs) for regulation. EPA can add or delete pollutants from the list consistent with certain criteria described below.

EPA must list for regulation all categories of major sources that emit one or more of the HAPs listed in the statute or added to the list by EPA. A major source is defined as a source that emits or has the potential to emit 10 tons per year or more of any one HAP or 25 tons per year of any combination of HAPs.

For each major source category, EPA must develop national emission standards for hazardous air pollutants (NESHAP). Standards are required for existing and new major sources. The statute requires the standards to reflect "the maximum degree of reduction in HAP emissions that is achievable, taking into consideration the cost of achieving the emission reduction, any nonair quality health and environmental impacts, and energy requirements." This level of control is commonly referred to as maximum achievable control technology, or MACT.

The statute also provides authority for EPA to list and regulate smaller "area" sources of HAPs. For those sources EPA can establish either MACT or less stringent "generally available control technologies or management practices".

Section 112(d)(6), requires a review of these technology-based standards every 8 years and requires that they be revised "as necessary taking into account developments in practices, processes and control technologies." Additionally, EPA under section 112(f)(2)(C) must reevaluate MACT standards within 8 years of their issuance to determine whether MACT is sufficient to protect public health with an ample margin of safety and prevent adverse environmental effects. If not, EPA must promulgate more stringent regulations to address any such "residual risk".

b. How Are Pollutants and Source Categories Listed for Regulation Under Section 112?

Section 112(b)(1) includes an initial list of more than 180 HAPs. Section 112(b)(2) requires EPA to periodically review the initial HAP list and outlines criteria to be applied in deciding whether to add or delete particular pollutants.

A pollutant may be added to the list because of either human health effects or adverse environmental effects. With regard to adverse human health effects, the provision allows listing of pollutants "including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic."An adverse environmental effect is defined as "any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas."Section 112(b)(2) provides that "no substance, practice, process or activity regulated under [the Clean Air Act's stratospheric ozone protection program] shall be subject to regulation under this section solely due to its adverse effects on the environment."Thus, section 112 may not be used to regulate certain chlorofluorocarbons and other ozone-depleting substances, their sources, or activities related to their production and use to address climate change unless we establish that such regulations are necessary to address human health effects in addition to any adverse environmental impacts. See section 602 of the Clean Air Act for a partial list of these substances.

Section 112(b)(3) of the Act establishes general requirements for petitioning EPA to modify the HAP list by adding or deleting a substance. Although the Administrator may add or delete a substance on his own initiative, if a party petitions the Agency to add or delete a substance, the burden historically has been on the petitioner to include sufficient information to support the requested addition or deletion under the substantive criteria set forth in CAA section 112(b)(3)(B) and (C). The Administrator must either grant or deny a petition within 18 months of receipt of a complete petition.

The effects and findings described in section 112 are different from other sections of the CAA addressing endangerment of public health discussed in previous sections of today's notice. Given the nature of the effects identified in section 112(b)(2), we request comment on whether the health and environmental effects attributable to GHG fall within the scope of this section. We also request comment on direct and indirect GHG emissions from existing source categories currently subject to regulation under section 112, any assessment of the relative costs of regulating GHG under the authority of section 112, and any co-benefits or co-detriments with regard to controlling GHG and the emissions of HAP.

***44494** The source categories to be regulated under section 112 are determined based on the list of HAP. Section 112(c) requires EPA to publish a list of all categories and subcategories of major sources of one or more of the listed pollutants, and to periodically review and update that list. In doing this, EPA also is required to list each category or subcategory of area sources which the Administrator finds presents a threat of adverse effects to human health or the environment (by such sources individually or in the aggregate) warranting regulation under section 112.

c. How Is MACT Determined?

In essence, MACT standards are intended to ensure that all major sources of HAP emissions achieve the level of control already being achieved by the better controlled and lower emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to effectively control its emissions. At the same time, this approach provides assurances that facilities that employ cleaner processes and good emissions controls are not disadvantaged relative to competitors with poorer controls.

MACT is determined separately for new and existing sources. For existing sources, MACT standards must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of sources in the category or subcategory (or the best performing five sources for source categories with less than 30 sources). This level is called the "MACT floor." For new or reconstructed sources, MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source.[252] EPA also must consider more stringent "beyond-the-floor" control options for MACT. When considering beyond-the-floor options, EPA must consider not only the maximum degree of reduction in emissions of the HAP, but also costs, energy requirements and non-air quality health environmental impacts of imposing such requirements.

MACT standards may require the application of measures, processes, methods, systems, or techniques including, but not limited to, (1) reducing the volume of, or eliminating emissions of, such pollutants through process changes, substitution of materials, or other modifications; (2) enclosing systems or processes to eliminate emissions; (3) collecting, capturing, or treating such pollutants when released from a process, stack, storage or fugitive emissions point; (4) design, equipment, work practice, or operational standards

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[252] See CAA section 112(d)(3).

(including requirements for operator training or certification) as provided in subsection (h); or (5) a combination of the above. (See section 112(d)(2) of the Act.)

For area sources, CAA section 112(d)(5) provides that the standards may reflect generally available control technology or management practices (GACT) in lieu of MACT.

d. What Is Required To Address Any Residual Risk?

Section 112(f)(2) of the CAA requires us to determine for each section 112(d) source category whether the MACT standards protect public health with an ample margin of safety. If the MACT standards for a HAP "classified as a known, probable, or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than 1-in-1-million," EPA must promulgate residual risk standards for the source category (or subcategory) as necessary to protect public health with an ample margin of safety. EPA must also adopt more stringent standards if needed to prevent an adverse environmental effect, but must consider cost, energy, safety, and other relevant factors in doing so. EPA solicits comments on the extent to which these programs could apply with respect to the possible regulation of sources of GHG under section 112, including the relevance of any carcinogenic effects of individual GHG.

2. What Sources Would Be Affected if GHGs Were Regulated Under This Authority?

If GHGs were listed as HAP, EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources than if alternative CAA authorities were used to regulate GHG. This is the result of three key requirements. First, the section 112(a) major sources thresholds of 10 tons for a single HAP and 25 for any combination of HAPs would mean that very small GHG emitters would be considered major sources. Second, section 112(c) requires EPA to list all categories of major sources. Third, section 112(d) requires EPA to issue MACT standards for all listed categories.

We believe that most significant stationary source categories of GHG emissions have already been listed under section 112 (although the 10-ton threshold in the case of GHGs would be expected to bring in additional categories such as furnaces in buildings, as explained below). To date we have adopted standards for over 170 categories and subcategories of major and area sources. This is a significantly greater number than the categories for which we have adopted NSPS because under section 112 we must establish standards for all listed categories, whereas section 111 requires that we identify and regulate only those source categories that contribute "significantly" to air pollution endangering public health and welfare.

3. What Are the Key Milestones and Expected Timeline if Section 112 Were Used for GHG Controls?

One possible timetable for addressing GHG under this part of the Act would be to incorporate GHG emission control requirements concurrent with the mandatory 8-year technology reviews for each category, collecting information on emissions and control technologies at the time the existing MACT standards are reviewed to determine whether revisions are needed. If we were to list new source categories under section 112, EPA would be required to adopt MACT standards for those categories within 2 years of the date of category listing.

EPA must require existing sources to comply within 3 years of a standard's promulgation, although states and EPA are authorized in certain circumstances to extend the period of compliance by one additional year. Most new sources must comply as soon as a section 112 standard is issued; however, there is an exception where the final rule is more stringent than the proposal.

Because of the more detailed requirements for identifying appropriate levels of control to establish a level for MACT, significantly more information on the best performing sources is needed under section 112 than under section 111, making the development of such standards within 2 years after listing a source category difficult. We request comment on this and other approaches for addressing GHG under section 112, both for categories already listed for regulation and for any that might appropriately be added to the section 112 source category list if we were to elect to regulate GHGs under this section.

4. What Are the Key Considerations Regarding Use of This Authority for GHGs (and How Could Potential Issues Be Addressed)?

A key consideration in evaluating use of section 112 for GHG regulation is that *44495 the statutory provisions appear to allow EPA little flexibility regarding either the source categories to be regulated or the size of sources to regulate. As described above, EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources than if alternative CAA authorities were used to regulate GHG. For example, in calculating CO2 emissions based on fossil-fuel consumption, we believe that small commercial or institutional establishments and facilities with natural gas-fired furnaces would exceed this major source threshold; indeed, a large single-family residence could exceed this threshold if all appliances consumed natural gas. EPA requests comment on the requirement to establish standards for all sources under section 112 relevant to GHG emissions and whether any statutory flexibility is or is not available with respect to this requirement and GHGs.

A section 112 approach for GHGs would require EPA to issue a large number of standards based on assessments for each source category. Determining MACT based on the best-controlled 12 percent of similar sources for each category would present a difficult challenge, owing to our current lack of information about GHG control by such sources and the effort required to obtain sufficient information to establish a permissible level of performance.

GHG regulation under section 112 would likely be less cost effective than under some CAA authorities, in part because section 112 was designed to ensure a MACT level of control by each major source, and thus provides little flexibility for market-oriented approaches. Given the structure and past implementation of section 112, this section may not provide EPA with authority to allow emissions trading among facilities or averaging across emitting equipment in different source categories. This is because the statutory terms of section 112 provide that emission standards must be established for sources within "each category" and those standards must be no less stringent than the "floor," or the level of performance achieved by the best-performing sources within that category. Each source in the category must then achieve control at least to this floor level. Trading would allow sources to emit above the floor. In addition, it may not be possible to assess individual source fence line risk for section 112(f) residual risk purposes if the sources did not each have fixed limits. Finally, the section 112 program is in part designed to protect the population in the vicinity of each facility, which trading could undermine (in contrast to an ambient standard). Given the global nature of GHGs and the lack of direct health effects from such emissions at ambient levels, EPA requests comments on the extent to which the CAA could be interpreted to grant flexibility to consider such alternative implementation mechanisms, and what, if any, limitations should be considered appropriate in conjunction with them.

Another reason that section 112 regulation of GHGs would be expected to be less cost effective than other approaches is that the statute limits consideration of cost in setting MACT standards. As described above, the statute sets minimum stringency levels, or "floors," for new and existing source standards. Cost can only be considered in determining whether to require standards to be more stringent than the floor level.

A further consideration is that the short compliance timetables—immediate for most new sources, and within 3-4 years for existing sources—appear to preclude setting longer compliance timeframes to allow for emerging GHG technologies to be further developed or commercialized.

5. What Are the Possible Implications for Other Provisions of the Clean Air Act?

As provided under section 112(b)(6), pollutants regulated under section 112 of the Act are exempt from regulation under the PSD program. Also, a section 111(d) standard of performance for existing sources cannot be established to address any HAP listed under section 112(b) that that is emitted from a source category regulated under section 112.[253]

If EPA were to list GHGs under section 108 of the CAA for purposes of establishing NAAQS, we would be prevented by section 112(b)(2) from listing and regulating them as HAPs under this section of the Act. However, it is less clear that the reverse is true; that is, if a pollutant were first listed under section 112 and then EPA decided to list and regulate it under section 108, the statute does not clearly say whether that is permissible, or whether EPA would then have to remove the pollutant from the section 112 pollutant list. We request comment on the extent to which this apparent ambiguity in the Act poses an issue regarding possible avenues for regulating GHG and if so, how it should be addressed.

In light of the foregoing, we request comment on the appropriateness of section 112 as a mechanism for regulating stationary source emissions of GHGs under the CAA. If commenters believe use of section 112 would be appropriate, we further request comments on which GHGs should be considered, what additional sources of emissions should be listed and regulated, and how MACT should be determined for GHG emission sources.

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[253] It is important to note that many sources may be subject to standards under both section 111 and 112; however these standards establish requirements for the control of different pollutants.

D. Solid Waste Combustion Standards

1. What Does Section 129 Require?

Section 129 of the CAA requires EPA to set performance standards under section 111 to control emissions from solid waste incineration units of at least 9 specific air pollutants. It directs EPA to develop standards which include emission limitations and other requirements for new units and guidelines and other requirements applicable to existing units.

Section 129 directs EPA to set standards for "each category" of such units, including those that combust municipal, hospital, medical, infectious, commercial, or industrial waste, and "other categories" of solid waste incineration units, irrespective of size. The pollutants to be addressed by these standards include the NAAQS pollutants particulate matter (total and fine), sulfur dioxide, oxides of nitrogen, carbon monoxide, and lead; and the hazardous air pollutants hydrogen chloride, cadmium, mercury, and dioxins and dibenzofurans. EPA is authorized to regulate additional pollutants under these provisions, but section 129 includes no endangerment test or other criteria for determining when it is appropriate to do so.

Although the emission standards called for by section 129 are to be established pursuant to section 111, the degree of control required under those standards more closely resembles that of section 112(d). For new sources the level of control is required to be no less stringent than that of the best performing similar source, while for existing sources the level of control is to be no less stringent than the average of the top 12% of best-performing sources. For both new and existing source standards, beyond these "floor" levels EPA must consider the cost of achieving resulting emission reductions and any non-air quality health and environmental impacts and energy requirements in determining what is achievable for units within each category. The performance standards must be reviewed every 5 years. Additionally, for those pollutants that ***44496** are listed under section 112 as a HAP, EPA must reevaluate the standards in accordance with section 112(f) to determine whether they are sufficient to protect public health with an ample margin of safety and prevent adverse environmental effects, and must promulgate more stringent regulations if necessary to address any such "residual risk." Thus, for this particular class of source categories, section 129 merges important elements of both sections 111 and 112.

EPA has established standards for a variety of solid waste incinerator categories and is in the process of developing additional standards and revising others.[254] In the absence of statutory criteria for determining whether and under what circumstances EPA should regulate additional pollutants under this section of the CAA, we request comment on whether emissions of GHG could fall within the scope of this section. We also request comment on direct and indirect GHG emissions from existing source categories currently subject to regulation under section 129, any assessment of the relative costs of regulating GHGs under the authority of section 129, and any co-benefits or co-detriments with regard to controlling GHG and the emissions of pollutants specifically listed for regulation under section 129.

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[254] Rules have been promulgated for large and small municipal waste combustors; medical waste incinerators; other solid waste incinerators; and commercial, institutional, and industrial solid waste incinerators. EPA is also currently reevaluating and revising certain standards under section

2. What Sources Would Be Affected if GHGs Were Regulated Under This Authority?

Standards required by section 129 are applicable to "any facility which combusts any solid waste material from commercial or industrial establishments or the general public (including single and multiple residences, hotels, and motels)." Thus the provisions of this section are limited to a specific type of emission source, although there are many such units in existence that are subject to regulation. To date we have adopted standards for five categories of incinerators and are currently in the process of developing revised standards on remand for several of these categories, which may involve the inclusion of several additional subcategories of incineration units. We anticipate that when completed these rules will establish standards of performance for as many as five hundred or more units.

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129 in response to decisions by the U.S. Court of Appeals for the D.C. Circuit.

Because section 129 does not require, but authorizes EPA to establish requirements for other air pollutants, we request comment on whether and for what categories or subcategories of incinerators EPA could address GHG emissions control requirements.

a. How Are Control Requirements Determined?

As noted above, the control requirements for sources regulated under section 129 are similar to the MACT standards mandated under section 112(d). However, whereas section 112(d)(3) provides that standards are to be based on the best performing sources "for which the Administrator has emissions information," section 129 contains no such limitation. Consequently, it appears that EPA is obligated to obtain information from all potentially affected sources in order to determine the appropriate level of control.

Section 129(a)(2) provides authority for EPA to distinguish among classes, types, and sizes of units within a category in establishing standards. This provision is similar to authorities provided in sections 111(b)(2) and 112(b)(2). Because section 129 directs that EPA establish standards for affected source categories under sections 111(b) and (d), we believe that the provisions governing the creation of design, equipment, work practice, or operational standards are also available for standards required by section 129. For existing sources, we believe that provisions for consideration of remaining useful life and other related factors are relevant to EPA and States when determining the requirements and schedules for compliance for individual affected sources.

b. What Is Required To Address Any Residual Risk?

For each of the air pollutants named in section 129 that are listed as HAP under section 112, section 129 requires EPA to evaluate and address any residual risk remaining after controls established under the initial emission standards.[255] In so doing, it requires EPA to determine for each affected source category whether the performance standards protect public health with an ample margin of safety. EPA must also adopt more stringent standards if needed to prevent an adverse environmental effect, but must consider cost, energy, safety, and other relevant factors in doing so.

Section 129(h)(3) limits residual risk assessments and any subsequent resulting regulations to "the pollutants listed under subsection (a)(4) of this section and no others."Consequently, if EPA were to regulated GHG emissions from incineration units under section 129, we would not be required to conduct additional residual risk determinations.

3. What Are the Key Milestones and Expected Timeline if Section 129 Were Used for GHG Controls?

As stated above, we have adopted rules governing emissions from certain categories of solid waste incineration units and are in the process of revising or establishing new standards for others. Thus if we were to elect to regulate GHG emissions under section 129, a question arises concerning how to incorporate new requirements for those categories for which standards have already been established. One possible timetable for addressing GHG under this part of the Act would be to incorporate GHG emission control requirements concurrent with the mandatory 5-year reviews for each previously-regulated category, collecting information on emissions and control technologies at the time the existing standards are reviewed to determine whether revisions are needed. Because of the more detailed requirements for identifying appropriate levels of control to establish a level for these categories of sources, significantly more information on the best performing sources is needed under section 129 than even under section 112 (because of the absence of limitations for this analysis to those sources "for which the Administrator has information"), making the development of such standards a more time-consuming effort. In the event that we were to elect to regulate GHGd under this section, we request comment on this and other approaches for addressing GHGd under section 129, both for categories already regulated and for any for which standards are currently under development.

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[255] Section 129(h)(3) provides that for purposes of considering residual risk the standards under section 129(a) and section 111 applicable to categories of solid waste incineration units are to be "deemed standards under section 112(d)(2)."

4. What Are the Key Considerations Regarding Use of This Authority for GHGs (and How Could Potential Issues Be Addressed)?

If we were to elect to regulate GHG emissions from solid waste incinerators under section 129, then we would need to establish standards for at least some number of categories of such sources. We request comment on the availability of authority to establish requirements *44497 for controlling GHG emissions from subcategories of incineration units based on size, type or class, as provided under section 111, and to exclude from regulation other categories or subcategories.

Given the structure of section 129 and its hybrid approach to the use of authorities under sections 111 and 112, we question whether this section provides EPA with available authority to establish alternative compliance approaches, such as emissions trading or averaging across sources within a category. This is because the statutory terms of section 129 provide that emission standards must be established for sources within "each category" and those standards must be no less stringent than the level of performance achieved by the best-performing sources within that category. Each source in the category must then achieve control at least to this level. Trading would allow sources to emit above the floor. As a practical matter, given that requirements for control of specifically-listed pollutants may preclude trading for those pollutants, and given that many of the controls applicable to those pollutants would be the same as or similar to those that would be applicable to GHGs, we believe that trading options would likely be infeasible with respect to GHG control requirements. However, EPA requests comments on the extent to which the CAA could be interpreted to grant flexibility to consider such alternative implementation mechanisms, to what extent, and what, if any, limitations should be considered appropriate in conjunction with them.

5. What Are the Possible Implications for Other Provisions of the Clean Air Act?

Section 129 recognizes that many incineration units may also be subject to prevention of significant deterioration or nonattainment new source review requirements. It addresses potentially conflicting outcomes of control determinations under those programs by providing that "no requirement of an applicable implementation plan . . . may be used to weaken the standards in effect under this section."

If EPA were to list GHGs under section 108 for purposes of establishing NAAQS, we would not be prevented from regulating them under this section of the Act as well. If EPA were to list GHG under section 112, a potential conflict arises in that section 112 establishes major and area source emissions thresholds, providing for standards of different stringency for each, and requires analysis of residual risk for major sources regulated under that section of the Act. We request comments on how such apparent conflicts could be reconciled if we were to elect to regulate emissions of GHGs from solid waste incineration units under section 129.

In light of the foregoing, we request comment on the appropriateness of section 129 as a mechanism for regulating incineration unit emissions of GHGs under the CAA. If commenters believe that use of section 129 would be appropriate, we further request comments on which GHGs should be considered, what source categories or subcategories should be regulated, and how appropriate control requirements should be determined for new and existing GHG emission sources.

E. Preconstruction Permits Under the New Source Review (NSR) Program

1. What Are the Clean Air Act Provisions Describing the NSR Program?

Under what is known as the New Source Review (NSR) program, the CAA requires the owners and operators of large stationary sources of air pollution to obtain construction permits prior to building or modifying such a facility. The program is subdivided into the Prevention of Significant Deterioration (PSD) and nonattainment NSR (NNSR) programs, either of which may be applicable depending on the air quality for a particular pollutant in the location of the source subject to permitting.

The PSD program, set forth in Part C of Title I of the CAA, applies in areas that are in attainment with the NAAQS (or are unclassifiable) and has the following five goals and purposes:

- To protect public health and welfare from air pollution beyond that which is addressed by the attainment and maintenance of NAAQS;
- To protect specially designated areas such as national parks and wilderness areas from the effects of air pollution;
- To assure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;
- To assure emissions in one state will not interfere with another state's PSD plan; and
- To assure that any decision to permit increased air pollution is made only after evaluating the consequences of the decision and after opportunities for informed public participation.

The main element of the PSD program is the requirement that a PSD permit be obtained prior to construction of any new "major emitting facility" or any new "major modification." Before a source can receive approval to construct under PSD, the source and its permitting authority (usually a state or local air pollution control agency, but sometimes EPA) must follow certain procedural steps, and the permit must contain certain substantive requirements. The most important procedural step is providing an opportunity for the public to comment when a permitting authority proposes to issue a permit.

The PSD program primarily applies to all pollutants for which a NAAQS is promulgated, but some of the substantive requirements of the PSD program also apply to regulated pollutants for which there is no NAAQS (except that there is an explicit statutory exemption from PSD for HAPs).[256] Since there is currently no NAAQS for GHGs and GHGs are not otherwise subject to regulation under the CAA, the PSD program is not currently applicable to GHGs.[257] However, as discussed in section IV of this notice, it is possible that EPA actions under other parts of the CAA could make GHGs pollutants subject to regulation under the Act and thus subject to one or more parts of the PSD program.

If EPA were to promulgate a rule establishing limitations on GHG emissions from mobile sources or stationary sources without promulgating a NAAQS for

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[256] CAA section 112(b)(6).

[257] In the Energy Independence and Security Act of 2007 (EISA), Congress provided that regulation of GHGs under CAA section 211(o) would not automatically result in regulation of GHGs under other CAA provisions. Because of this provision, EISA does not impact the interrelationship of other provisions of the CAA, and we only reference the HAP exception in the text.

GHGs, the PSD requirement of greatest relevance would be the requirement that a permit contain emissions limits that reflect the Best Available Control Technology (BACT). BACT is defined as the maximum achievable degree of emissions reduction for a given pollutant (determined by the permitting authority on a case-by-case basis), taking into account energy, environmental, and economic impacts. BACT may include add-on controls, but also includes application of inherently lower-polluting production processes and other available methods and techniques for control. BACT cannot be less stringent than any applicable NSPS.

Since emission control requirements will likely have the most direct impact on new or modified stationary sources subject to PSD, our focus in this notice is on the BACT requirement. However, we are also interested in stakeholder input on the extent to which we should ***44498** evaluate other substantive PSD program elements which would be affected by any possible EPA action to regulate GHGs under other parts of the Act. These include the requirements to evaluate, in consultation with the appropriate Federal Land Manager (FLM), the potential impact of proposed construction on the Air Quality Related Values of any affected "Class I area" (national parks, wilderness areas, etc.) and additional impacts analysis.[258]

If EPA were to promulgate a NAAQS for GHGs, because of the relatively uniform concentration of GHGs, we expect that the entire country would be in nonattainment or attainment of the NAAQS. The preconstruction permitting requirements that apply would depend on whether the country is designated as nonattainment or attainment for the GHG emissions that would increase as a result of a project being constructed.

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[258] As codified at 40 CFR 51.166(o), the owner or operator shall provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the source or modification.

If the entire country is designated attainment, and PSD applies, the adoption of a NAAQS would trigger air quality analysis requirements that are in addition to all the requirements described above. For example, under CAA section 165(a)(3), permit applicants have to conduct modeling to determine whether they cause or contribute to a NAAQS violation. Following promulgation of a NAAQS, EPA may also promulgate a PSD increment for GHGs, which would require additional analysis for each new and modified source subject to PSD.[259] However, this notice does not address in detail the PSD elements that relate to increments.

Under a GHG NAAQS with the country in nonattainment, the nonattainment NSR permitting program would be triggered nationally. The nonattainment NSR program requirements are contained in section 173 of the Act. Like PSD, they apply to new and modified major stationary sources, but they contain significantly different requirements from the PSD program. A key difference is the requirement that the emissions increases from the new or modified source in a nonattainment area must be offset by reductions in existing emissions from the same nonattainment area or a contributing upwind nonattainment area of equal or higher nonattainment classification. The offsetting emissions reductions must be at least equal to the proposed increase and must be consistent with a SIP that assures the nonattainment area is making reasonable progress toward attainment.[260] Another key difference is that instead of BACT, sources subject to nonattainment NSR must comply with the Lowest Achievable Emission Rate (LAER), which is the most stringent emission limitation that is (1) contained in any SIP for that type of source, or (2) achieved in practice for sources of the same type as the proposed source.[261] Notably, if the rate is achievable, LAER does not allow for consideration of costs or of the other factors that BACT does. While LAER and offsets are likely of greatest significance for GHG regulation under nonattainment NSR, there are additional requirements for nonattainment NSR that would also apply. The additional requirements include the alternatives analysis requirement; the requirement that source owners and operators demonstrate statewide compliance with the Act; and the prohibition against permit issuance if the SIP is not being adequately implemented.

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[259] PSD increments are air quality levels which represent an allowable deterioration in air quality as compared to the existing air quality level on a certain baseline date for a given area.

For simplicity, the remainder of this notice describing affected sources, impacts, and possible tailoring generally focuses on PSD, raising issues specific to nonattainment NSR where applicable.

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[260] CAA section 173(a)(1); limitations on offsets are set forth in section 173(c).

[261] CAA section 173(a); LAER is defined in section 171(3)(A).

2. What Sources Would Be Affected if GHGs Were Regulated Under NSR?

A PSD permit is required for the construction or modification of "major emitting facilities," which are commonly referred to as "major sources." A "major emitting facility" is generally any source that emits or has the potential to emit 250 tons per year (tpy) of a regulated NSR pollutant.[262] [263] A source that belongs to one of several specifically identified source categories is considered a major source if it emits or has the potential to emit 100 tpy of a regulated NSR pollutant. [264] Also, for nonattainment NSR, the major source threshold is at most 100 tpy, and is less in some nonattainment areas, depending on the pollutant and the nonattainment classification.

A "major modification" is any physical change or change in the method of operation of a major source which significantly increases the amount of emissions of any regulated NSR pollutant. EPA defines what emissions levels of a pollutant are "significant" through regulation, and the defined significance levels range from 0.3 tpy for lead to 100 tpy for CO. Currently there is no defined significance level for GHGs (either individually or as a group) because they are not regulated NSR pollutants, and thus, were GHGs to become regulated, the significance threshold would be zero. Note that, when determining whether a facility is "major," a source need not count fugitive emissions (i.e., emissions which may not reasonably be vented through stacks, vents, etc.) unless it is in a listed category.

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[262] 42 U.S.C. 7569(1). The PSD regulations use the term "major stationary source." 40 CFR 51.166(b)(1) The definition of "regulated NSR pollutant" is at 40 CFR 51.166(b)(49).

[263] "Potential-to-emit", or PTE, is defined as the maximum capacity of a source to emit any air pollutant under its physical and operational design.

[264] These specific sources include major industrial categories such as petroleum refining, fossil-fuel fired steam electric plants, chemical process plants, and 24 other categories. The full list of 100 tpy major sources is promulgated at 40 CFR 51.166(b)(1)(i)(a).

As noted in section IV, GHGs are not currently subject to regulation under the Act, and therefore are not regulated NSR pollutants. However, if GHG emissions become subject to regulation under any of the stationary or mobile source authorities discussed above (except sections 112 and 211(o)), GHGs could become regulated NSR pollutants. Many types of new GHG sources and GHG-increasing modifications that have not heretofore been subject to PSD would become subject to PSD permitting requirements. This is particularly true for CO_2 because, as noted in section III, the mass CO_2 emissions from many source types are orders of magnitude greater than for currently regulated pollutants. Thus, many types of new small fuel-combusting equipment could become newly subject to the PSD program if CO_2 becomes a regulated NSR pollutant. As discussed below in the section on potential to emit, the extent to which such equipment would become subject to PSD would depend upon whether, for each type of equipment, its maximum capacity considering its physical and operational design would involve constant year-round operation or some lesser amount of operation. For example, the calculated size of a natural gas-fired furnace that has a potential to emit 250 tpy of CO_2, if year-round operation (8760 hours per year) were assumed—would be only 0.49 MMBTU/hr, which is comparable to the size of a very small commercial furnace. In practice, a furnace like this would likely operate far less than year round and its actual emissions would be well below 250 tpy. For example, such a furnace, if used for ***44499** space heating, might only be burning gas for about 1000 hours per year, meaning that it would need to be sized at over 4 MMBTU/hr—a size more comparable to a small industrial furnace—to actually emit 250 tons of CO_2. For sources such as these, the interpretation of the term "potential to emit" and the availability of streamlined mechanisms for smaller sources to limit their potential to emit would determine whether they would be considered "major" for GHG emissions under PSD.

For sources already major for other pollutants, it is likely that many more changes made by the source would also qualify as major modifications and become subject to PSD as well, unless potential approaches (including those discussed below) for raising applicability thresholds were implemented. Relatively small changes in energy use that cause criteria pollutant emissions too small to trigger PSD would newly trigger PSD at such facilities because such changes would likely result in greater CO_2 increases. For example, consider a hypothetical 500 MW electric utility boiler firing a bituminous coal that is well-controlled for traditional pollutants. Such a boiler, operating more than 7000 hours per year (out of a possible 8760), can emit approximately 4 million tons of CO_2 per year, or more than 580 tons per hour. Assuming a 100 tpy significance level (rather than the current zero level for GHGs), any change resulting in just 10 additional minutes of utilization over the course of a year at such a source would be enough to result in an increase of 100 tons and potentially subject the change to PSD. By contrast, to be considered a modification for NO_X, the same change would require approximately 36 additional hours of operation assuming that the hypothetical source had a low-NO_X burner, and 90 additional hours of operation assuming that the source also employed a selective catalytic reduction add-on control device.

Once a source is major for any NSR regulated pollutant, PSD applies to significant increases of any other regulated pollutant, so significant increases of GHGs would become newly subject to PSD at sources that are now major for other regulated pollutants. Similarly, significant increases of other pollutants would become subject to PSD if they occur at sources previously considered minor, but which become classified as major sources for GHG emissions.

Currently, EPA estimates that EPA, state, and local permitting authorities issue approximately 200-300 PSD permits nationally each year for construction of new major sources and major modifications at existing major sources. Under existing major source thresholds, we estimate that if CO_2 becomes a regulated NSR pollutant (either as an individual GHG or as a group of GHGs), the number of PSD permits required to be issued each year would increase by more than a factor of 10 (*i.e.* more than 2000-3000 permits per year), unless action were taken to limit the scope of the PSD program under one or more of the legal theories described below. The additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings, hotels, large retail establishments, and similar facilities. These facilities consist primarily of equipment that combusts fuels of various kinds and release their exhaust gases through a stack or vent. Few of these additional permits would be for source categories (such as agriculture) where emissions are "fugitive," because, as noted above, fugitive emissions do not count toward determining if a source is a major source except in a limited number of categories of large sources.

Because EPA and states have generally not collected emissions information on sources this small, our estimate of the number of additional permits relies on limited available information and engineering judgment, and is uncertain. Our estimate of the number of additional permits is also not comprehensive. First, it does not include permits that would be required for modifications to existing major GHG sources because the number of these is more difficult to estimate.[265] Nonetheless, we anticipate that, for modifications, coverage of GHGs would increase because the larger universe of major sources will bring in additional sources at which modifications could occur and because for "traditional" major sources, many more types of small modifications that were minor for traditional pollutants could become major due to increases in GHG emissions that exceed the significance levels. Second, EPA's estimate is uncertain because it is based on actual emissions, and thus excludes a potentially very large number of sources that would be major if they operated at their full potential-to-emit (PTE) (i.e. they emitted at a level that reflects the maximum capacity to emit under their physical and operational design), but which in practice do not. Such sources could be defined as major sources without an enforceable limitation on their PTE, but for the purposes of this estimate, we assume they have options for limiting their PTE and avoiding classification as a major source. (Nonetheless, there are important considerations in creating such PTE limits, as discussed below). Third, this estimate does not specifically account for CO_2 from sources other than combustion sources. While we know there are sources with significant non-combustion emissions of GHGs, there are relatively few of these compared to the sources with major amounts of combustion CO_2. These non-combustion sources would likely be major for combustion CO_2 in any event, and many of these are likely already major for other pollutants, though GHG regulation would likely mean increases in the number of major modifications at such sources.

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[265] Among other things, any estimate of modifications must take into account the netting provisions of NSR, in which sources can avoid NSR if the increase of pollutant emissions from a project is below the significance level for that pollutant, after taking into account other increases and decreases of emissions that are contemporaneous with the project.

We request any available information that would allow us to better characterize the number and types of sources and modifications that would become subject to the PSD program if CO_2 becomes a regulated NSR pollutant. As discussed below, we are particularly interested in information that would allow us to analyze the effects of different major source thresholds and significance levels.

Finally, we note that our estimates above are for CO_2. As described above in section IV, there are implications to regulating additional GHGs as pollutants, or GHGs in the aggregate. Our estimates of

PSD program impacts do not include consideration of GHGs other than CO_2 because we expect that at the vast majority of these sources CO_2 will be the dominant pollutant. We ask for comment on whether there are large categories of potentially newly regulated PSD sources for individual GHGs besides CO_2. We also ask for comment on the effects of aggregating GHGs for PSD applicability. Aggregating GHGs could bring additional sources into PSD to the extent that other GHGs are present and would add enough to a source's PTE to make it a major source. On the other hand, under the netting provisions of the CAA, it may be easier to facilitate interpollutant netting if GHGs are aggregated (e.g., a source using netting to avoid PSD for a CO_2 increase based on methane decreases at the same source).

***44500** 3. What Are the Key Milestones and Expected Timeline if the PSD Program Were Used for GHG Controls?

Because PSD applies to all regulated pollutants except HAP, EPA's interpretation of the Act is that PSD program requirements would become applicable immediately upon the effective date of the first regulation requiring GHG control under the Act.[266] While existing PSD permits would remain unaffected, from that point forward, each new major source of GHGs and each major modification at an existing major source that significantly increases GHGs would need to get a PSD permit before beginning construction. Control requirements could take effect as the first new and modified sources obtain their permits and complete construction of the permitted projects. Because of the case-by-case nature of the PSD permitting decisions, the complexity of the PSD permitting requirements, and the time needed to complete the PSD permitting process, it can take several months to receive a simple PSD permit, and more than a year to receive a permit for a complex facility. We ask for comment on whether there are additional timeline considerations not noted here.

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[266] Because PSD is implemented in many areas by states under EPA-approved state regulations, there may be a lag time in a small number of states if their PSD regulations are written in such a way that revision of the regulations (and EPA approval) would be required to give the state authority to issue permits for GHGs. However this would not be the case for EPA's own regulations or for any state delegated to implement EPA regulations on our behalf.

4. What Are Key Considerations Regarding Application of the PSD Program to GHGs (and How Could Potential Issues Be Addressed?)

a. Program Scope

As noted above, regulating GHGs under the PSD program has the potential to dramatically expand the number of sources required to obtain PSD permits, unless action is taken to limit the scope of the program, as described below. Since major source thresholds were enacted before this assessment of the application of the PSD program to GHGs, it is reasonable to expect that Congress could consider legislative alterations to account for the different aspects of GHGs versus traditional air pollutants noted above (e.g., the relatively uniform atmospheric concentrations of GHGs versus more localized effects of traditional pollutants.) Possible ways to limit the scope of the program without legislation are described later in this section.

In the absence of such action, we would expect (assuming a 250 tpy major source threshold, or 100 tpy for statutorily specified source categories) at least an order-of-magnitude increase in the number of new sources required to obtain PSD permits, and an expansion of the program to numerous smaller sources not previously subject to it. While such sources may emit amounts of GHGs that exceed statutory thresholds, they have relatively small emissions of non-GHG pollutants (such that they have not been regulated under PSD, and many have not been regulated under any CAA program).[267] Regulating GHGs under the PSD program would also cause a large increase in the number of modifications at existing sources that would be required to obtain PSD permits. Such modifications may occur at existing sources that have been long regulated as major for other pollutants, or at existing sources that become classified as major solely due to their GHG emissions.

Permitting smaller sources and modifications is generally less effective due to the fact that, while there are still administrative costs borne by the source and permitting authority, the environmental benefit of each permit is generally less than what results from permitting a larger source. Congress excluded smaller sources from PSD by adopting 100 and 250 tpy major source cutoffs in 1977 when PSD was enacted, and EPA rules have long excluded smaller sources and modifications from the program. This cutoff would not exclude many smaller sources of GHGs because the mass emissions (i.e., tons per year) of the relevant GHG may be substantially higher than the mass emissions of traditional pollutants for the same process or activity. Thus, while existing cutoffs for traditional pollutants capture a relatively modest number of new and modified sources per year, applying those same major source levels to CO_2, and possibly for other GHG, would capture a very large number of sources, many of which are comparatively smaller in size when compared to "traditional" sources. Similarly, for modifications, the current absence of a significance level, or the future adoption of a significance level that is below the current major source thresholds, would subject numerous small changes to PSD permitting requirements.

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[267] Some fraction of these small sources are regulated, at least in some areas, by SIPs and state minor source permit programs under section 110 of the CAA.

b. Potential Program Benefits

In the past, EPA has recognized that the PSD program can achieve significant emissions benefits over time as emissions increases from new major sources and major modifications are minimized through application of state-of-the-art technology.[268] As a result, other programs designed to reduce emissions are not compromised by growth in new emissions from PSD sources. Further emissions benefits are achieved when sources limit or reduce emissions to avoid PSD applicability.

A rationale for new source review since its inception has been that it is generally more effective and less expensive to engineer and install controls at the time a source (or major modification) is being designed and built, as BACT does, rather than retrofitting controls absent other construction.[269] In addition, the BACT determination process requires consideration of new emissions reduction technologies, which provides an ongoing incentive to developers of these technologies. There is the potential for avoiding or reducing GHG emissions if "traditional" sources begin to install abatement technologies for GHGs as they do for traditional pollutants. On the other hand, as discussed in section III,F, some suggest that regulations that apply stringent requirements to new sources and "grandfather" existing sources may create incentives to keep older and inefficient sources in use longer than otherwise would occur, diminishing the incentive for technological innovation and diffusion and reducing the environmental effectiveness and cost effectiveness of the regulation. Others believe that economic factors other than these regulatory differences tend to drive business decisions on when to build new capacity. EPA examined the effect of new source review on utilities and refineries in a 2002 report, as described in section III.F.4 of this notice.[270]

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[268] See, for example, Section II of "NSR Improvements: Supplemental Analysis of the Environmental Impact of the 2002 Final NSR Improvement Rules," U.S. EPA, November 21, 2002.

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[269] Critics of this rationale suggest that under a market-oriented system covering both new and existing sources, source owners would be best placed to decide whether it is economic to place state-of-the-art controls on new sources

[270] See U.S. EPA, "New Source Review: Report to the President, June 2002." As noted in section III.F of this notice, the report concluded (pp. 30-31) that, for existing sources, "[c]redible examples were presented of cases in which uncertainty about the exemption for routine activities has resulted in delay or resulted in the cancellation of projects which sources say are done for purposes of maintaining and improving the reliability, efficiency and safety of existing energy capacity. Such

*44501 EPA has not performed an analysis of the GHG emissions that might be avoided or reduced under PSD preconstruction permitting, nor of possible increases through unintended incentives. Such an analysis would necessarily involve new analysis of potential BACT technologies, considering costs and other factors, for GHGs emitted by numerous sectors. The PSD program, through the BACT requirement, might result in installation of such technologies as CCS, or the incorporation of other CO_2 reducing technologies, such as more efficient combustion processes.[271] However, it is not possible at this time to estimate these effects in light of the uncertainty surrounding the future trends in construction at new and modified sources, demonstration of commercial availability of various GHG control technology options, their control effectiveness, costs, and the aforementioned incentives to keep existing sources in operation and avoid modifying them. We ask for comment on the nature (and to the extent possible, the magnitude) of the potential effects of PSD on GHG emissions, and whether these effects vary between new and existing sources.

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discouragement results in lost capacity, as well as lost opportunities to improve energy efficiency and reduce air pollution." With respect to new facilities, the report said, "there appears to be little incremental impact of the program on the construction of new electricity generation and refinery facilities."

[271] However, EPA notes that the BACT requirement does not require consideration of technologies that would fundamentally redefine a proposed source into a different type of source (e.g., BACT for a proposed coal-fired power plant need not reflect emission limitations based on building a gas-fired power plant instead). See, for example, *In re: Prairie State Generating Company*, PSD Appeal No. 05-05, slip op. at 19-37 (EAB 2006).

Regarding the potentially large universe of smaller sources and modifications that could become newly subject to BACT, as described above, there are large uncertainties about the potential benefits of applying BACT requirements to GHG emissions from such sources. Individual emission reduction benefits from such sources would be smaller; however, the cumulative effect could theoretically be large because the requirement would cover many more sources. However, unless there are ways to effectively streamline BACT determinations and permitting for smaller sources (as discussed below), BACT would not appear to be an efficient regulatory approach for many other types of sources. We request comment on the potential overall benefit of applying the BACT requirement to GHG emissions, and how this potential benefit is distributed among categories of potentially regulated sources and modifications. Below, we discuss and ask for comment on possible tailoring of BACT for GHGs.

Finally, in considering the potential for emissions reductions from the PSD program, it is important to note that, historically, sources generally have taken action to avoid PSD rather than seeking a permit, where possible. Companies can reduce their PTE, for example, by artificially capping production or forgoing efficiency improvements. While these PSD avoidance strategies can sometimes reduce emissions (e.g., limiting operating hours or installing other controls to net out), they can sometimes result in forgone environmental benefits (e.g., postponing an efficiency project). These effects are very difficult to quantify. For example, the developer of a large apartment building that would be a major source for CO_2 might elect to provide electric space heat if it were determined that the direct and indirect costs of PSD made installation of gas heat uneconomical. From a lifecycle analysis standpoint, PSD could—depending upon the source of the electricity—lead to either a better or a worse outcome for overall emissions of GHGs. Similarly, because PSD is triggered based on increases over a past baseline, a source considering a potential modification may have an incentive to increase emissions (to the extent that can be done without a modification) for the 2-year period before the modification to artificially inflate the baseline. Similarly, in the electricity sector, a desire to avoid PSD review could be a disincentive for some projects to improve efficiency, because a small increase in utilization of the more-efficient EGU would raise CO_2 emissions sufficiently to trigger review. We solicit comments on the potential indirect effects, adverse or beneficial, that may arise from the incentive to avoid triggering PSD.

c. Administrative Considerations and Implications of Regulating Numerous Smaller Sources

The PSD program is designed to provide a detailed case-by-case review for the sources it covers, and that review is customized to account for the individual characteristics of each source and the air quality in the particular area where the source will be located. Although this case-by-case approach has effectively protected the environment from emissions increases of traditional criteria pollutants, there have been significant and broad-based concerns about PSD implementation over the years due to the program's complexity and the costs, uncertainty, and construction delays that can sometimes result from the PSD permitting process. Expanding the program by an order of magnitude through application of the 100/250-ton thresholds to GHGs, and requiring PSD permits for numerous smaller GHG sources and modifications not previously included in the program, would magnify these concerns. EPA is aware of serious concerns being expressed by sources and permitting authorities concerning the possible impacts of a PSD program for GHGs.

While the program would provide a process for reviewing and potentially reducing GHG emissions through the BACT requirement as it has done for other pollutants, we are concerned that without significant tailoring (and possibly even with significant tailoring), application of the existing PSD permitting program to these new smaller sources would be a very inefficient way to address the challenges of climate change. We ask for comment on how we should approach a determination of (1) whether PSD permit requirements could be appropriate and effective for regulating GHGs from the sources that would be covered under the statutory thresholds, (2) whether PSD requirements could at least be effective for particular groups of sources (and if so, which ones), and (3) what tailoring of program requirements (options for which are described in more detail below) is necessary to maximize the program's effectiveness while minimizing administrative burden and permitting delays. We are particularly interested in how we might make such judgments in light of the limitations on our ability to quantify the costs and emissions reduction benefits of the PSD program, and whether there are specific examples or other data that would help us with such an analysis.

For example, if 100- and 250-ton thresholds were applied to GHGs, the BACT requirement would need to be newly implemented for numerous small sources and modifications that permitting authorities have little experience with permitting. It would also likely involve, for both large and small sources, consideration of new pollutants for which there are limited add-on control options available at this time. Thus, as with setting NSPS, a BACT determination for GHGs would likely involve decisions on how proposed installations of equipment and processes for a specific source category can be redesigned to make those sources more energy efficient while taking cost considerations into account. However, *44502 unlike NSPS, because BACT is typically determined on a case-by-case basis for each facility and changes as technology improves, these decisions would have to take into account case-specific factors and constantly evolving technical information [272] . Due to the more-than-tenfold increase in the number of PSD permits that would be required if the 100- and 250-ton thresholds were applied to GHGs, and the potential complexity of those permitting decisions, state, local, federal, and tribal permitting authorities would likely face significant new costs and other administrative burdens in implementing the BACT requirement for GHGs. Large investments of resources would be required by permitting authorities, sources, EPA, and members of the public interested in commenting on these decisions. Also under this scenario, sources would likely face new costs, uncertainty, and delay in obtaining their permits to construct.

d. Definition of Regulated Pollutant for GHGs

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[272] The NSPS program does take into account improvements in technology, but does so during the 8-year review of the NSPS under 111(b)(1)(B) rather than on a permit-by-permit basis.

We also note, as described above, that decisions on the definition of regulated pollutant for GHGs—whether GHGs would be regulated as individual gases or as a class—has implications for BACT determinations under the PSD program. If GHGs are regulated separately, it is possible that a control project for one GHG could trigger PSD for another (e.g., controlling methane in a way that increases CO_2). In addition, the economic and other impacts for BACT would need to be evaluated on a pollutant-by-pollutant basis. While regulating GHGs as a class would provide additional flexibility in this area, each BACT analysis would be more extensive because it would have to include combined consideration of all GHGs in the class. We ask for comment on the relative strengths and weaknesses of the various ways to define the regulated pollutant for GHGs as related to the BACT requirement.

e. Other PSD Program Requirements

Other parts of the CAA PSD provisions and EPA regulations that could be affected by bringing GHGs into the program include the requirement to evaluate, in consultation with the Federal Land Manager (FLM), impacts on Air Quality Related Values (AQRVs) in any affected "Class I area" (national parks, wilderness areas, etc.), and the need to conduct additional analysis of the proposed source's impacts on ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility, as provided for in section 165(e) of the Act. These requirements can result in adjustments to the permit (for example, permit conditions may be added if a FLM demonstrates to a permitting authority that additional mitigation is necessary to address the impacts of GHG emissions on the AQRVs of a Class I area). Due to the increase in number of permits, permitting authorities may have to make significant programmatic changes to deal with the increased workload to conduct these analytical requirements of the PSD program, and many additional applicants will have to devote resources to satisfying these requirements. In addition, given the uneven geographic distribution of new source growth, some permitting authorities may be required to conduct more permit analyses than others.

f. GHG NAAQS Nonattainment Scenario

If nonattainment NSR were triggered under a GHG NAAQS, the most significant requirement would be the LAER requirement. Because LAER does not allow consideration of costs, energy, and environmental impacts of the emissions reduction technology, the LAER requirement would have the potential to act as a strong technology forcing mechanism in GHG nonattainment areas. On the other hand, once a technology is demonstrated, this mechanism does not allow consideration of the costs, competitiveness effects, or other related factors associated with the new technology. As with PSD requirements, the application of LAER to numerous smaller sources nationwide would raise new issues on which we request comment. For example, with LAER, any demonstrated technology for reducing CO_2 emissions, such as a new efficient furnace or boiler design, could become mandated as LAER for all future construction or modification involving furnaces or boilers. Manufacturers would have to supply technologies that could meet LAER or face regulatory barriers to the market, and could face a constantly changing regulatory level that may result in newly designed products being noncompliant shortly after, or even before, they are produced and sold. New and modified sources would be required to apply the new technology even if it is a very expensive technology that may not necessarily have been developed for widespread application at numerous smaller sources, and even if a relatively small emissions improvement came with significant additional cost. We request comment on how EPA should evaluate the LAER requirement under a NAAQS approach for GHGs. In particular, we ask for information about whether the relatively inflexible nature of the LAER requirement would lead to economic disruption for certain types of sources (and if so which ones), and whether the benefits of a NAAQS approach including LAER would warrant further evaluation and possible tailoring of LAER to address GHGs.

We also ask for comment on any other NSR program issues particular to a NAAQS approach, should EPA decide to establish a NAAQS for GHGs. Although we have not provided a comprehensive discussion of such issues, a number of questions arise that are particular to the NSR requirements that flow from a NAAQS approach. For example, if the entire country were designated nonattainment for GHGs, would the offset requirement function as a national cap-and-trade program for GHG emissions for all major sources? If so, how would such a program be administered, and would the numerous small sources described above be covered? Would the offset requirement argue for regulating GHGs as a group, rather than individually, to facilitate offset trading? What would be an appropriate offset ratio to ensure progress toward attainment? Similarly, for the air quality analysis requirements of PSD, how would a single source determine whether its contribution to nonattainment is significant? When must such a source mitigate its emissions impact, and what options are available to do so? Should EPA set a PSD increment for GHGs if a NAAQS is established? Are there additional issues of interest that we have not raised in this notice?

5. What Are the Possible Implications on Other Provisions of the Clean Air Act?

If PSD for GHGs applied to the same sources as a new market-oriented program to regulate GHGs under the Act, the interaction of the two programs would be a key issue. PSD would ensure that new and modified sources were built with the best available technology to minimize GHG emissions. A traditional argument for NSR is that it ensures that new sources are built with state-of-the-art technology that will reduce emissions throughout the lifetime of that source, which can be several decades. However if the market-oriented program is a cap-and-trade system with sufficiently stringent caps, PSD would not result in more stringent control of new GHG sources than the ***44503** cap-and-trade system alone. In addition, the potential would exist for PSD to interfere with the efficient operation of the GHG cap-and-trade program. Although PSD would neither reduce nor increase the overall emission reductions achieved under the cap, it would force different choices about the stringency and location of controls than if control choices were based solely on market factors. Under this scenario, the result would be to increase costs without achieving additional GHG emissions reductions. For example, assume that a company undertakes a change that triggers PSD at a location where controls are expensive to retrofit but are required as BACT for that location. Without PSD, the company could have increased emissions and still complied with the cap by purchasing less expensive emissions reductions from another source, and the same total GHG emissions reductions would have been achieved. Notably, for GHGs, which have relatively uniform global concentrations, the location of GHG emissions does not matter to global climate impacts, so the policy reasons for the spatial component of PSD control requirement would not apply to GHG controls.

PSD program requirements also affect numerous CAA programs that require stationary source controls that may increase emissions of pollutants other than the pollutant targeted for control (i.e. "collateral increases"), such as the increased NO_X emissions that result when a thermal oxidizer is installed to control VOC. Because there is no exemption from PSD requirements for such pollution control projects, the collateral increase must be reviewed, which can result in added costs and delay of those pollution control projects. Regulation of GHGs would exacerbate these concerns because the energy demands of many controls for criteria pollutants, HAP, and other pollutants have the potential to result in increased CO_2 emissions.

6. What Are Some Possible Tailoring Approaches to Address Administrative Concerns for GHG NSR?

The cost and potential broad applicability of PSD requirements raises questions about whether GHG regulation through PSD would be more effective in minimizing GHG increases if it operates as a broad program targeting numerous smaller sources and modifications, or as a narrow program targeting smaller numbers of large sources and modifications.

We ask for comment on how these cost/benefit considerations for permitting small sources and modifications under PSD, as well as any other factors, should be considered in EPA's deliberations regarding the major source cutoffs and significance levels for GHGs as well as EPA's available legal authority in this area.

EPA believes that whether or not PSD is workable for GHGs may depend on our ability to craft the program to deal with the unique issues posed by GHG regulation.

This section discusses several options, including:

- Reducing the potential universe of sources based on "potential to emit" approaches;
- Increasing the major source thresholds and significance levels for GHGs, to permanently restrict the program to larger sources;
- Phasing in the applicability of PSD for GHGs;
- Developing streamlined approaches to implementing the BACT requirement; and
- Issuing general permits for numerous similar sources.

The options are not necessarily exclusive. Many are complementary, and we note that some combination of these options may be most effective. We also ask for suggestions on additional tailoring options not described below, and more generally on which options, if any, present an appropriately balanced means of addressing the administrative concerns.

Before discussing each option in detail, we present an overarching legal discussion that lays out possible rationales for such flexibility. For at least one of the options identified (e.g., the option of adopting higher major source sizes than those contained in the Act), the principal legal constraint is the "plain meaning" of the applicable PSD provisions, such as the major source levels. Nonetheless, we have identified two legal doctrines that may provide EPA with discretion to tailor the PSD program to GHGs: Absurd results and administrative necessity.

The Supreme Court has stated that the plain meaning of legislation is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls." *U.S.* v. *Ron Pair Enterprises, Inc.*, 489 U.S. 235, 242 (1989). To determine whether "the intentions of the drafters" differs from the result produced from "literal application" of the statutory provisions in question, the courts may examine whether there is a related statutory provision that conflicts, whether there is legislative history of the provisions in question that exposes what the legislature meant by those terms, and whether a literal application of the provisions produces a result that the courts characterize variously as absurd, futile, strange, or indeterminate. See, e.g., *id.*, *Nixon* v. *Missouri Municipal League*, 541 U.S. 125 (2004); *United States* v. *American Trucking Association, Inc.* 310 U.S. 534 (1940); *Rector of Holy Trinity Church* v. *U.S.*, 143 U.S. 457 (1892).

Further, the administrative burdens that would result for the federal and state permitting authorities, as well as the sources, from a literal application of the

PSD provisions give rise to consideration of whether EPA can craft relief from a strict interpretation based on the judicial doctrine of administrative necessity. In Alabama Power, the D.C. Circuit addressed various instances of claimed administrative burdens resulting from the application of the PSD statutory provisions and efforts by EPA to provide regulatory relief. *Alabama Power Co.* v. *Costle*, 636 F.2d at 357-60 (D.C. Cir. 1980). In a section of its opinion titled "Exemptions Born of Administrative Necessity," the Court stated,

> Certain limited grounds for the creation of exemptions are inherent in the administrative process, and their unavailability under a statutory scheme should not be presumed, save in the face of the most unambiguous demonstration of congressional intent to foreclose them.

Id. at 357. The Court identified several types of administrative relief. One is "[c]ategorical exemptions from the clear commands of a regulatory statute," which the court stated are "sometimes permitted," but emphasized that they "are not favored." *Id.* at 358. A second is "an administrative approach not explicitly provided in the statute," such as "streamlined agency approaches or procedures where the conventional course, typically case-by-case determinations, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress." *Id.* A third is a delay of deadlines upon " 'a showing by [the agency] that publication of some of the guidelines by that date is infeasible.' " *Id.* at 359 (quoting *NRDC* v. *Train*, 510 F.2d 692, 712 (D.C. Cir. 1974). The Court indicated it would evaluate these choices based on the "administrative need to adjust to available resources * * * where the constraint was imposed * * * by a shortage of funds * * *, by a shortage of time, or of the ***44504** technical personnel needed to administer a program." *Id.* at 358.

a. Potential-to-Emit: Reducing the Number of Sources Potentially Covered

Applicability of PSD is based in part on a source's "potential to emit" or PTE. The PTE concept also is used for applicability of nonattainment NSR, Title V, and the air toxics requirements of section 112. We discuss PTE in detail here, but the issues and questions we discuss in this section apply equally to these other programs. As noted above, PTE is defined as the maximum capacity of a source to emit any air pollutant under its physical and operational design. In the case of sources that are not operating for part of the year, the PTE for many types of sources counts the emissions that would be possible if those sources did emit year round.

EPA believes that an important threshold question is how to interpret "maximum capacity * * * to emit * * * under its physical and operational design" for commercial and residential buildings, and other types of source categories that might be subject to PSD and Title V solely due to GHG emissions. For example, in the case of a furnace at a residence, is it appropriate, in calculating the furnace's PTE, to assume that a homeowner would set the thermostat at a level that would require the furnace to operate continuously throughout the year? Even on a cold winter day, a furnace typically turns on and off throughout the day, and as the weather warms, the number of operating hours decreases until the weather warms to the point where the furnace is not needed at all and is shut off for an extended time.

The EPA has in a few instances provided guidance on PTE calculation methodologies to account for category-specific considerations. For example, we issued technical guidance for calculating PTE from grain elevators that took into account inherent limitations on the amount of grain that could be handled due to the fact that grain is only available for handling during a relatively short harvest period, and is further limited by the amount of grain capable of being grown (as represented by a record crop year adjusted for future increases in crop yield) on the land that would ever reasonably be served by the elevator.[273] We ask for comment on whether, for smaller GHG sources like these, there could be appropriate methodologies for defining PTE in ways that consider these common-sense limitations on a source's operation, but still reflect the maximum capacity to emit of a source.

Sources with PTE exceeding the major source threshold can become minor sources by taking legally and practically enforceable limits on their PTE, by, for example, agreeing to operate only part of the year, or only so many hours per day, or by employing control devices.[274] Many sources are able to avoid classification as "major" by taking such limits.

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[273] Calculating Potential to Emit (PTE) and Other Guidance for Grain Handling Facilities: November 14, 1995 memorandum from John S. Seitz, Director, U.S. EPA Office of Air Quality Planning and Standards, to EPA Regional Offices.

[274] Current regulatory language allows consideration of such limits in calculating PTE only if they are federally enforceable, but this definition was vacated or remanded in three separate cases—one for PSD/NSR (*Chemical Manufacturers*

The estimates provided for potential new permits for GHG sources outlined in section VII.D.2 above are based on actual emissions. Were they based on PTE, and if year-round operation were assumed to represent PTE for all source categories, the estimates would likely be an order of magnitude higher (in the absence of actions to limit the scope of the programs). This emphasizes the significance of the interpretation of "potential to emit" for buildings and other categories not traditionally subject to PSD, as well as the importance of streamlined mechanisms for obtaining limits on PTE.

For traditional PSD and Title V permitting, the PTE limit is typically a source specific limit that is crafted in a facility's minor source permit and tailored to the source's individual circumstances. If it were necessary to create PTE limits for very large numbers of GHG-emitting sources nationwide, this would certainly require a more efficient approach than creating them through individual minor source permits. Not only would the sheer volume of permits and the process required for each one severely strain permitting authority resources, but some state and local agencies may lack the authority to establish minor source permit limits for non-NAAQS pollutants. In addition,

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Assn v. *EPA*, No. 89-1514 (D.C. Cir. Sept. 15, 1995), one for Title V (*Clean Air Implementation Project* v. *EPA*, No. 96-1224 (D.C. Cir. June 28, 1996), and one for section 112 (*National Mining Association* v. *EPA*, 59 F. 3d 1351 (D.C. Cir. 1995). EPA is developing a rule to respond to these cases and in the meantime is following a transition policy that does not require federal enforceability.

while sources may not seek PTE limits for PSD until they have planned modifications that could otherwise trigger PSD, sources may seek PTE limits for Title V purposes as soon as the program is effective, meaning that the approach would need to deal with a large number of sources at essentially the same time.

We ask for comment on whether we should also therefore consider streamlined regulatory approaches for creating the legally and practically enforceable limits sources need without requiring a huge number of individual minor source permits. A possible mechanism could involve adopting a regulation that sets forth operational restrictions that limit PTE for a broad class of sources. We may wish to consider adopting—or encouraging state permitting authorities to adopt—rules for numerous categories where we expect there to be large numbers of sources whose actual emissions are not major but who have major PTE (unless addressed through interpreting maximum capacity as described above). Such a rule could, for example, limit a source's natural gas usage to 1700 MM BTU (17,000 therms) per year, which would keep it below the 100 tpy cutoff for Title V.[275] Typically, the rule would also build in some operating margin so that the limit is not right at the major source cutoff. The rule would have to include recordkeeping and reporting, which would be simple here since fuel use is metered. This approach may be a streamlined effective way to limit PTE for many sources with fuel combustion equipment, provided they can agree to comply with the limits in the rule, even in an abnormally long, cold winter. We ask for comment on stakeholders' experience with limiting PTE by rule rather than through individual permits, possible considerations in tailoring this approach to GHG sources, and identification of categories that might benefit from the use of rules limiting PTE.

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[275] Although the PSD cutoff may in some cases be 250 tpy, sources will generally adopt PTE limits below 100 tpy to avoid both PSD and Title V applicability where they have the option to do so. For this reason, this example uses a 100 tpy cutoff, though in some cases PTE limits are taken to stay below a 250 tpy cutoff.

Finally, where the establishment of a rule-based PTE limit for an entire source category is not recommended or is infeasible, the EPA requests comment on whether general permitting approaches might be useful. A general permit is a permit that the permitting authority drafts one time, and then applies essentially identically (except for some source-specific identifying information) to each source of the appropriate type that requests coverage under the general permit. Similar to the type of rules limiting PTE described above, a general permit could also limit PTE by setting out the operational restrictions (e.g., fuel combusted per ***44505** year) necessary to assure the GHG emissions stay below major source thresholds, and would also spell out records the source would have to keep to assure it met these restrictions. To be most useful, the permit would need to address large numbers of similar sources. This approach may also work well for many types of GHG sources as well. We request comment on the use of a general permit approach to limiting PTE, and whether it would offer additional benefit over the approach of establishing operational restrictions directly by rule.

b. Options for Setting Higher GHG Major Source Cutoffs and Significance Levels

If the EPA ultimately determines that subjecting numerous small sources and modifications to PSD is not an effective way to address GHG emissions, one possible option for tailoring the program would be to raise the major source cutoffs (e.g., raise the threshold only for GHGs as a class, or perhaps only for certain individual GHGs) and establish a significance level for GHGs at a level high enough to assure that the program applies to larger sources and modifications, but excludes smaller sources and modifications. Since the existing major source thresholds are set forth in the CAA itself, EPA would need to find the legal flexibility to raise these thresholds above 250 and 100 tons per year. We present for discussion below several policy and legal options for higher major source cutoffs and significance levels.

i. Higher GHG major source cutoffs—possible approaches and legal basis

Regardless of how PTE is calculated, the major source size threshold will be a critical consideration in tailoring the PSD program for GHGs. There are a number of factors one might consider in choosing an appropriate cutoff for GHGs and whether to establish the cutoff for individual gases such as CO_2 or for GHGs as a class. One conceptual approach might be to identify the number of sources and modifications affected by various cutoffs, calculate the costs and benefits of a PSD program for that universe of affected sources, and select a cutoff that optimizes the benefit-cost ratio. Unfortunately, we presently have the ability to quantify in dollar terms only a subset of the climate impacts identified by the IPCC. Also, we have very limited data on the number of sources expected at various major source cutoffs, and even more limited data on the number of modifications at various significance levels. More importantly, it is very difficult to project the future number of permits or the incremental impact of any additional GHG reductions that would result from the control technology decisions therein. For these reasons, EPA cannot quantitatively determine an optimal major source size or significance level.

We could, however, consider other means of setting levels. One example is an emissions scaling approach. This approach would compare the emissions of other existing NSR pollutants for sources that are major and would calculate the corresponding GHG emissions that the same source would emit. This would be an appropriate approach if the goal were to tailor PSD applicability for GHGs to cover a similar universe of source sizes and types to the universe now regulated for other pollutants. A second option would be to base the major source size on a scientific determination of a level below which an individual source would have a *de minimis* contribution to any particular adverse climate-related impact on a relevant health, societal, or environmental endpoint. Although it may be possible to generally estimate such a level, we are not currently aware of any scientific literature that establishes a specific numeric threshold below which GHG emissions are *de minimis*, either in terms of their impact on climate, or on these endpoints. By the same token, aside from an ability to use currently available models to project temperature effects, the Agency does not have the ability to project specific climatic impacts or endpoints resulting from individual sources. Alternatively, we could potentially choose a GHG major source size that is selected to harmonize with GHG cutoffs from other regulatory programs. For example, the DOE's 1605(b) program has a threshold of 10,000 metric tons of CO_2 -equivalent, California's AB32 regulation for mandatory reporting of GHGs has a threshold of 25,000 metric tons of CO_2 -equivalent, and the Wisconsin emission inventory reporting requirements has a CO_2 threshold of 100,000 short tons. Notably, these examples are thresholds for reporting requirements only. PSD would involve much more than simply reporting emissions, so under a harmonizing approach we may need to evaluate whether it is feasible to require not only reporting, but also the other PSD elements for the sources that would be covered. We ask for comment on the range of approaches EPA could take in selecting a major source cutoff if we decide it is appropriate under existing legal authority, if available, to develop a higher cutoff for GHGs. In addition, we request data that may be useful for conducting necessary analysis to support such approaches.

A related issue to the establishment of the major source thresholds and significance levels for GHGs is the selection of the metric against which these levels are evaluated. Emissions of GHGs are typically expressed in a common metric, usually the metric called CO_2 -equivalent, although the measure known as Carbon Equivalent (CE) is also used. The use of either metric allows the impact of emissions of different GHGs to be directly compared, as some gases have a higher global warming potential or GWP than others. Since both units are measured in weight—usually tons—either could be used for purposes of PSD applicability. The use of either metric has the advantage of linking emissions of a GHG directly to its ability to impact climate, appropriately regulating more potent

GHGs more stringently. The use of CO_2 -equivalent would solve the problem of leaving unreviewed significant GHG emissions of some chemicals, such as hydrofluorocarbons, but it would leave many small CO_2 sources with less climate impact still subject to PSD. However, the use of Carbon Equivalent (CE) addresses both concerns. The attached table demonstrates the possible effect of using CE in making PSD applicability decisions:

	GWP	Emissions equal to 250 tons CE
Carbon dioxide (CO_2)	1	917 tons.
Methane (CH_4)	21	44 tons.
Nitrous oxide (N_2O)	310	3 tons.
Hydrofluorocarbon (HFC)-134a	1300	1410 lbs.

As the table shows, it would take more CO_2 emissions to reach the major source size for CE. However. it would take substantially less of several other GHGs. Such an approach would likely result in fewer sources being added to the PSD program for GHGs in total. While more sources for several GHGs would be considered major, the major source population is, as noted above, dominated by CO_2, and there would be fewer sources classified as major due to CO_2 emissions. This approach arguably would regulate significant sources of potent GHG while also reducing the burden on relatively small sources of CO_2, focusing efforts on the sources with the most important climate impacts. EPA seeks comments on the potential use of the CE measure as the means to determine PSD applicability. Specifically we ask for comment on the appropriateness of the metric (considering that CO_2, rather than

***44506** carbon, is the air pollutant), data regarding its effect on PSD applicability, and views concerning whether such an approach fits within the language of the CAA.

Whether, and the extent to which, EPA has flexibility to limit the application of the PSD permitting requirements (and, by extension, the nonattainment NSR permitting requirements if a NAAQS is set for GHGs) to sources that emit larger amounts of CO_2 and other GHGs than the 100/250 tpy thresholds depends on the interpretation of the key PSD definitional term, "major emitting facility." Under CAA section 165(a), the basic PSD applicability requirement is that a "major emitting facility" may not construct unless it has received a permit that covers specified requirements.[276] As defined by CAA section 169(1), a "major emitting facility" is defined to include (i) "any * * * stationary source[]" that emits or has the potential to emit 100 tpy or more of any air pollutant and that falls into one of 28 specified industrial source categories; and (ii) "any other source with the potential to emit 250 tons per year or more of any air pollutant."However, the last sentence of this definition allows states to exempt "new or modified facilities which are nonprofit health or educational institutions" from the PSD program. EPA's regulations, promulgated in

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[276] The requirement to obtain a permit applies to a source that commences construction after the effective date of the 1977 Clean Air Act Amendments (August 7, 1977), and that does so "in any area to which [the PSD provisions] appl[y]." All parts of the United States and its possessions are covered (see CAA sections 161, 302(d) and (q), and 110(a)(1)), but if EPA promulgates a NAAQS for GHGs and designates certain areas as nonattainment, then those areas would not be covered.

1980 and revised several times since then, make clear that emissions count toward the 100/250 tpy thresholds only if they are "regulated NSR pollutant[s]" (e.g., 40 CFR 52.21(b)(1)(i)(a)), the specific meaning of which is discussed elsewhere in this notice.

Once GHGs are regulated, these PSD provisions, by their terms, would apply to sweep into the PSD program new sources that emit 100 or 250 tpy of CO_2 or other GHGs. As indicated above, the courts have held that the plain meaning of statutory provisions is generally controlling. Even so, we solicit comment on whether these PSD threshold requirements may present one of those rare cases in which congressional intent differs, based on the legislative history.

The legislative history indicates that Congress was aware of the range of stationary sources that emitted pollution and did not envision that PSD would cover the large numbers of smaller sources within that inventory. As the D.C. Circuit stated in Alabama Power, the seminal court decision regarding PSD that reviewed numerous challenges to EPA's initial set of PSD regulations,

> Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air.

636 F.2d. 323, 353 (D.C. Cir. 1980) (emphasis added). In addition, Congress also sought to protect permitting authorities from undue administrative burdens.

See S. Rep. 95-127 at 97; *Alabama Power*, 636 F.2d at 354.

One important indication that Congress viewed PSD as limited in scope may be found in information provided by EPA in 1976 and included in the *Congressional Record*: A comprehensive list of industrial and commercial source categories, which included the amounts of certain pollutants emitted by "typical" sources in those categories and the number of new plants in those categories constructed each year. 122 Cong. Rec. S 24548-50 (July 29, 1976) (statement of Sen. McClure). The pollutants included particulate matter (PM), sulfur dioxide (SO_2), carbon monoxide (CO), and hydrocarbons. The two largest of these source categories consisted of—

- Small boilers, those that generate between 10 MMbtu/hr and 250 MMbtu/hr. EPA estimated that 1,446 new plants with boilers of this size were, at that time, constructed each year, and that the amount of PM emissions with controls from a "typical" such boiler were 53 tpy.
- Very small "boilers," those that generate between 0.3 MMBtu/hr and 10 MMBtu/hr. EPA estimated that 11,215 new plants with boilers of this size were, at that time, constructed each year, and that the amount PM emissions with controls would be 2 tpy.

The D.C. Circuit indicated, in *Alabama Power*, that Congress did not believe sources with boilers of these small sizes should be covered by PSD: "[With respect to] the heating plant operating in a large high school or in a small community college * * * [w]e have no reason to believe that Congress intended to define such obviously minor sources as 'major' for the purposes of the PSD provision."[277] 636 F.2d at 354. To support this proposition, the Court cited a statement in the *Congressional Record* by Sen. Bartlett arguing that the PSD provisions should not cover "[s]chool buildings, shopping malls, and similar-sized facilities with heating plants of 250 million BTUs." *Id.* at 354 (*citing* 122 Cong. Rec. S. 12775, 12812 (statement of Sen. Bartlett)). Yet, boilers of even this small size could well emit at least 250 tpy of CO_2 and therefore could fall into PSD permitting requirements if the definition of "major emitting facility" is read to include emitters of CO_2 of that size or more.

Thus, it is clear that Congress's construct of PSD—specifically, the 100/250 tpy thresholds—was based on Congress's focus on conventional pollutants at that time and its understanding that sources emitting conventional pollutants above those levels should be subject to PSD, with its attendant cost burdens, both because such sources have the financial resources and because they have the responsibility to reduce their large share of the convention pollution problems. Limited administrative resources were also part of this equation. But the equation is scrambled when CO_2 is the pollutant because many smaller sources, with limited resources, and whose share of the GHG emissions problem is no greater than their share of the conventional pollution problem, get swept into PSD at those threshold levels. Further, administrative resources become greatly stretched. Juxtaposing the limited scope of the universe of PSD sources that Congress had in mind against the broad terms that Congress used in defining "major emitting facility," which determines PSD applicability, raises the question of whether a narrower interpretation of those terms may be permissible under various judicial doctrines.

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[277] Although Congress specifically authorized the States to exempt "nonprofit health or education institutions" from the definition of "major emitting facility" this statement by the D.C. Circuit should be taken as the Court's view that Congress did not design PSD to cover sources of the small size described.

We solicit comment on whether the case law cited above, concerning narrowing the application of statutory provisions in light of other indications of congressional intent or in light of administrative necessity, support interpreting the term, "major emitting facility" in a manner that is narrower than the literal meaning of the phrase, "any other source" in the case of sources that emit amounts of CO_2 that are more than 250 tpy but less than the levels discussed above.

***44507** ii. Modifications: Options and Legal Basis for Higher GHG Significance Levels

Regarding the selection of a significance level for GHG emissions, we could follow a de minimis approach, as we have done in setting the existing PSD significance levels. We could base the significance level on the level below which an individual modification has a de minimis contribution to climate change. A scaling approach similar to that discussed above for the major source threshold is also an option for setting the significance level. We could set the significance level to a level of GHG emissions that corresponds to the same activity level as the significance levels for other pollutants, so as to roughly maintain the same permitting burden for GHGs as for "traditional" pollutants. We ask for comment on the merits of these approaches and invite suggestions on other approaches. We are also interested in specific information that would help us analyze how the selection of various significance levels would affect the number and types of modifications affected.

The legal rationale for establishing a significance level is found in the D.C. Circuit's *Alabama Power* decision, 636 F.2d at 405, where the Court authorized EPA to establish "a de minimis standard rationally designed to alleviate severe administrative burdens." The Court elaborated:

> A rational approach would consider the administrative burden with respect to each statutory context: what level of emission is *de minimis* for modification, what level *de minimis* for application of BACT. Concerning the application of BACT, a rational approach would consider whether the *de minimis* threshold should vary depending on the specific pollutant and the danger posed by increases in its emission. The Agency should look at the degree of administrative burden posed by enforcement at various *de minimis* threshold levels.* * * *It may * * * be relevant * * * that Congress made a judgment in the Act that new facilities emitting less than 100 or 250 tons per year are not sizeable enough to warrant PSD review.*

Id. (emphasis added). We believe that this approach entails broad discretion in fashioning a *de minimis* level, consistent with the overarching principle of obviating administrative burdens that are not commensurate with the contribution of the amount of emissions to the pollution problem. We consider the Court's emphasized statement to leave the door open to setting significance levels at the same level as the applicability threshold levels. We solicit comment on appropriate GHG significance levels, and on the relationship of significance levels to the GHG applicability thresholds discussed above.

c. Phase-In of PSD Permitting Requirements

Absent higher major source cutoffs and significance levels, it would be necessary to formulate a strategy for dealing with the tenfold increase in required permits that EPA projects permitting authorities will experience if GHGs become regulated for PSD purposes. Even with advance notice, an increase of this magnitude over a very short time could overwhelm permitting authorities. They would likely need to fund and hire new permit writers, and staff would need to develop expertise necessary to identify sources, review permits, assess control technology options for a new group of pollutants (and for a mix of familiar and unfamiliar source categories), and carry out the various procedural requirements necessary to issue permits. Sources would also face transition issues. Many new source owners and operators would need to become familiar with the PSD regulations, control technology options, and procedural requirements for many different types of equipment. If the transition were not effectively managed, an overwhelmed permit system would not be able to keep up with the demand for new pre-construction permits, and construction could be delayed on a large number of projects under this scenario.

The size of the increase in workload that must be accommodated and the potentially serious consequences of an overly abrupt transition demonstrate that a phase-in approach may have merit. Under one concept of a phase-in approach, EPA could phase-in PSD applicability beginning with the largest sources of GHGs and gradually include smaller sources. This could be accomplished by initially adopting a relatively high major source size and significance level, and then periodically lowering the level until the full coverage level is reached. We ask for comment on what an appropriate transition time would be, what the appropriate starting, middle, and end points would be in terms of coverage, and what requirements, if any, should be put into place for sources prior to their being phased in. For example, if the ultimate goal is to reach a 250 tpy major source cutoff, what would be the appropriate starting cutoff (e.g., 10,000 tpy) and how should it be determined? Would the phase-in need to be complete by a certain date, and if so how long should the phase-in take? Alternatively, could the phase-in of the smaller sources proceed by setting up periodic EPA evaluations of the administrative necessity for deferring applicability for such sources, and applying PSD only after we determine that it is feasible to do so? We also ask for comment on what activities occurring over this time we should consider in structuring a phase-in.

As noted elsewhere, in its broad review of the initial PSD program promulgated under the 1977 Clean Air Act Amendments, the D.C. Circuit set out a range of mechanisms through which an agency can, at least under "limited" circumstances, provide relief on grounds of "administrative necessity" from even clear statutory mandates, as long as those mandates do not unambiguously foreclose such relief. *Alabama Power*, 636 F.2d at 357. The Court noted that an agency could establish the need for such relief based on "a shortage of funds[,] * * * time, or * * * technical personnel." *Id.* at 358.

As described above, the large number of sources that would become subject to the PSD requirements at the 100/250 tpy levels would strain the administrative resources of the State permitting authorities and perhaps also of the EPA regional offices that issue PSD permits. Each of the constraints noted by the Court in *Alabama Power*—funds, time, and technical personnel—would arise.

Elsewhere in this notice, we solicit comment on whether "administrative necessity" authorizes EPA to exempt categories of smaller GHG emitters. Here, we solicit comment on phasing-in the applicability of the permit program over a multi-year period, with successively smaller sources becoming subject. This method could allow an orderly ramp-up in funding and in essential human capital. Under such an approach, we also seek comment on whether it would be necessary to set a firm schedule for phase-in, or whether it is sufficient for the agency to select a future date to assess the level of program coverage and the associated administrative burden, and determine at that time whether it is appropriate to add them to the program, and if not, to set an additional future date to revisit the issue. We request information that would help us determine the appropriate timeframe for such assessments, including the current and anticipated state resources for processing PSD permits, including numbers of permitting personnel, and the time period and person-hours needed to issue a typical permit.

d. Streamlining Determinations of Required Controls

As previously noted, one of the most significant aspects of the PSD program ***44508** for GHGs is the BACT requirement. While permitting authorities are accustomed to making BACT determinations on a case-by-case basis for major sources and modifications under the current PSD program, BACT for GHGs (particularly CO2) presents significant additional permitting challenges. The primary challenge is the dramatic increase in the number of sources and modifications that under the 100/250-ton thresholds would be subject to BACT review and the new source categories that would be brought into the PSD program, which could exceed the capacity of the permitting system and have negative effects described above in section VII.D.4. An additional challenge stems from the fact that for some GHG-emitting activities, primarily CO2 from combustion sources, permitting authorities will need to look at alternative approaches to determining BACT such as setting efficiency targets, if add-on controls are not viewed as adequately demonstrated. While there is much information available on efficiency for some of the various kinds of equipment used by these newly applicable sources, permit engineers will need to understand this information for a very wide range of source categories.

This section seeks comment on approaches for streamlining the BACT process for many new smaller sources that could be brought into the PSD program based on their GHG emissions. Under PSD, BACT is a case-by-case decision that reflects the state-of-the-art demonstrated control technology at the time of the permit action. Thus, BACT changes over time and requires continual updating. Determining BACT is also a decision that affords permitting authorities flexibility to consider a range of case-specific factors such as cost, energy, and environmental impacts. However, full case-by-case consideration of those factors requires significant data and analysis in order for permitting authorities to arrive at a permitting decision that is appropriate for each individual source or modification

EPA is interested in whether there would be ways to move from a PSD permit system in which BACT limits are set on an individual case-by-case basis to a system in which BACT determinations could be made for common types of equipment and sources, and those determinations could be applied to individual permits with little to no additional tailoring or analysis. EPA has previously introduced this concept, known as "presumptive BACT," as an aid to streamlining permitting for desulfurization projects at refineries as well as in other instances,[278] and some state permitting authorities have adopted similar approaches in their air permitting programs.[279] Based on our understanding of the types of sources that will become subject to PSD if GHGs are regulated with a major source size of 250 tpy of emissions, we believe the presumptive BACT process could offer significant streamlining benefits. These benefits arise because many of these smaller sources will likely have very similar emissions producing equipment, and there will be little variation across sources with respect to the cost, energy, and environmental considerations in the BACT decision.

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[278] See January 19, 2001 memo from John S. Seitz, Director, Office of Air Quality Planning and Standards to the Regional Air Division Directors entitled, "BACT and LAER for Emissions of Nitrogen Oxides and Volatile Organic Compounds at Tier 2/Gasoline Sulfur Refinery Projects."

[279] For example, Wyoming has a minor source permitting program that includes a BACT analysis, and they use a presumptive BACT process for issuing minor source permits to a particular source category—oil and gas production facilities. See Permitting Guidance for Oil and Gas Production Facilities, Wyoming Dept. of Environmental Quality, Air Quality Division (August 2007 revision).

While the CAA states that PSD permits shall be issued with BACT determinations made for each pollutant on a "case-by-case basis," the court in *Alabama Power* recognized that exceptions may be appropriate where "*case-by-case determinations*, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress." 636 F.2d at 358 (emphasis added). The court recognized that such streamlining measures may be needed when time or personnel constraints or other practical considerations "would make it impossible for the agency to carry out its mandate." See *id.* at 359. Given the more-than-tenfold increase in new sources that would likely be brought into the PSD program once GHGs are regulated and the other challenges described above, maintaining a traditional PSD permitting program with individual case-by-case BACT determinations may be impractical, warranting streamlined regulatory approaches as allowed under the Act. A presumptive BACT permitting program would allow EPA, state and local permitting authorities to carry out the PSD program in a timely and efficient manner necessary to promote (rather than hinder) control of GHG emissions from the many new, small source categories that would be required to have PSD permits based on their GHG emissions, while still preserving opportunities for public participation.

In considering a change from case-by-case BACT determinations to a presumptive BACT process for some specific source categories within the PSD program, EPA is considering how such presumptive BACT limits should be established and used, and what provisions in the CAA would set requirements or limits on their establishment and use. In particular, EPA recognizes the statutory requirement to set BACT limits on a case-by-case basis after taking into account site-specific energy, economic, and environmental impacts (otherwise known as collateral impacts). One option would be to allow permitting authorities to adjust any BACT limit that was based on presumptive BACT, as necessary, upon identifying significant collateral impacts applicable to a specific source. EPA also recognizes the requirement to subject proposed PSD permits, and the BACT limits contained within them, to public notice and comment before such permits become final. A presumptive BACT program could be designed to establish presumptive emissions limits for a particular category of sources through guidance that would be issued only after public notice and comment procedures. Another approach could be to allow presumptive BACT limits in each permit to become final only if public comments fail to establish that significant case-specific energy, economic, and/or environmental impacts require adjustment of the presumed limit for that particular source.

In addition, while case-by-case BACT determinations allow for the continual evolution of BACT requirements over time (as controls applied in prior permits are considered in each subsequent case-by-case BACT determination), EPA recognizes that application of presumptive BACT to a category of sources over many permitting decisions may somewhat diminish PSD's incentives for improved technology. EPA is interested in options that would help maintain advances in control technologies, such as a requirement to update and/or strengthen the presumptive BACT at set intervals (such as after 3 years). EPA seeks comment on all aspects of the use of presumptive BACT limits within the PSD program, including EPA's authority to do so, whether there is need for and value to such an approach, and suggestions for how such limits could be established, updated, and used consistent with the requirements of the CAA.

***44509** The central component of a presumptive BACT approach would be the recurring technical determination, subject to notice and comment, of the presumptive BACT levels for various categories. Because of the limited data we currently have about the number and types of sources that would become subject to the BACT requirement for GHGs, we cannot at this time predict how many or which source categories might benefit from such an approach if we opt to pursue it. We seek comment on the basis we could use in setting the presumptive BACT level. Considerable work will be needed to determine what options exist for controlling GHG emissions from these categories of smaller sources and the various emitting equipment they use. Even if a determination is made that add-on controls for CO_2 from combustion sources are adequately demonstrated, it is unlikely that the application of these controls would be cost-effective at these small sources in the relatively near future. Thus the focus of presumptive BACT for CO_2 would likely be on energy efficiency standards for the installed equipment.

While PSD permitting staff generally would not possess specialized knowledge in the area of energy efficiency for categories of small sources, there is experience within EPA and other agencies that could help inform the establishment of presumptive BACT. Both EPA and DOE, for example, have extensive experience in deploying cost effective technologies and practices to reduce greenhouse gases from a wide range of emissions sources in support of the President's GHG intensity goal. For example the Energy Star program promotes efficient technologies through a labeling program that establishes performance-based specifications for determining the most efficient products in a particular category, which then qualify for the Energy Star label. To develop these specifications, EPA and DOE use a systematic process that relies on rigorous market, engineering, and pollution savings analyses as well as input from stakeholders. While Energy Star specifications generally cover electrical appliances or fuel combusting appliances that would be smaller than those triggering the BACT requirement, the types of analyses conducted for Energy Star could inform the presumptive BACT process. In addition, DOE's Energy Efficiency and Renewable Energy program sets standards for several types of equipment, some of which may be affected by the BACT requirement if GHGs are regulated, including furnaces, boilers, and water heaters. The DOE standards are similar to the concept of presumptive BACT in that they take cost into consideration and are updated over time.[280] They also take into account effects on competitiveness among equipment manufacturers, which could be a significant concern if left unaddressed in determining presumptive BACT. We ask for comment on whether these or other similar programs could serve as a basis for the setting of presumptive BACT where applicable.

Regarding LAER, we note that, as previously discussed, if a NAAQS were established for GHG at levels lower than current concentrations, the relevant technology requirement would be LAER, not BACT. We ask for comment on whether the presumptive BACT approach would have utility for LAER and whether the particular statutory language of the LAER requirement would allow a presumptive approach under the same legal principles laid out for BACT.

Finally, while presumptive BACT or LAER may have the potential to help address the problem of numerous small but similar types of sources, it is likely of less value in making BACT or LAER determinations at the types of large sources that have generally been subject to PSD for traditional pollutants. This is because there is generally less similarity among these traditional sources. Nonetheless, as noted above, there may be numerous modifications that will be newly subject to PSD for GHGs at such sources, and there may also be issues unique to establishing control technology requirements for GHGs that do not presently exist for such sources. We ask for comment on whether there are issues at traditional

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[280] See, e.g., 42 U.S.C. 6295(o).

PSD major sources that arise for GHGs and that would not be addressed by a presumptive BACT approach. If so, we ask for comment on additional options for tailoring the BACT requirement to address these issues.

e. General Permits for Streamlined Permitting of Numerous Similar Sources

An approach closely linked with the presumptive BACT concept is the concept of a general permit for PSD. A general permit is a permit that the permitting authority drafts one time, and then applies essentially identically (except for some source specific identifying information) to each source of the appropriate type that requests coverage under the general permit. Congress expressly codified the concept of general permits when it enacted the Title V program (discussed below) and states have been using general permits and similar process for years in their own permit programs, particularly for minor source NSR[281] and operating permits. Due to the case-by-case nature of PSD permitting for "traditional" major sources and the differences among individual PSD sources, there has not been much interest or activity in general permitting for PSD. However, if one or more GHGs (particularly CO_2) become regulated pollutants, this approach merits strong consideration due to the large number of sources that EPA expects will become newly subject to PSD for their GHG emissions and the similar characteristics of many of these sources.

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[281] The minor NSR is a NAAQS-based program for review of minor sources that is distinct from the PSD program. It is not discussed here.

Although there is no provision in the CAA that expressly authorizes the use of general permits in the PSD program, the D.C. Circuit, in the *Alabama Power* case described above, recognized that "[c]onsiderations of administrative necessity may be a basis for finding implied authority for an administrative approach not explicitly provided in the statute" and expressly identified general permits as an alternative to the exemptions that were at issue in that case. *See* 636 F.2d at 360. Further, courts have recognized EPA's authority to use general permits under section 402 of the Clean Water Act without an express provision authorizing such general permits. *Environmental Defense Center* v. *EPA*, 344 F.3d 832, 853 (9th Cir. 2003) ("General permitting has long been recognized as a lawful means of authorizing discharges.") (citing *NRDC*. v. *Costle*., 568 F.2d 1369, 1381 (D.C. Cir. 1977)); *NRDC* v. *Train*., 396 F. Supp. 1393, 1402 (D.D.C. 1975) (EPA has "substantial discretion to use administrative devices, such as area permits, to make EPA's burden manageable.").

In considering the use of general permits within the PSD program, EPA is considering how such general permits would be established and used, and what provisions in the CAA might limit their establishment and use. One consideration in establishing PSD general permits is the requirement in CAA section 165(a)(2) that permits be issued after "a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations."One possible approach for fulfilling the public participation requirement is the approach followed for Title V general ***44510** permits in 40 CFR 70.6(d), which provide that permitting authorities may establish general permits after following notice and comment procedures required under 40 CFR 70.7(h) and then grant a source's request to operate under a general permit without repeating the public participation procedures. Other considerations for establishing general permits under the PSD program include determining BACT on a case-by-case basis (as discussed in the previous section), and the other requirements referred to earlier in this section concerning the evaluation of impacts on AQRVs in Class I areas and the analysis of air quality and other potential impacts under CAA section 165(e).

EPA seeks comment on the use of general permits within the PSD program, including both EPA's authority to do so and suggestions for how general permits would be established and used consistent with the requirements of the CAA and identification of source categories that could benefit from such an approach. We also ask for comment on whether a general permit program approach could also work for nonattainment NSR in the event the EPA promulgates a NAAQS for GHGs and designates areas as nonattainment.

f. Coordinating Timing of PSD Streamlining With GHG Regulation Under the Act

Regardless of how EPA might tailor the NSR program for GHGs, the timing of these approaches must be coordinated with other GHG actions under the CAA. As described above, the applicability of PSD is tied to whether a pollutant is subject to a control program under the Act. EPA strongly believes that we should be prepared the first time we regulate one or more GHGs under any part of the CAA to explain our approach to permitting, including full consideration of the ideas presented above for responding to the PSD implementation challenges. Coordination of the timing of tailoring strategies for PSD or nonattainment NSR to match with the effective date of the first GHG regulation is necessary to minimize confusion on the part of sources, permitting authorities, and the public, to provide for as effective a transition as possible, and to ensure that the strategies intended to avoid problems can be in place in time to prevent those problems. We seek comment on timing issues in general, and particularly on the coordination of the timing of permitting requirements with the timing of GHG regulation under other parts of the Act.

F. Title V Operating Permits Program

1. What Are the Clean Air Act Requirements Describing the Operating Permits Program?

The Title V operating permits program was enacted in 1990 to improve sources' compliance with the requirements of the CAA.[282] In summary, it provides for facility operating permits that consolidate all Act requirements into a single document, provides for review of these documents by EPA, States, and the public, and requires permit holders to track, report, and certify annually to their compliance status with respect to their permit requirements. Through these measures, it is more likely that compliance status will be known, any noncompliance will be discovered and corrected, and emissions reductions will result. Title V generally does not add new substantive requirements for pollution control, but it does require that each permit contain all a facility's "applicable requirements" under the Act, and that certain procedural requirements be followed, especially with respect to compliance with these requirements. "Applicable requirements" for Title V purposes generally include all stationary source requirements, but mobile source requirements are excluded.

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[282] The operating permits program requirements are contained in title V of the CAA, and are codified in EPA regulations at 40 CFR parts 70 and 71.

Presently there are generally not any applicable requirements for control of GHGs that would be included in Title V permits, but regulation of GHGs under any of the approaches described above, including PSD, could give rise to applicable requirements that would be included. Even if a particular source emitting 100 tpy of a GHG is not subject to GHG regulations that are "applicable requirements," under a literal reading of Title V, the Title V permit for that source must include any other applicable requirements for other pollutants. For example, while a 100 tpy CO_2 source would usually have relatively small criteria pollutant emissions that would not by themselves have subjected the source to title V, once subjected to title V for CO_2 emissions, the source would then need to include any SIP rules (e.g., generally applicable opacity limitations that exist in several SIPs) that apply to the source.

When a source becomes subject to Title V, it must apply for a permit within one year of the date it became subject.[283] The application must include identifying information, description of emissions and other information necessary to determine applicability of CAA requirements, identification and certification of the source's compliance status with these requirements (including a schedule to come into compliance for any requirements for which the source is currently out of compliance), a statement of the methods for determining compliance, and other information. The permitting authority then uses this information to issue the source a permit to operate, as appropriate. A Title V source may not operate without a permit, except that if it has submitted a complete application, it can operate under an "application shield" while awaiting issuance of its permit.

Title V permits must contain the following main elements: (1) Emissions standards to assure compliance with all applicable requirements; (2) a duration of no more than 5 years, after which the permit must be renewed; (3) monitoring, recordkeeping, and reporting requirements necessary to assure compliance, including a semiannual report of all required monitoring and a prompt report of each deviation from a permit term; (4) provisions for payment of permit fees as established by the permitting authority such that total fees collected are adequate to cover the costs of running the program; and (5) a requirement for an annual compliance certification by a responsible official at the source. An additional specific monitoring requirement, compliance assurance monitoring (CAM), also applies to some emissions units operating at major sources with Title V permits.[284] The CAM rule requires source owners to design and conduct monitoring of the operation of add-on control devices used to control emissions from moderately large emissions units. Source owners use the monitoring data to evaluate, verify, and certify the compliance status for applicable emissions limits.[285] The CAM rule is implemented in conjunction with the schedule of the operating permits program.

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[283] The deadline may be earlier if the permitting authority (usually an approved state or local air pollution control agency, but in some cases the EPA) sets an earlier date.

While these are the main elements relevant to a discussion of GHGs, there are numerous other permit content requirements and optional elements, as set forth in the Title V implementing regulations at 40 CFR 70.6. One of these ***44511** optional elements is of particular interest when considering the implications of GHG permitting: The provisions for general permits, which, as discussed in more detail below, can allow for more streamlined permitting of numerous similar sources.

In addition to the permit content requirements, there are procedural requirements that the permitting authority must follow in issuing Title V permits, including (1) determining and notifying the applicant that its application is complete; (2) public notice and a 30-day public comment period on the draft permit, as well as the opportunity for a public hearing; (3) notice to EPA and affected states, and (4) preparing and providing to anyone who requests it a statement of the legal and factual basis of the draft permit. The permitting authority must take final action on permit applications within 18 months of receipt. EPA also has 45 days from receipt of a proposed permit to object to its issuance, and citizens have 60 days to petition EPA to object. Permits may also need to be revised or reopened if new requirements come into effect or if the source makes changes that conflict with, or necessitate changes to, the current permit. Permit revisions and reopenings follow procedural requirements which vary depending on the nature of the necessary changes to the permit.

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[284] Specifically, CAM applies to units with add-on control devices whose pre-control emissions exceed the applicable major source threshold for the regulated pollutant.

[285] CAM requirements are codified in 40 CFR part 64.

2. What Sources Would Be Affected If GHGs Were Regulated Under Title V?

Title V requires permitting for several types of sources subject to CAA requirements including all sources that are required to have PSD permits. However, it also applies to all sources that emit or have the potential to emit 100 tpy of an air pollutant.[286] As discussed above for the PSD program, the addition of GHG sources to the program would trigger permitting requirements for numerous sources that are not currently subject to Title V because their emissions of other pollutants are too small. The Title V cutoff would bring in even more sources than PSD because the 100 tpy (rather than 250 tpy) cutoff applies to all source categories, not just the ones specified in the Act's PSD provisions.

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[286] Other sources required to obtain Title V permits are "affected sources" under the acid rain program, and sources subject to NSPS or MACT standards (though non-major sources under these programs can be exempted by rule). It does not apply to mobile sources.

Using available data, which we acknowledge are limited, and engineering judgment in a manner similar to what was done for PSD, EPA estimates that more than 550,000 additional sources would require Title V permits, as compared to the current universe of about 15,000-16,000 Title V sources. If actually implemented, this would be more than a tenfold increase, and many of the newly subject sources would be in categories not traditionally regulated by Title V, such as large residential and commercial buildings. However, as described below, EPA believes that, if appropriate, there may be grounds to exclude most of these sources from Title V coverage, either temporarily or permanently, under legal theories similar to those for PSD.

The CAM requirement also applies to major sources that require Title V permits, meaning that a number of smaller sources are potentially newly subject to CAM as well. Under the current CAM requirements, applicability is limited to the monitoring of add-on control devices (e.g., scrubbers, ESPs). Presently there are few known add-on control devices for CO_2, and for many smaller sources, it is unlikely that there will be cost effective add-on controls for CO_2 for many years. Thus, we generally expect source owners to comply with any applicable GHG limits through the use of improved energy efficiency and other process operational changes rather than the use of add-on emissions reduction devices. As a result, even with the large number of sources that will exceed the applicability cutoffs, the CAM rule will have very limited application for sources subject to GHG rules. We ask for comment on this assessment of CAM applicability, and whether there may be CAM impacts that we have not described here.

As an additional note, if GHGs were regulated under section 112 authority, Title V could apply at an even smaller threshold. This consideration adds to the list of difficulties with using section 112 to regulate GHGs that were identified in section VII.C. Although HAPs are excluded from the definition of "regulated NSR pollutant," Title V explicitly includes major sources as defined in section 112 on the list of sources required to obtain an operating permit. While minor sources of HAP can be excluded by rule, major sources of HAP cannot. For HAPs, the major source cutoffs are (as noted previously) 25 tons for any combination of HAPs, and 10 tons for any single HAP. Thus, if GHGs were regulated as HAPs, a 10 ton CO_2 source would require an operating permit under Title V. Under this approach, the number of new Title V sources would easily number in the millions absent a means to limit PTE. In addition the major source definition under section 112 does not exclude fugitive emissions, as it does under PSD for unlisted categories. Thus, if GHGs were designated as HAPs, an uncertain number of additional new kinds of sources (e.g., agriculture, mining), would become newly subject to Title V due to fugitive emissions of GHGs. We ask for comment on whether there are factors EPA should consider in its description of the universe of potentially affected sources.

3. What Are the Key Milestones and Implementation Timeline if Title V Were Applicable for GHGs?

Under an interpretation of the Act parallel to that for PSD, Title V would become applicable for GHGs as soon as GHGs become subject to any actual control requirement. This timing is perhaps even more important for Title V than for PSD because of the potential for an extremely large number of new sources (unless EPA administratively reduced coverage) combined with the fact that Title V applications would all be due at the same time (unless a phase-in approach were adopted). This is because Title V requires permit applications within one year of a source becoming subject to the program, in contrast to the PSD program, where permitting authorities would receive applications over time as sources construct or modify.

Permitting authorities generally must act on Title V applications within 18 months. However, Congress addressed the burden imposed by the initial influx of (what turned out to be less than 20,000) initial Title V permits when it enacted Title V in 1990 by providing for a 3-year phased permit issuance timeline. Although the initial phase-in period is over, we discuss below the possibility of interpreting Title V provisions to authorize a phase-in period for GHG sources becoming newly subject to Title V as well. We ask for comment on whether there are factors EPA should consider in its description of these timelines.

4. What Are Possible Cost and Emission Impacts of Title V for GHGs?

Title V generally does not impose additional applicable requirements on a source. However, sources, permitting authorities, EPA, and the public (to the extent that they participate in the permitting process) all may incur administrative burden due to numerous activities associated with applying for, reviewing, commenting on, and complying with Title V permits. There are significant challenges that would arise if GHG sources become subject to Title V. The sheer volume of new permits would heavily strain the ***44512** resources of state and local Title V programs. These programs may have to tailor their fee requirements or other program elements to address the strain caused by the influx of numerous smaller sources, even if the permits for each individual source are relatively straightforward. Many new types of sources would need to understand and comply with a new and unfamiliar program. Even under streamlined approaches like general permits (discussed below), there would be administrative burden imposed as sources would have to determine whether they are covered and, if so, would need to submit annual reports and certifications. EPA would see additional burden as well, both because we are the permitting authority in some areas and because we would probably see an increase in the number of Title V petitions. Because Title V does not create new applicable requirements, the new costs of Title V would be mainly attributable to administrative burden. Nonetheless, this overall administrative burden is likely to be unreasonable unless EPA reduces the number of covered sources as discussed below.

Title V of the CAA also contains a self-funding mechanism requiring that permitting authorities collect permit fees adequate to support the costs of running a Title V program. Title V fees must be used solely to run the permit program. For GHGs, the possibility of a huge influx of smaller sources raises questions about how permitting authorities should adjust their fee schedules to ensure that they have adequate resources to permit these sources without causing undue financial hardship to the sources. The most common approach, a cost per ton fee that is equal for all pollutants, would likely result in excessive costs to GHG-emitting sources because of the large mass emissions of GHGs compared to other pollutants. This is particularly true for the universe of small sources brought into Title V solely for their GHG emissions, because those permits are expected to be relatively simple and may even be addressed through general permits (which would not require as many resources or as high a fee). Although it may be permissible for permitting authorities to adopt lower fees specifically for GHGs, they would have to assess the new resources needed for permitting these sources and determine some basis for an appropriate fee and a workable mechanism for collecting it.

As noted above, the benefits of Title V stem primarily from the way its various provisions contribute to improved compliance with CAA requirements. However, for the particular sources that would be added to the program solely due to their GHG emissions, it is unclear whether there would be much benefit from these provisions given the small size of most of these new sources, the uniform design and operation of many of their emissions points, the anticipated lack of add-on control devices, and the relatively small number of applicable requirements that would be included in the permit. We ask for comment on the expected overall costs and benefits of running a Title V program for small GHG sources and for larger GHG sources (*e.g.*, those emitting more than 10,000 tons per year).

5. What Possible Implications Would Use of This Authority for GHGs Have for Other CAA Programs?

Because Title V is designed to work in concert with other CAA requirements and is self-funding, we have not identified any impacts it would have on other programs.

6. What Are Possible Tailoring Approaches To Address Administrative Concerns for Title V for GHGs?

As we did in section VII.D regarding NSR, we present here for comment some possible tailoring options to address concerns about implementing Title V for GHGs. As was previously noted for NSR, we must consider how the Act's language may constrain these options. Nonetheless, we see at least two possible legal theories for reducing administrative concerns through limiting the scope of coverage of Title V that would otherwise result from regulating GHGs. First, case law indicates that in rare cases, the courts will interpret or apply statutory provisions in a manner other than what is indicated by their plain meaning. Courts will do so when Congress's intent differs from the plain meaning, as indicated by other statutory provisions, legislative history, or the absurd, futile, strange, or indeterminate results produced by literal application. Second, the administrative burden of literal application of the Title V provisions may also provide a basis for EPA, based on the judicial doctrine of administrative necessity, to craft relief in the form of narrowed source coverage, exemptions, streamlined approaches or procedures, or a delay of deadlines. Some specific options are discussed in the remainder of this section, and we invite comment on these and other suggested approaches.

a. Potential for Higher Major Source Cutoffs

As discussed above in section VII.A.5, Title V applies to several types of sources under the Act, including, among others, all PSD sources, as well as 100 tpy sources that are not subject to PSD. In section VII.D, we described the reasons why a higher major source cutoff for PSD might make sense to improve the effectiveness of the program by focusing resources away from numerous small sources for which the environmental benefits gained from permitting may not justify the associated administrative burdens. We believe such an approach might be even more important for Title V because many small sources that could become subject to the program solely because of their GHG emissions may have few or no applicable requirements. Unless GHG emissions from these small sources are regulated elsewhere under the Act, the only GHG-related applicable requirements for these sources would come from PSD permitting. Thus, if EPA adopts a higher major source size for PSD, it would arguably be incongruous to require 100 tpy GHG sources to obtain permits under Title V. In that case, adopting a higher applicability threshold for GHGs under Title V in parallel with, and at the same level as for PSD, would make even more sense. Similarly, if EPA were to regulate GHGs for certain source categories under CAA section 111 or 112, and were to include size cutoffs in those regulations, then it could make sense for the size-cutoffs for Title V purposes to reflect the cutoffs for those source categories under those regulations. Indeed, it could make sense to apply Title V only to those sources of GHGs that are themselves subject to regulation for GHG emissions.

We have found several indications of congressional intent that could serve as a basis for interpreting the Title V applicability provisions to implement the above-described size-cutoffs or other limitations, instead of interpreting them literally. First, other provisions in Title V and the legislative history indicate that the purpose of Title V is to promote compliance and facilitate enforcement by gathering into one document the requirements that apply to a particular source. See section 504(a) (each Title V permit must contain terms "necessary to assure compliance with applicable requirements" of the CAA), H.R. Rep. No. 101-490, at 351 (1990) ("It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable ***44513** to the source."). Limiting the applicability of Title V to sources that emit GHGs in the same quantity as sources that would be subject to GHG limits under PSD (or other CAA requirements) for GHGs—and excluding sources that emit GHGs in lower quantities and therefore are not subject to CAA requirements for GHGs—would be consistent with that purpose. Second, the legislative history of Title V indicates that Congress expected the provisions to apply to a much smaller set of sources than would become subject at 100 tpy GHG levels. *See* S. Rep. 101-228, at 353 ("[T]he additional workload in managing the air pollution permit system is estimated to be roughly comparable to the burden that States and EPA have successfully managed under the Clean Water Act[,]" under which "some 70,000 sources receive permits, including more than 16,000 major sources").

We ask for comment on whether we should consider higher GHG applicability cutoffs for Title V, what the appropriate cutoffs might be, and whether there are additional policy reasons and legal justifications for doing so or concerns about such an approach.

b. Potential for Phase-In of Title V Requirements

Due to the severe administrative burden that would result if hundreds of thousands of sources were all to become subject to Title V at the same time, as could be the case if EPA regulates GHGs elsewhere under the Act, and because many of the sources could become subject before the development of any stationary source controls for GHGs, it may make sense to defer Title V applicability for GHG sources that are subject to Title V solely due to GHG emissions. One deferral approach would be to defer Title V for such sources until such time as they become subject to applicable requirements for GHGs. Alternatively, it may make sense to phase in Title V applicability with the largest sources applying soonest, similar to what was discussed above for PSD permitting.

Legal support for some type of deferral may be found in the case law, described above, that identifies deferral as one of the tools in the "administrative necessity" toolbox. In the case of Title V, deferral may find further legal support by reference to provisions of Title V itself: Congress addressed the burden imposed by the initial influx of tens of thousands of Title V permits when it originally enacted Title V in 1990 by providing for a 3-year phased permit issuance timeline.[287] A similar phased approach may have even greater merit here due to the even greater number of permits. We ask for comment on the legal and policy arguments for or against a phase-in approach, and request suggestions for workable permit application and issuance timelines for Title V permits for small GHG sources.

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[287] CAA section 503(c).

c. General Permits

The use of general permits is an additional option for addressing the potentially large numbers of GHG sources that could become subject to Title V. While general permits would not completely eliminate the resource burden, and may not work for every type of source, they clearly offer an option for meeting the Title V requirements in a more efficient way. Congress expressly provided for general permits for Title V and many states have experience issuing them. They appear to be a good fit for the numerous similar small sources we are primarily concerned about. Nonetheless, we still expect that the sheer volume of sources and number of different types of sources affected will present challenges. Further, any Title V general permit must comply with all requirements applicable to permits under Title V, and no source covered by a general permit may be relieved from the obligation to file a permit application under section 503 of the Act. We seek comment on whether source characteristics and applicable requirements are similar enough for a general permit approach to be helpful, for what categories it would provide the greatest benefit, and the degree to which it would or would not ease the expected difficulties with implementing a GHG Title V program.

d. Fees

Title V contains a self-funding mechanism requiring that permitting authorities collect permit fees adequate to support the costs of running a Title V program. Title V fees must be used solely to run the permit program. For GHGs, the possibility of a huge influx of new sources raises questions about how permitting authorities should adjust their fee schedules to ensure that they have adequate resources to permit these sources. Title V provides significant flexibility to permitting authorities in setting their fee schedules so long as they can demonstrate that fees are adequate to cover all reasonable costs required to develop and administer the Title V program requirements.[288] The additional resource burden imposed by GHG sources will depend heavily on what approaches EPA and states ultimately adopt for tailoring the program for these sources, but EPA does expect that some additional resources will be necessary under virtually any scenario.

Most states charge Title V fees on a dollar/ton basis, and actual amounts vary from state to state. For 2008, EPA charges $43.40 per ton, but only for regulated pollutants for the fee calculation (which generally includes all regulated pollutants but excludes carbon monoxide and some other pollutants). Because of the large mass emissions of GHGs and especially of CO_2 compared to other pollutants, if EPA and states charge fees for GHG emissions based on cost/ton numbers for criteria pollutants or HAPs, we expect that the fee revenues would be grossly excessive for what is needed to process permits for GHG sources. This is particularly true for the universe of small sources brought into Title V solely for their GHG emissions because those permits are expected to be relatively simple and may be addressed through general permits. Therefore we believe that it is appropriate for permitting authorities to consider other available options for covering their GHG source permitting costs, including: substantially lower cost per ton fees for GHGs, fixed fees (e.g., one time or annual processing fee that is the same for all applicants below a certain size), and/or charging no fees for smaller GHG sources. We ask for comment on these and other suggestions for permitting authorities to use on structuring their fee provisions. We also request comment on the expected resource burden resulting from new GHG permitting, and how EPA should determine the adequacy of fees. EPA rules contain an optional method for permitting authorities to use in calculating a presumptively adequate fee. These regulations do not include GHGs as a regulated pollutant for this calculation but could in the future if GHGs were regulated under certain parts of the Act. For permitting authorities that still use this presumptive calculation, we ask for comment on whether, for the reasons described above, EPA should specifically exclude GHGs from this calculation or address it in a different manner. Finally, because EPA itself is the permitting authority for some sources, we are also interested in comments on whether and how EPA should change its fee structure in its part 71 permitting regulations to meet ***44514** its own increased resource needs from GHG permitting.[289]

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[288] See CAA section 502(b)(3), which also lists specific activities whose costs must be covered.

e. Coordinating Timing With Other Actions

Like PSD, the timing of any approach to streamline Title V must be coordinated with other GHG actions under the CAA. We believe that any EPA determination about the applicability of the Title V program to GHGs should be accompanied by an explanation of how EPA plans to address—and how we recommend that State and local permitting authorities address—the numerous implementation challenges such a determination would pose. This timing is perhaps even more important for Title V than for PSD because of the potential for an extremely large number of new sources and the fact that Title V applications would (unless a phase-in approach is adopted) all be due at the same time, whereas PSD applications would come in over time as sources construct or modify. We seek comment on timing issues in general, and particularly on the coordination of the timing of Title V applicability with the timing of GHG regulation under other parts of the Act.

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[289] Technically these increased resources would need to be provided to EPA through increased appropriation, as the EPA fee revenues would go to the general treasury.

We specifically request comment on the timing of the applicability of Title V permit requirements in relation to the applicability of GHG control requirements. Consider the scenario where EPA issues a rule regulating GHGs from mobile sources, and then issues a series of rules regulating GHGs from categories of stationary sources. One possible interpretation of the Act and EPA's regulations is that the mobile source rule would trigger the applicability of Title V, at which point the hundreds of thousands of 100-ton and above sources would become subject toTtitle V and would have one year to apply for Title V permits. Generally, however, these permits would initially contain no applicable requirements for control of GHGs (mobile source requirements are not included in Title V permits), and would likely contain no applicable requirements for other pollutants, or only some generally applicable SIP rules that apply to sources which had previously not needed Title V permits. We have discussed the challenges of issuing even these minimal permits in such large numbers. However, as EPA proceeded to issue stationary source rules, each permit with three or more years remaining on its term would, under current rules, have to be reopened within 18 months of promulgation of each new rule to incorporate any applicable requirements from the new rule that would apply to the permitee. For permits with less than 3 years remaining, the applicable requirements would be incorporated at permit renewal. This scenario would result in duplicative effort as permitting authorities issued hundreds of thousands of minimal Title V permits with no GHG requirements, followed by a period of numerous reopenings for some GHG source categories, while the requirements for other GHG source categories would remain off-permit until renewal, at which point they would need to be included in the renewal permit. We ask for comment on how best to tailor the options above to minimize duplicative effort and maximize administrative efficiency in light of these timing concerns, and on whether additional options may be needed.

G. Alternative Designs for Market-Oriented Regulatory Mechanisms for Stationary Sources

EPA believes that market-oriented regulatory approaches merit consideration under section 111 or other CAA authorities for regulating stationary source emissions, along with other forms of regulation. Economic efficiency advantages of market-oriented approaches that have the effect of establishing a price for emissions were discussed in section III. This section discusses four types of market-oriented approaches:

- A cap-and-trade program, which caps total emissions from covered sources, providing certainty regarding their future emission levels, but not their costs.

- A rate-based emission credit program (also called a tradable performance standard), which imposes an average mass-based emission rate across covered sources but does not cap total emissions, so emissions could rise with increased production.
- An emissions fee, which sets a price for emissions but doesn't limit total emissions from covered sources.
- A hybrid approach, which could combine some attributes of a rate-based emissions trading system and some attributes of a tax. A variety of hybrid approaches are possible; the best-known is the combination of a cap-and-trade system with a "price ceiling." With a price ceiling, if the price of allowances exceeds a certain level, the government makes allowances available to the market at the ceiling price.

For a local pollutant, a regulatory approach that provides certainty concerning future emissions can provide a predictable level of protection, within modeling uncertainties. In the GHG context, certainty concerning the amount of emission reduction to be achieved by a U.S. program can make possible an estimated change in predicted warming, but does not provide certainty that the U.S. will achieve a desired level of climate protection. This is because GHGs are global pollutants and the level of climate protection provided depends on the actions of other countries as well as the U.S.

There is a robust debate about the respective merits of policies that provide price certainty, but not emissions certainty, and policies that provide emissions certainty, but not price certainty. A variety of cost-containment mechanisms have been proposed for GHG cap-and-trade systems; these mechanisms offer different tradeoffs between emissions certainty and price certainty.

EPA requests comment on the extent to which CAA legal authorities would accommodate each of these regulatory approaches. In the section 111 context, we note that these market-oriented approaches could be used in lieu of, or in addition to, other options including emission rate standards, technology-based standards, or work practices. With respect to section 111, EPA recognizes that these market-oriented approaches may differ in significant ways from the manner in which we have historically designed emission standards and required compliance with those standards. For this reason, we request comment on the extent to which each of these approaches could meet the statutory definition of a "standard of performance" and on what additional criteria or conditions could be considered to ensure that they do so. We also seek comment on how these options compare based on the policy design considerations listed in section III.F.1, including effectiveness of risk reduction, certainty and transparency of results, economic efficiency, incentives for technology development, and enforceability.

1. Emissions Cap-and-Trade

A cap-and-trade system limits GHG emissions by placing a cap on aggregate emissions from covered sources. Authorizations to emit, known as emissions allowances, are distributed to companies or other entities consistent with the level of the cap. Each allowance gives the holder an authorization to emit a fixed amount of ***44515** emissions (e.g., one ton) during a given compliance period. At the close of the compliance period, sources must surrender allowances equal to their emissions during that period. Such a system does not impose limits on emissions from individual sources; rather, it caps emissions across a group of sources (e.g., an industry sector) and allows entities to buy and sell those allowances with few restrictions. Key features of a well-designed cap-and-trade program include accurate tracking and reporting of all emissions, compliance flexibility, and certainty (provided by the cap) in achieving emission reductions. While the cap provides certainty in future emissions, cap-and-trade does not provide certainty of the price, which is determined by the market (price uncertainty diminishes as certainty regarding control costs increases).

EPA has previously authorized emissions trading under section 111. For instance, EPA promulgated standards of performance for new and existing electric utility steam generating units on May 18, 2005 (70 FR 28606), establishing a mercury emissions cap-and-trade program for coal-fired electric generating units that states could use to meet their section 111 obligations to control mercury for coal-fired electric generating units. While the court subsequently vacated this action, the ruling did not address the legality of trading under section 111.

If EPA designed a cap-and-trade program that could cover certain source categories covered by section 111, such a program could be modeled after similar trading programs the Agency has developed under sections 110 and 111 of the Act, such as the NOx Budget

Trading Program, the Clean Air Interstate Rule NO_X and SO_2 Trading Programs, and the Clean Air Mercury Rule Trading Program. Under this model, EPA would establish appropriate state GHG emissions budgets covering emissions of GHG for each covered source category. EPA would establish consistent rules related to subjects such as monitoring, applicability and timing of allocations that states would be required to meet. EPA would develop and administer a GHG allowance tracking system, similar to tracking systems the Agency administers for SO_2, and NO_X. EPA would determine provisions for monitoring, reporting, and enforcement. If states promulgated rules consistent with the requirements set forth by EPA, sources in their State could participate in the trading program. Alternatively, states could develop alternative regulatory mechanisms to meet the emissions budgets.

A key component of an emissions cap-and-trade program is the ability to accurately monitor emissions.[290] For many, but possibly not all, large stationary sources, there are methods to monitor CO_2 that may provide enough accuracy for a cap-and-trade program. Most large utility boilers are already required to monitor and report CO_2 emissions under the Acid Rain Program. Utility and industrial boilers are well suited to cap-and-trade; many participate in SO_2 and NO_X trading under the Acid Rain and NO_X SIP Call programs. At refineries, some emission sources could be well suited to cap-and-trade, while for others, accurate monitoring methods or other ways to track and verify emissions may not be available. More analysis is needed to determine availability of monitoring methods for all refinery emission sources. The cement industry is another that may be well suited to emissions cap-and-trade, since monitoring is available and a number of facilities currently participate in NO_X trading under the NO_X SIP Call. Cap-and-trade may not be an appropriate mechanism for the landfills, except for potential use of landfill gas projects for offsets. The quantity of landfill methane captured and combusted (*i.e.*, the emission reduction) can be measured directly; however, total emissions are difficult to measure.

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[290] While monitoring is important for determining compli,ance in all regulatory emission reduction approaches, in a cap-and-trade system monitoring is also important for functioning of the allowance market.

We request comments generally on the use of cap-and-trade programs for GHGs under section 111 and other CAA authorities, including design elements such as opportunities for sources to opt into such programs, inter-sector trading and offsets, allowance auctions, cost containment mechanisms, and conditions or safeguards to ensure that emission reduction goals are met and that local air quality is protected. Particular issues to consider include whether it be allowable under section 111 to develop a cap-and-trade program that covered multiple source categories or would each source category have to be covered under a source-category-specific cap-and-trade program. Another issue is whether it would be legally permissible to allow offsets (*i.e.*, obtaining emission reductions from sources outside of the capped sector) to meet the requirements of section 111.

2. Rate-Based Emissions Credit Program

A rate-based emissions credit program—also called a tradable credit standard or intensity target program—is an emissions trading mechanism. Unlike cap-and-trade, however, a rate-based credit program does not impose a cap on aggregate emissions from covered sources. Rather, a rate-based emissions credit program establishes a regulatory standard based on emissions intensity (*e.g.*, emissions per unit of input, emissions per unit of product produced, emissions per revenue/value-added generated). To the extent that a covered source has an emission rate below the regulatory intensity standard, the source generates credits that it can sell to sources with emission rates higher than the regulatory intensity standard. The price of credits would be determined by the market.[291] The regulatory intensity standard might be set below the recent average intensity for a given industry.[292] Once in place, the standard would determine the average emissions intensity (or rate) of the regulated industry.

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[291] Credits are generated by a source with emissions below the regulatory intensity (or rate). Credits are measured in a fixed unit of emissions, *e.g.*, a ton. A source that emits at an intensity higher than the regulatory intensity must surrender credits—purchased from a source with emissions below the regulatory intensity or other entity holding credits—equivalent to the difference between their actual emissions and the allowable emissions.

[292] The average intensity could be set using any of a number of metrics and baselines. For example, the metric might be tons of CO_2 emitted per ton of cement produced. The baseline year for calculating average intensity might be the same as the compliance year, *i.e.*, after the close of the compliance year, the average tons CO_2 emitted per ton of cement produced would be calculated across the industry and a source that produced with emissions above the average would need to buy credits while a source that produced with emissions below the average could sell credits. Alternatively, the average intensity could be based on a year prior to the initial compliance year.

Like a cap-and-trade approach, a rate-based trading approach can reduce the cost of reducing emissions from a group of sources, relative to the cost of requiring every source to reach the same emission rate. A drawback of the rate-based approach is that it provides an incentive to increase whatever is used in the denominator of the rate (*e.g.*, the output of a good or the amount of a particular input). Therefore, rate-based policies can encourage increased production because production can be rewarded with additional credits. This in turn has the potential to encourage increased emissions and thus to raise the overall cost of achieving a given level of emissions.

Many of the considerations described above for cap-and-trade program design *44516 would also apply to design of a rate-based credit program. Measuring outputs to determine the regulatory intensity may present some difficulty. In particular, determining the intensity for facilities that generate multiple products would be challenging. Sectors that use multiple inputs (*e.g.*, different fuels) might require use of a common metric (*e.g.*, Btu combusted) to support a rate-based approach based on inputs.

Rate-based trading programs are most easily applied in a specific sector where facilities have similar emissions characteristics. For utility and industrial boilers, a rate-based credit standard could be established for GHG emissions. For refineries, rate-based credit standards could be established for individual processes or equipment but would be difficult to set at the facility level. A GHG emissions rate-based tradable credit standard could be developed for the Portland cement industry. This mechanism may not be appropriate for landfills (see discussion of monitoring above).

We request comments on the use of emission rate trading programs under section 111 or other CAA authorities. Similar to cap-and-trade programs, we are seeking comment on whether sector-specific programs or inter-sector programs might be more appropriate. We also request comment on issues related to defining emission rates for facilities producing multiple types of products.

3. Emissions Fee

A GHG fee would limit GHG emissions by placing a price on those emissions. The price is fixed up front (unlike cap-and-trade where the price depends on the market), and a source covered by the tax would pay to the government the fixed price for every ton of GHG that it emits. A GHG fee permits the aggregate amount of emissions to adjust in response to the tax, in contrast to a cap-and-trade system where the quantity of emissions is fixed. Some key features of a GHG fee include accurate tracking and reporting of all emissions from covered sources, compliance flexibility, and certainty in the price of emissions (but not certainty in future emissions because there is no cap). As noted in the cap-and-trade subsection above, the emissions of CO_2 from most large utility boilers are already accurately monitored; this attribute would facilitate application of an emissions tax (as well as facilitating application of a cap-and-trade system).

Depending on the specific authority granted by

Congress with respect to the disposition of revenue, the revenue generated by the fee (as with potential auction revenues under a cap-and-trade approach) could theoretically be used for any number of public purposes. Note that depending on how the money was spent, the use of the revenues would have the potential either to reduce or to increase market distortions that reduce economic welfare.

The issue of whether the CAA authorizes emissions fees is discussed above in section III.F.2.

4. Hybrid Market Based Approach

A hybrid, market-oriented approach that could be used to regulate GHG borrows from pollution control options that are based on setting emissions rates, emissions credit trading, and emissions fees. This approach starts with a rate-based emissions credit program in which an average emission rate (e.g., tons of GHGs emitted per unit of output or input) would be established for a given industry. As with a typical rate-based policy, a source in the given industry would need to buy credits to the extent it produces with emissions over the average intensity, and could sell credits to the extent it produces with emissions below the average. An element of an emissions fee approach would then be added to this policy in which the government would also buy and sell credits. The government could set a price for credits based on selected policy criteria, and offer credits to sources at that predetermined price. Sources could then buy credits from the government as well as other regulated sources. Therefore, the government-set price would act as a price ceiling (or "safety-valve"), and the potential for price fluctuations in emissions credits would be diminished (because the government's predetermined price would act as a ceiling price). As long as relatively cost-effective GHG emissions reductions could occur within a covered sector over time, the average emissions intensity may decline and total reductions in emissions would occur in a relatively cost-effective manner without significant government handling of emissions fee revenues. In addition to being a seller, the government could also act as a buyer (so the government sales of credits would not result in an excess supply). A similar approach without the government's role in selling credits at a ceiling price and with a fixed schedule of allowable average annual rate of allowable emissions was actually successfully used in the phase down of lead in gasoline in the 1980s by EPA.

Some have suggested that the government could set a price for GHG credits or allowances based on its assessment of those benefits to be gained from the GHG emissions reduction per unit of output or input. In theory, under this approach the marginal compliance costs would never exceed the marginal benefits of reducing emissions. Note, however, that there are serious issues to be resolved regarding whether and how a defensible single estimate of marginal GHG reduction benefits can be developed for this purpose (see section III.G). First, whether the scope of benefits counted is global or domestic could significantly affect the marginal benefits estimate. Second, for benefits categories that can be quantified and monetized, there are many uncertainties that result in a range of legitimate estimates, making it difficult to pinpoint an appropriate number. Third, there is a bias toward underestimating benefits of GHG reductions because many impacts categories identified by the IPCC are not quantified and monetized.[293] As a result, the price might be set too low to achieve the amount of emissions reductions that would be warranted considering all benefits and policy goals.

By including this discussion, EPA is not taking a position on whether it has legal authority to pursue a hybrid market-oriented approach. (See section III.F.2 above.) However, the agency seeks comment on the general matter of how the pricing of credits within an emissions intensity approach might be designed and established, what legal authority would be necessary for this action, and what impact different price-setting approaches would have on aggregate emissions reductions, costs and benefits.

VIII. Stratospheric Ozone Protection Authorities, Background, and Potential Regulation

A. Ozone Depleting Substances and Title VI of the Clean Air Act

Title VI of the CAA provides authority to protect stratospheric ozone, a layer high in the atmosphere that protects the Earth from harmful UVB radiation. Added to the CAA in 1990, Title VI establishes a number of regulatory programs to phase out and otherwise control substances that deplete stratospheric ozone. These ozone-depleting substances (ODS) are used in many consumer and industrial applications, such as refrigeration, ***44517** building and vehicle air conditioning, solvent cleaning, civil aviation, foam blowing, and fire extinguishing, and even in small but important uses such as metered dose inhalers.

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[293] There also are policy considerations that would be neglected by an approach attempting to find a point at which marginal costs equal marginal benefits. Examples include irreversibility of changes in climate with adverse impacts affecting future generations who cannot take part in today's decision-making, and unequal geographic distribution of adverse climate change impacts.

Many ODS and some of the substances developed to replace them (e.g., HFCs) are also potent GHGs. As described below, Title VI programs have already achieved significant reductions in emissions of ODS and thus in emissions of GHGs. However, the ODS being phased out are not among the six major GHGs addressed by this notice. Because these ODS are already being addressed by international and national requirements for protecting stratospheric ozone, they are not covered by UNFCCC requirements, the President's May 2007 directive or many other efforts to address climate change. Similarly, the discussion in this notice of a potential endangerment finding for GHGs does not include in its analysis the ODS being phased out.

In this section of the notice, we briefly describe Title VI regulatory programs as they relate to ODS because of the GHG emission reductions they achieve. We also consider the Title VI program for regulating ODS substitutes, since some substitutes are also GHGs. Since our focus in this notice is on potential use of the CAA to control the six major GHGs, we also examine the general authority in section 615 as it might be used to control those GHGs. However, as further explained below, section 615 would be available for that purpose only to the extent that EPA finds that emissions of the major GHGs are known or reasonably anticipated to cause or contribute to harmful effects on stratospheric ozone or otherwise affect the stratosphere in a way that may reasonably be anticipated to endanger public health or welfare. Unlike other CAA provisions examined in this notice, section 615 would not be triggered by a finding that one or more GHGs cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. The potential applicability of section 615 to the major GHGs depends on whether specified findings related to the stratosphere or ozone in the stratosphere could be made. In this way, Title VI is significantly different from other CAA titles that provide more general regulatory authority to address air pollutants that meet an endangerment test.

1. Title VI Regulatory Programs

Existing Title VI programs are largely focused on reducing and otherwise controlling ODS to protect stratospheric ozone. The cornerstone Title VI program is a graduated phaseout of ODS that implements similar requirements in the Montreal Protocol on Substances that Deplete the Ozone Layer, an international treaty to which the U.S. is a party. The Title VI phaseout program relies on a system of marketable allowances to control overall U.S. consumption (defined as production + imports-exports) consistent with the Protocol's requirements. EPA tracks production, export, and import of ODS, as well as transactions in ODS allowances reflecting the flexibility inherent in the program's market-oriented approach. This ensures compliance with U.S. consumption caps established under the Protocol. The program also allows exemptions from the phaseout to ensure that supplies of ODS critical to certain sectors, like the agricultural fumigant methyl bromide, are available until alternatives adequately penetrate the marketplace.

Other Title VI provisions supplement the phaseout program in a variety of ways that enhance ozone layer protection. Under these provisions, EPA has established a national ODS recycling and emission reduction program, bans on nonessential ODS uses, a program for labeling ODS-containing products, and the Significant New Alternatives Policy (SNAP). Under the SNAP program, EPA reviews and approves substitutes for ODS to help spur the development and uptake of safer alternatives. Finally, Title VI authorizes EPA to accelerate the schedule for phasing out ODS as warranted by scientific information, the availability of substitutes, or the evolution of the treaty's requirements pursuant to international negotiations among Parties to the Montreal Protocol.

Title VI has achieved large reductions in ODS consumption and emissions, and consequently has reduced GHG emissions and slowed climate change. According to a recent study, by 2010 ozone layer protection will have done more to mitigate climate change than the initial reduction target under the Kyoto Protocol, amounting to avoided emissions of 11 billion metric tons of CO_2 equivalent per year, or a delay in climate impacts by about 10 years.[294]

Because some ODS substitutes are GHGs, some have asked whether the net effect of the Protocol on climate has been beneficial. Recent research has demonstrated that the climate impact of ODS (e.g., chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs)), compared to CO_2 emissions from fossil fuel combustion, fell from about 33 percent in 1990 to about 10 percent in 2000. The following graph shows how the shift over time toward ODS alternatives under Title VI has created a marked downward trend for GHG consumption in sectors that use ODS and their substitutes, even while these uses have grown with the U.S. economy and population. As can be seen below, consumption of the ODS (CFCs, HCFCs, etc.) in 2004, although significantly lower than peak ODS emissions in 1990, were actually greater than consumption of HFCs, which are substitutes for CFCs and HCFCs.

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[294] Velders, G.J. et al., *The Importance of the Montreal Protocol in Protecting Climate*, Proceedings of the National Academy of Sciences, March 2007.

In view of the GHG emission reduction benefits of existing Title VI programs, EPA seeks public comment on how elements of the existing Title VI program could be used to provide further climate protection while assuring a successful completion of the ODS phaseout, including a smooth transition to alternatives.

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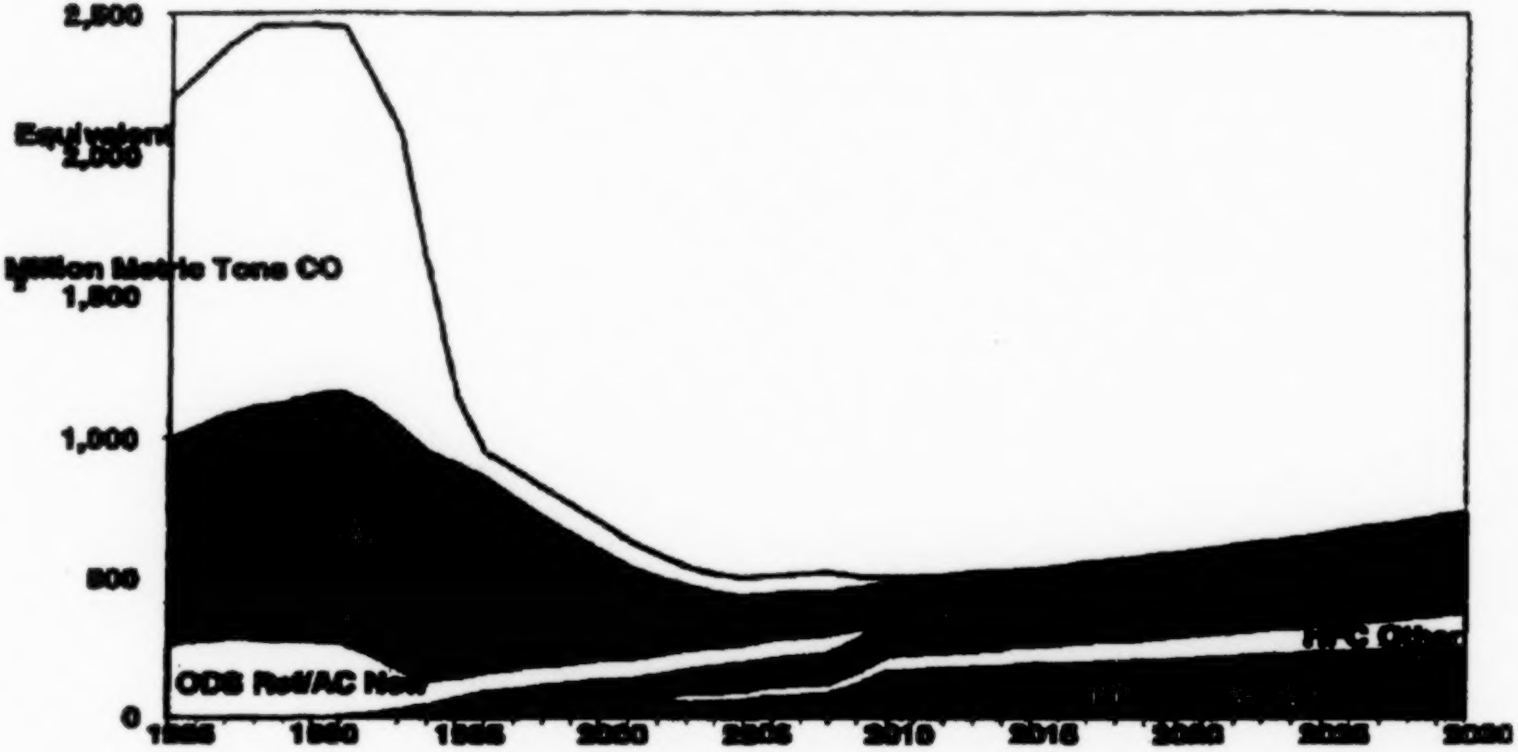
Figure VIII-1



***44518** 2. Further Action Under the Montreal Protocol

The Montreal Protocol has been and will continue to be an important, if limited, step in addressing climate change. At the 19th Meeting of the Parties in September 2007, the Parties agreed to more aggressively phase out a class of ODS, the hydrochlorofluorocarbons (HCFCs). The agreement to adjust the phase-out schedule for HCFCs is expected to reduce emissions of HCFCs to the atmosphere by 47 percent, compared to the prior commitments under the treaty over the 30-year period of 2010 to 2040. For the developing countries, the agreement means there will be about a 58 percent reduction in HCFC emissions over the same period.

The climate benefits of the faster phase-out of HCFCs will depend to some extent on technology choices in the transition from HCFCs. The estimated climate benefit of the new, stronger HCFC phase-out may be approximately 9,000 million metric tons of CO_2 e. A byproduct of the manufacture of HCFC-22 is hydrofluorocarbon-23 (HFC-23), a gas that does not damage ozone in the stratosphere but has a very high GWP. Because this gas is produced in higher quantities in lower efficiency production, to the extent that HCFC-22 production in the developing world remains uncontrolled, additional HFC-23 would be created. Thus, the agreement to sharply limit future developing world production of ODS represents an important opportunity for climate protection, as well as ozone layer recovery, as the President recognized in his April 16, 2008 speech on climate change.

B. Title VI Authorities Potentially Applicable to the Major GHGs

As mentioned previously, the framework created by Title VI could be effective in achieving GHG reductions by reducing and controlling ODS and ODS substitutes through existing mechanisms for tracking production, evaluating new safer alternatives, and addressing the needs of the major contributing subsector, refrigeration and air conditioning, through technician training, emission reduction and recycling. In this section we review Title VI provisions that could potentially apply to efforts to reduce the major GHGs that are not also ODS or ODS substitutes.

Title VI mostly includes provisions specific to individual ODS and programs. The provisions generally apply to "class I" or "class II" ODS. Title VI requires EPA to list specified substances as class I and class II ODS, and authorizes EPA to add other substances to either category if the Agency makes certain findings regarding the substance's effect on stratospheric ozone (see sections 602(a) and (b)). One important difference between class I and class II ODS is that class I substances include the most potent ODS; section 602(a) requires EPA to list as class I substances all substances with an ozone depletion potential of more than 0.2.[295]

Title VI also requires EPA to publish the global warming potential (GWP) of each listed ODS. Section 602(e) further provides that the requirement to publish ***44519** GWP for a listed substance "shall not be construed to be the basis of any additional regulation under" the CAA.

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[295] The ozone depletion potential (ODP) of a chemical measures its ability to reduce stratospheric ozone compared to a common ODS known as CFC-11. While this and another common ODS have ODPs of 1.0, the ODPs of class I and class II ODSs known to be in use range from 0.02 to 10.

Since the major GHGs being addressed in this notice have no ozone depletion potential, it appears that the Title VI provisions that authorize regulation of listed ODS are of limited potential use for regulating those GHGs. EPA requests comment on the potential applicability of ODS-specific Title VI authorities, and the significance of the section 602(e) language quoted above for regulation of GHGs under Title VI.

1. Section 615

In addition to the specific provisions that authorize regulation of listed ODS and in some cases ODS substitutes, Title VI also includes general authority in section 615 to protect the stratosphere, especially stratospheric ozone. Section 615 states:

> If, in the Administrator's judgment, any substance, practice, process, or activity may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, and such effect may reasonably be anticipated to endanger public health or welfare, the Administrator shall promptly promulgate regulations respecting the control of such substance, practice, process or activity, and shall submit notice of the proposal and promulgation of such regulation to the Congress.

While Title VI was added to the CAA in 1990, a provision largely identical to section 615 was added to the Act in 1977, soon after concerns about the effects of some substances on the stratosphere were initially raised. In 1988, EPA promulgated regulations implementing the first round of requirements of the Montreal Protocol through a system of tradable allowances under section 157(b) of the CAA as amended in 1977. Section 157(b) was subsequently modified by the 1990 Amendments and became section 615.

Since 1990, EPA has rarely relied on the authority in section 615 to support rulemaking activity, since the activities that the Agency regulates to protect stratospheric ozone have generally been addressed under the more specific Title VI authorities. However, in 1993 EPA did rely on section 615 to promulgate trade restrictions in order to conform EPA regulations to Montreal Protocol provisions on trade with countries that were not Parties to the Protocol. (March 18, 1993, 58 FR 15014, 15039 and December 10, 1993, 58 FR 65018, 65044). These trade restrictions prevented shipments of ODS from the U.S. to countries with no regulatory infrastructure to control their use. Promulgating these restrictions reduced the release of ODS into the atmosphere, thereby reducing harmful effects on public health and welfare. The restrictions also resulted in eliminating the U.S. as a potential market for ODS produced in non-Parties, thereby discouraging shifts of production to non-Parties and limiting the potential for undermining the phaseout.

Section 615 authority remains available when other CAA authorities are not sufficient to address effects on the stratosphere, especially ozone in the stratosphere. For example, in the late 1990s, EPA, the National Aeronautics and Space Administration (NASA), and the Federal Aviation Administration (FAA) considered options for addressing potential ozone depletion resulting from supersonic commercial aircraft. EPA and NASA analyzed the impacts from a theoretical fleet of supersonic commercial aircraft, known as High Speed Civil Transport (HSCT), and in an October 1998 Memorandum of Agreement between the two agencies (signed by Spence M. Armstrong, Associate Administrator for Aeronautics and Space Transportation Technology (NASA) and Robert Perciasepe, Assistant Administrator for Air and Radiation (EPA)) noted the potential to rely on section 615 in conjunction with other regulatory authorities.[296]

While section 615 sets forth the authority and responsibility of the Administrator to address effects on the stratosphere in order to protect public health and welfare, EPA recognizes that this authority was intended to augment other authorities and responsibilities established by Title VI. EPA does not believe this authority is a basis for prohibiting practices, processes, or activities that Congress specifically exempted elsewhere. For example, EPA does not intend to promulgate regulations eliminating the exceptions from the ODS phaseout for essential uses as established by section 604.

For section 615 authority to be used, a two-part endangerment test unique to that section must be met. First, the Administrator must find, in his judgment, that "a substance, practice, process or activity may reasonably be anticipated to affect the strato-

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sphere, especially ozone in the stratosphere."Second, he must determine that "such effect may reasonably be anticipated to endanger health or welfare."To determine the potential applicability of section 615 to major GHGs, EPA thus would have to consider whether available scientific information supports making the requisite findings.

The effect on the stratosphere of GHG emissions and of climate change generally is a topic of ongoing scientific study. [297] Recent science suggests that feedback mechanisms exist that allow temperatures in the stratosphere and troposphere to be mutually reinforcing or mutually antagonistic depending on a number of factors, including the latitude at which the ozone loss occurs. Further research is underway to better understand these interactions. While it is beyond the scope of this notice to assess and analyze the available scientific information on the effect of GHGs on the stratosphere, EPA requests comment on how evolving science might be relevant to the Agency's potential use of section 615. More specifically, EPA requests comment on how scientific research might help resolve areas of ambiguity in the relationship between GHGs, effects on the stratosphere, and climate change, and how this might help the Administrator make appropriate judgments in applying the two-part test of section 615.

If the requisite endangerment finding is made, the regulatory authority provided by section 615 is broad.

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[297] See, *e.g.*, World Meteorological Organization, Global Ozone Research and Monitoring Project—Report No. 50, Scientific Assessment of Ozone Depletion: 2006, Ch. 5, Climate-Ozone Connections.

While most Title VI authorities are applicable to class I or class II substances or their substitutes, section 615 authorizes regulation of "any substance, practice, process, or activity" which EPA finds meets the two-part endangerment test. As noted elsewhere in this notice, depending on the nature of any finding made, section 615 authority may be broad enough to establish a cap-and-trade program for the substance, practice, process or activity covered by the finding, if appropriate. Title VI provisions provide other examples of possible regulatory approaches, such as maximizing recapture and recycling and requiring product labeling. EPA requests comment on possible regulatory approaches under section 615 and how those approaches would be affected by the particular endangerment finding that is a prerequisite to the use of section 615 authority.

2. Section 612

Section 612 is also relevant to today's notice to the extent a GHG may be used as a substitute for an ODS. CAA section 612 provides for the review of alternatives to ODS and the approval of substitutes that do not present a risk more significant than other alternatives that are available. Under that authority, the SNAP program has worked collaboratively for many years with industries, user groups, and other *44520 stakeholders to create a menu of alternatives that can be substituted for the ODS as they are phased out of production in the U.S.

In recent years, industry partners in the motor vehicle air conditioning (MVAC) sector have urged EPA to identify and approve appropriate new substitutes to allow for the implementation of a world-wide platform that will satisfy the needs of the U.S. market while also meeting new requirements in the European Union, which call for a transition over approximately six years beginning with the 2011 model year into non-ODS alternatives with Global Warming Potentials (GWPs) of less than 150.

To address these concerns, EPA proposed in September 2006 a SNAP rulemaking that provided for the use of CO2 and HFC-152a in MVACs (71 FR 55140 docket no. EPA-HQ-OAR-2004-0488). In a separate action (INSERT FR CITE), EPA has made final the portion of the rulemaking related to HFC-152a. This substitute meets the EU requirements, while also providing a new avenue for automakers to replace ODS. We believe we should issue guidance on the use of CO2 as an MVAC alternative in the context of the broader considerations of regulating GHGs set forth in this notice. We have included in the docket cited above a summary of our proposal regarding CO_2 as an alternative from MVACs. This summary reflects our latest thinking on the safe use of CO_2 in those systems.

List of Subjects in 40 CFR Chapter I

Environmental protection, Air pollution control.

Dated: July 11, 2008.

Stephen L. Johnson,

Administrator.

[FR Doc. E8-16432 Filed 7-29-08; 8:45 am]
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No. 12-1272

In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

PETITIONERS' APPENDIX
VOLUME V OF V (1756a-2187a)

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PROPOSED RULES

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 52, 70, and 71

[EPA-HQ-OAR-2009-0517; FRL-8966-7]

RIN 2060-AP86

Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

Tuesday, October 27, 2009

AGENCY: Environmental Protection Agency (EPA).

***55292 ACTION**: Proposed rule.

SUMMARY: EPA is proposing to tailor the major source applicability thresholds for greenhouse gas (GHG) emissions under the Prevention of Significant Deterioration (PSD) and title V programs of the Clean Air Act (CAA or Act) and to set a PSD significance level for GHG emissions. This proposal is necessary because EPA expects soon to promulgate regulations under the CAA to control GHG emissions and, as a result, trigger PSD and title V applicability requirements for GHG emissions. If PSD and title V requirements apply at the applicability levels provided under the CAA, State permitting authorities would be paralyzed by permit applications in numbers that are orders of magnitude greater than their current ad-

ministrative resources could accommodate. On the basis of the legal doctrines of "absurd results" and "administrative necessity," this proposed rule would phase in the applicability thresholds for both the PSD and title V programs for sources of GHG emissions. The first phase, which would last 6 years, would establish a temporary level for the PSD and title V applicability thresholds at 25,000 tons per year (tpy), on a "carbon dioxide equivalent" (CO_2e) basis, and a temporary PSD significance level for GHG emissions of between 10,000 and 25,000 tpy CO_2e. EPA would also take other streamlining actions during this time. Within 5 years of the final version of this rule, EPA would conduct a study to assess the administrability issues. Then, EPA would conduct another rulemaking, to be completed by the end of the sixth year, that would promulgate, as the second phase, revised applicability and significance level thresholds and other streamlining techniques, as appropriate.

DATES: *Comments*. Comments must be received on or before December 28, 2009. Under the Paperwork Reduction Act, comments on the information collection provisions are best assured of having full effect if the Office of Management and Budget (OMB) receives a copy of your comments on or before November 27, 2009.

Public Hearing: If anyone contacts us requesting to speak at a public hearing on or before November 16, 2009, we will hold a public hearing approximately 30 days after date of publication in the **Federal Register**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2009-0517 by one of the following methods:

- *http://www.regulations.gov*. Follow the online instructions for submitting comments. Attention Docket ID No. EPA-HQ-OAR-2009-0517.
- *E-mail*: *a-and-r-docket@epa.gov*. Attention Docket ID No. EPA-HQ-OAR-2009-0517.
- *Fax*: (202) 566-9744. Attention Docket ID No. EPA-HQ-OAR-2009-0517.
- *Mail*: EPA Docket Center, EPA West (Air Docket), Attention Docket ID No. EPA-HQ-OAR-2009-0517, U.S. Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Avenue, NW., Washington, DC 20460. Please include a total of 2 copies. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attn: Desk Officer for EPA, 725 17th Street, NW., Washington, DC 20503.
- *Hand Delivery*: U.S. Environmental Protection Agency, EPA West (Air Docket), 1301 Constitution Avenue, Northwest, Room 3334, Washington, DC 20004, Attention Docket ID No. EPA-HQ-OAR-2009-0517. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2009-0517. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http:// www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential

Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through http://www.regulations.gov or e-mail. The *http://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http:// www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, avoid any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket, visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*.

Docket. All documents in the docket are listed in the http:// www.regulations.gov index. Although listed in the index, some information is not publicly available, *e.g.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Mr. Joseph Mangino, Air Quality Policy Division, Office of Air Quality Planning and Standards (C504-03), Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541-9778; fax number: (919) 541-5509; e-mail address: *mangino.joseph@epa.gov*.

To request a public hearing, please contact Pam Long, Air Quality Planning Division, Office of Air Quality Planning and Standards (C504-03), Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541-0641; fax number: (919) 541-5509 no later than November 16, 2009 to request a hearing.

SUPPLEMENTARY INFORMATION:

***55293** I. Preamble Glossary of Terms and Abbreviations

The following are abbreviations of terms used in the preamble.

APA Administrative Procedure Act
ANPR Advance Notice of Proposed Rulemaking
APA Administrative Procedure Act
AQRV Air Quality Related Value

BACT Best Available Control Technology

CAA Clean Air Act

CAM Compliance Assurance Monitoring

CBI Confidential Business Information

CFR Code of Federal Regulations

CH_4 Methane

CO_2 Carbon Dioxide

CO_2e Carbon Dioxide Equivalent

CO Carbon Monoxide

EG Emission Guidelines

EPA U.S. Environmental Protection Agency

FERC Federal Energy Regulatory Commission

FIP Federal Implementation Plan

FLM Federal Land Manager

FTC Federal Trade Commission

FTE Full-Time Equivalent

GHG Greenhouse Gas

GWP Global Warming Potential

HAP Hazardous Air Pollutant

HFC Hydrofluorocarbon

HFE Hydrofluorinated Ether

ICR Information Collection Request

IPCC Intergovernmental Panel on Climate Change

MWCs Municipal Waste Combustion Facilities

NAAQS National Ambient Air Quality Standard

NESHAP National Emission Standards for Hazardous Air Pollutants

NOD Notice of Deficiency

NO_X Nitrogen Oxides

NSPS New Source Performance Standard

NSR New Source Review

OMB Office of Management and Budget

OTAQ Office of Transportation and Air Quality

PFC Perfluorocarbon

ppm Parts Per Million

PSD Prevention of Significant Deterioration

PTE Potential to Emit
RIA Regulatory Impact Analysis
SBA Small Business Administration
SO_2 Sulfur Dioxide
SF_6 Sulfur Hexafluoride
SIP State Implementation Plan
Tg Teragrams
TIP Tribal Implementation Plan
tpy Tons Per Year
UNFCCC United Nations Framework Convention on Climate Change

II. General Information

A. Does this action apply to me?

Entities affected by this proposed action include sources in all sectors of the economy, including commercial and residential sources. Entities potentially affected by this proposed action also include States, local permitting authorities, and tribal authorities. The majority of categories and entities potentially affected by this action are expected to be in the following groups:

Industry Group	NAICS*
Agriculture, fishing, and hunting	11.
Mining	21.
Utilities (electric, natural gas, other systems)	2211, 2212, 2213.
Manufacturing (food, beverages, tobacco, textiles, leather)	311, 312, 313, 314, 315, 316.
Wood product, paper manufacturing	321, 322.
Petroleum and coal products manufacturing	32411, 32412, 32419.
Chemical manufacturing	3251, 3252, 3253, 3254, 3255, 3256, 3259.
Rubber product manufacturing	3261, 3262.
Miscellaneous chemical products	32552, 32592, 32591, 325182, 32551
Nonmetallic mineral product manufacturing	3271, 3272, 3273, 3274, 3279.
Primary and fabricated metal manufacturing	3311, 3312, 3313, 3314, 3315, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329.
Machinery manufacturing	3331, 3332, 3333, 3334, 3335, 3336, 3339.
Computer and electronic products manufacturing	3341, 3342, 3343, 3344, 3345, 4446.
Electrical equipment, appliance, and component manufacturing	3351, 3352, 3353, 3359.
Transportation equipment manufacturing	3361, 3362, 3363, 3364, 3365, 3366, 3369.
Furniture and related product manufacturing	3371, 3372, 3379.
Miscellaneous manufacturing	3391, 3399.
Waste management and remediation	5622, 5629.
Hospitals/Nursing and residential care facilities	6221, 6231, 6232, 6233, 6239.
Personal and laundry services	8122, 8123.
Residential/private households	8141.
Non-Residential (Commercial)	Not available. Codes only exist for private households, construction and leasing/sales industries.

*North American Industry Classification System.

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this proposal will also be available on the World Wide Web. Following signature by the EPA Administrator, a copy of this action will be posted on the EPA's New Source Review (NSR) Web site, under Regulations & Standards, at *http://www.epa.gov/nsr.*

C. What should I consider as I prepare my comments for EPA?

1. Submitting CBI. Do not submit this information to EPA through *http://www.regulations.gov* or e-mail. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. Send or deliver information identified as CBI only to the following address: Roberto Morales, OAQPS Document Control Officer (C404-02), U.S. EPA, Research Triangle Park, NC 27711, Attention Docket ID No. EPA-HQ-OAR-2009-0517.

2. *Tips for preparing your comments.* When submit-

ting comments, remember to:

- Identify the rulemaking by docket number and other identifying information (subject heading, Federal Register date and page number).
- Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a ***55294** Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

D. How can I find information about a possible public hearing?

People interested in presenting oral testimony or inquiring if a hearing is to be held should contact Ms. Pamela S. Long, New Source Review Group, Air Quality Policy Division (C504-03), U.S. EPA, Research Triangle Park, NC 27711, telephone number (919) 541-0641. If a hearing is to be held, persons interested in presenting oral testimony should notify Ms. Long at least 2 days in advance of the public hearing. Persons interested in attending the public hearing should also contact Ms. Long to verify the time, date, and location of the hearing. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning these proposed rules.

E. How is the preamble organized?

The information presented in this preamble is organized as follows:

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III. Overview of Proposed Rule

EPA is proposing to tailor the major source applicability thresholds for GHG emissions under the PSD and title V programs of the CAA by setting first-phase levels under both programs, setting a first-phase PSD significance level[1] for GHG emissions, undertaking efforts to streamline administrability of the programs, and committing to an assessment of administrability within 5 years and a second-phase rulemaking within 6 years.

This proposal is necessary because EPA expects soon to promulgate regulations under the CAA to control GHG emissions from light-duty motor vehicles and, as a result, trigger PSD and title V applicability requirements for GHG emissions. When the light-duty vehicle rule is finalized, the GHGs subject to regulation under that rule would become immediately subject to regulation under the PSD program, meaning that from that point forward, prior to constructing any new major source or major modifications that would increase GHGs, a source owner would need to apply for, and a permitting authority would need to issue, a permit under the PSD program that addresses these increases. Similarly, for title V it would mean that any new or existing source exceeding the major source applicability level for those regulated GHGs, if it did not have a title V permit already, would have 1 year to submit a title V permit application.

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[1] "Significant levels" for regulated NSR pollutants are commonly called "significance levels" or "significance thresholds," and these terms are used interchangeably for purposes of this proposed action.

If PSD and title V requirements apply at the applicability levels provided under the CAA, many small sources would be burdened by the costs of individualized PSD control technology requirements and permit applications. In addition, State permitting authorities would be paralyzed by enormous numbers of these permit applications; the numbers are orders of magnitude greater than the current inventory of permits and would vastly exceed the current administrative resources of the permitting authorities. Based on the long-established judicial doctrines of ***55295** "absurd results" and "administrative necessity," this proposed rule would phase in PSD and title V applicability. As the first phase, this rule would establish applicability thresholds for both the PSD and title V programs at the level of 25,000 tpy CO_2e, and would establish a PSD significance level of between 10,000 and 25,000 tpy CO_2e. This rule also marks the beginning of a concerted effort by EPA to streamline administration of the PSD and title V programs as much as possible and as quickly as possible. In addition, EPA commits that, within 5 years of promulgating the first phase, EPA will conduct a study of the permitting authorities' ability to administer the programs going forward, and then, within a year, conduct rulemaking for the second phase of the program. This second phase will either confirm the first-phase permitting levels or establish revised ones or other streamlining techniques. EPA also proposes to identify as the pollutant subject to PSD and title V for applicability purposes the group of up to six GHG emissions, each one weighted for its global warming potential, that are included in regulations for their control under the CAA. EPA also proposes to conform its action on PSD

State implementation plans (SIPs) and title V programs to match the proposed Federal applicability requirements.

More specifically, following this overview, section IV of this preamble provides background information as to the nature of GHG emissions and the general requirements of the PSD and title V programs. Currently, PSD applies to sources that emit at least 100 or 250 (depending on the source category) tpy of pollutants subject to regulation under the CAA, and title V generally applies to sources that emit at least 100 tpy of pollutants subject to regulation under the CAA. Currently, PSD and title V requirements apply on the basis of emissions applicability thresholds that are pollutant-specific mass emissions rates expressed in tpy. Under PSD, construction of a stationary source that has the potential to emit (PTE) a regulated NSR pollutant in an amount exceeding 100 or 250 tpy (depending on the source category) (the "major stationary source" threshold, in the terminology of EPA regulations) triggers PSD permitting requirements. PSD permitting requirements are also triggered if a major stationary source undertakes a modification that is projected to increase emissions of a regulated NSR pollutant above an emissions threshold (the "significance level"). For any particular pollutant, this level is zero unless and until EPA establishes one on the basis of *de minimis* emissions or administrative necessity. Under title V, a source with emissions exceeding a "major source" emissions threshold—generally 100 tpy on a PTE basis—triggers title V permitting requirements.

It should be noted that, as further explained in the background section, there are no geographic areas currently designated "nonattainment" for GHG pollutants; as a result, this action affects only the PSD program, and we are not proposing to amend the "nonattainment NSR" provisions of our major NSR program at this time, nor are we proposing to amend any provisions that affect minor NSR permitting.

Section IV of this preamble further describes the current and expected future treatment of GHG emissions for applicability purposes under those PSD and title V programs. In particular, section IV describes the light-duty motor vehicle rule, which EPA recently proposed and expects to promulgate by the end of March 2010, and which will control GHG emissions from certain mobile sources. Under EPA's current interpretation of PSD and title V applicability requirements, promulgation of this motor vehicle rule will trigger the applicability of PSD and title V requirements for stationary sources that emit GHGs.

In section V of this preamble, EPA describes the administrative burdens on permitting authorities if the requirements of PSD and title V programs are triggered without having this tailoring rule in place. In short, without this tailoring rule, the administrative burdens would be immense, and they would immediately and completely overwhelm the permitting authorities. Without this tailoring rule, permitting authorities would receive approximately 40,000 PSD permit applications each year—currently, they receive approximately 300—and they would be required to issue title V permits for approximately some six million sources—currently, their title V inventory is some 15,000 sources. These increases are measured in orders of magnitude. We estimate the additional resource burdens in full-time equivalents (FTEs) and time delays in processing permits, but the sheer numbers of additional permits by themselves paint the picture of the overwhelming administrative burdens.

In section VI of this preamble, we describe the legal rationale for this tailoring rule. The judicial doctrine of "absurd results" authorizes departure from a literal application of statutory provisions if it would produce a result that is inconsistent with other statutory provisions or congressional intent, and particularly one that would undermine congressional purposes. The judicial doctrine of "administrative necessity" authorizes an agency to depart from statutory requirements if the agency can demonstrate that the statutory requirements, as written, are impossible to administer. However, the agency must first attempt to mitigate administrative problems through techniques consistent with the statutory requirements, and, if variance from the statutory requirements nevertheless is necessary to allow administrability, the variance must be limited as much as possible.

As discussed in section VI of this preamble, to apply the statutory PSD and title V applicability thresholds to sources of GHG emissions would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program. This extraordinary increase in the scope of the permitting programs, coupled with the resulting burdens on the small sources and on the permitting authorities, were not contemplated by Congress in enacting the PSD and title V programs. Moreover, the administrative strains would lead to multi-year backlogs in the issuance of PSD and title V permits, which would undermine the purposes of those programs. Sources of all types—whether they emit GHGs or not—would face long delays in receiving PSD permits, which Congress intended to allow construction or expansion. Similarly, sources would face long delays in receiving title V permits, which Congress intended to promote enforceability. For these reasons, the absurd results doctrine applies to avoid a literal application of the thresholds.

By the same token, the impossibility of administering the permit programs brings into play the administrative necessity doctrine. This doctrine also justifies EPA to avoid a literal application of the threshold provisions.

Instead, these doctrines authorize EPA to apply the PSD and title V applicability provisions through a phased program. The first phase would establish the applicability thresholds at the 25,000-tpy levels and vigorously develop streamlining measures that would facilitate applying PSD and title V on a broader scale with overburdening sources and administrators. In this manner, the phased approach reconciles the language of the statutory provisions with the results of their application and with congressional intent.

***55296** In section VII of this preamble, we describe the streamlining techniques—short of limiting the applicability of PSD and title V to higher-emitting sources—that may be available to improve administrability. These techniques range from defining "potential to emit"—which is the basis for calculating the statutory thresholds—to be closer to actual emissions, to general permits and presumptive best available control technology (BACT), which is the principal control requirement under the PSD program. Although these techniques offer promise over the long term to improve administrability, they cannot be in place by March 2010, when we expect PSD and title V requirements to be triggered for GHG emitters, or within a several-year period thereafter. Accordingly, this tailoring rule is necessary at this time.

In section VIII of this preamble, we describe in detail our proposed tailoring rule. For the PSD program, we are proposing to establish, as the first phase, the GHG "major stationary source" emissions applicability threshold level at 25,000 tpy on a CO_2e basis. That is, sources that emit at this level or higher would be considered "major stationary sources" and therefore would become subject to PSD requirements when they construct or modify. We are also proposing to establish in this first phase a PSD "significance level" emissions rate for GHGs and are proposing a range for that value of 10,000 to 25,000 tpy CO_2e for comment. The "significance" level is important for determining whether existing sources that make physical or operational changes become subject to PSD and for determining whether sources that are subject to PSD for other pollutants are also subject to PSD for their GHG emissions.

As further described in section VIII of this preamble, for the title V operating permits program, we are also proposing to establish the GHG emissions applicability threshold level at 25,000 tpy CO_2e for this first phase. That is, sources that emit at this level or higher would be considered "major sources" and therefore would become subject to title V requirements.

As further described in section VIII of this preamble, as an integral part of the tailoring rule, EPA proposes to commit to complete, within 5 years of a final rule, a study to evaluate the actual administrative burden resulting from the proposed GHG permitting thresholds and possible other thresholds, and the progress of developing streamlining techniques and augmentation of permitting authorities' resources. In addition, EPA commits to propose and promulgate a rulemaking—informed by the study—within 6 years from the effective date of a final version of this rulemaking (*i.e.*, 1 year from the completion of the study) that would establish the second phase, which would either reaffirm the GHG permitting thresholds, promulgate alternative thresholds, adopt other streamlining techniques, and/or take other action consistent with the goal of expeditiously meeting CAA requirements in light of the administrative burden that remains at that time.

During this first phase of the tailoring program, EPA proposes to make a concerted effort to assess and implement streamlining options, tools, and guidance—some of which we describe in section VII of this preamble—to reduce the administrative burden on permitting authorities when implementing PSD and title V for GHGs. EPA proposes to undertake as many of these streamlining actions as possible and to do so as quickly as possible. In addition, for larger sources that would be subject to PSD and title V requirements during the first phase, EPA intends to work closely with the stakeholders to develop efficient methods for implementing those requirements. For smaller sources for which PSD and title V requirements would not apply during the first phase due to the increase in the major source applicability threshold, EPA intends to identify cost-effective opportunities available as soon as possible to achieve GHG reductions through means other than PSD and title V (*e.g.*, energy efficiency and other appropriate measures).

Section VIII of this preamble further describes our proposal to define the relevant pollutants as the group of up to six GHG emissions that have been regulated for control, calculated on the basis of global warming potential (GWP).[2]

Section IX of this preamble describes the burden and economic impacts of the proposed rule.

Section X of this preamble discusses implementation issues related to this proposal. These include conforming EPA approval of the PSD programs in SIPs and EPA approval of the State title V programs to be consistent with the proposed applicability threshold levels. By way of background, as soon as EPA promulgates a rule regulating for control of GHG emissions—which we expect to occur with the proposed light-duty motor vehicle rule, scheduled for promulgation at the end of March 2010—stationary sources will become subject to PSD and title V requirements. The major source thresholds for PSD and title V, significance level for PSD, and identification of GHGs subject to PSD and title V as proposed in this tailoring rule would each take effect immediately in the Federal PSD program (codified at 40 CFR 52.21) and in the Federal operating permits program (codified at 40 CFR 71), as applicable. To conform EPA action on PSD SIPs and State title V programs, EPA intends to limit its previous approval of those SIPs and title V programs to cover only the permitting of sources of GHG emissions at or above the proposed threshold levels. EPA will take no action on—that is, EPA will not disapprove—the PSD SIPs and title V programs to the extent they require permitting of GHG emitters at levels below the proposed thresholds. EPA proposes to take this action by virtue of its authority to reconsider its previous regulatory actions. Section X of this preamble also explains how we propose to address the treatment of GHGs in the fee programs under title V.

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[2] The Intergovernmental Panel on Climate Change (IPCC) describes GWP as an index, based upon radiative properties of well-mixed GHGs, measuring the radiative forcing of a unit mass of a given well-mixed greenhouse gas in the present-day atmosphere integrated over a chosen time horizon, relative to that of CO_2 . The GWP represents the combined effect of the differing times these gases remain in the atmosphere and their relative effectiveness in absorbing outgoing thermal infrared radiation. (Intergovernmental Panel on Climate Change (IPCC), Glossary of Terms used in the IPCC Fourth Assessment Report, WG1). *http://www.ipcc.ch/*

IV. Background

A. What are greenhouse gases and their sources?

Gases that trap heat in the atmosphere are often called GHGs. Some GHGs such as carbon dioxide (CO_2) are emitted to the atmosphere through natural processes as well as human activities. Other gases, such as fluorinated gases, are created and emitted solely through human activities. The primary GHGs of concern directly emitted by human activities include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These six primary GHGs will, for the purposes of this proposal, be referred to collectively as "the six primary GHGs." These six gases, once emitted, remain in the atmosphere for decades to centuries. Thus, they become well-mixed globally in the atmosphere and their concentrations accumulate when emissions exceed the rate at which natural processes remove them from the atmosphere. The heating effect caused by the human-induced buildup of GHGs ***55297** in the atmosphere is very likely the cause of most of the observed global warming over the last 50 years. A detailed explanation of climate change and its impact on health, society, and the environment is included in EPA's technical support document for the endangerment finding proposal (Docket ID No. EPA-HQ-OAR-2009-0171-0137).[3]

In the U.S., the combustion of fossil fuels (*e.g.*, coal, oil, gas) is the largest source of CO_2 emissions and accounts for 80 percent of total GHG emissions. More than half the energy-related emissions come from large stationary sources such as power plants, while about a third come from transportation. Of the six primary GHGs, four (CO_2, CH_4, N_2O, and HFCs) are emitted by motor vehicles. Industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important sources of GHG emissions in the U.S. These emissions are inventoried at a national level by EPA in the Inventory of U.S. Greenhouse Gas Emissions and Sinks.[4]

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[3] "Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act," Climate Change Division, Office of Atmospheric Programs, U.S. Environmental Protection Agency, Washington, DC. April 17, 2009.

[4] For additional information about the Inventory of U.S. Greenhouse Gas Emissions and Sinks, and for more information about GHGs, climate change, climate science, etc., *see*

Different GHGs have different heat-trapping capacities. It is useful to compare them to each other through the use of the CO_2e metric. This metric incorporates both the heat-trapping ability and atmospheric lifetime of each GHG and can be used to adjust the quantities, in tpy, of all GHGs relative to the GWP of CO_2. When quantities of the different GHGs are multiplied by their GWPs, the different GHGs can be summed and compared on a CO_2e basis. Depending on which GWP values are used, the calculated GHG emissions on a CO_2e basis will vary. Throughout this preamble, we are applying the GWP values established by the Intergovernmental Panel on Climate Change (IPCC) in its Second Assessment Report (SAR) (IPCC 1996).[5] For example, CH_4 has a GWP of 21, meaning each ton of CH_4 emissions would have 21 times as much impact on global warming over a 100-year time horizon as 1 ton of CO_2 emissions. Thus, on the basis of heat-trapping capability, 1 ton of CH_4 would equal 21 tons of CO_2e. The GWPs of the six primary GHGs range from 21 (for CH_4) up to 23,900 (for SF_6). Aggregating all GHGs on a CO_2e basis at the source level allows a facility to evaluate its total GHG emissions contribution based on a single metric. For a complete list of the applicable GWP values for each GHG, please refer to EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks.

EPA's climate change Web site at *http://www.epa.gov/climatechange/*.

[5] "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007," U.S. Environmental Protection Agency, EPA 430-R-09-004, April 15, 2009. Table 1-2, p. 1-6. *http://www.epa.gov/climatechange/emissions/usinventoryreport.html.*

B. What are the general requirements of the PSD program?

1. Overview of the PSD Program

The PSD program is a preconstruction review and permitting program applicable to "new major stationary sources" and "major modifications" at existing major stationary sources, in the terminology of EPA's implementing regulations. The PSD program applies in areas meeting the health-based National Ambient Air Quality Standards (NAAQS) or for which there is insufficient information to determine whether they meet the NAAQS ("unclassifiable" areas). The PSD program is contained in part C of title I of the CAA. The "nonattainment NSR" program applies in areas not meeting the NAAQS and in the Ozone Transport Region, and is implemented under the requirements of part D of title I of the CAA. Collectively, we also commonly refer to these two programs as the major NSR program. The governing EPA rules are contained in 40 CFR 51.165, 51.166, 52.21, 52.24, and part 51, appendices S and W. There is no NAAQS for CO_2 or any of the other primary GHGs, nor does EPA plan to promulgate one; therefore, we do not anticipate that the "nonattainment" major NSR program will apply to GHGs.

The applicability of the PSD program to a particular source must be determined in advance of construction or modification and is pollutant-specific. The primary criterion in determining PSD applicability is whether the proposed project is sufficiently large (in terms of its emissions) to be a major stationary source or major modification, both of which are described below.

a. Major Stationary Sources

Under PSD, a "major stationary source" is any source type belonging to a specified list of 28 source categories which emits or has a PTE of 100 tpy or more of any pollutant subject to regulation under the CAA, or any other source type which emits or has the potential to emit such pollutants in amounts equal to or greater than 250 tpy. *See, e.g.*, 40 CFR 52.21(b)(1). We may refer to these levels as the 100/250-tpy thresholds. A new source with a PTE at or above the applicable "major stationary source threshold" amount is subject to major NSR. These limits originate from section 169 of the CAA, which applies PSD to any "major emitting facility"[6] and defines the term to include any source with a PTE of 100 or 250 tpy, depending on source category.

b. Major Modifications

PSD applies to not only new construction but also to existing sources that undertake a "major modification," which is defined in terms of the following three criteria:

(1) A physical change in, or change in the method of operation of, a "major stationary source" must occur;

(2) The change must result in an increase in emissions that is "significant," that is, equal to or above the significance level defined for the pollutant in question, *e.g.*, in 40 CFR 52.21(b)(23)); and

(3) The increase in emissions resulting from the

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[6] EPA's regulations employ the term "major stationary source" in lieu of "major emitting facility." *e.g.*, 40 CFR 52.21(a)(2)(i), (b)(1)(i).

change must be a significant net emissions increase. In other words, when the increase from the project is added to other contemporaneous increases or decreases in actual emissions at the source, the net emissions increase must be significant (equal to or above the significance level defined, *e.g.*, in 40 CFR 52.21(b)(23)).

Generally, significance levels for PSD are pollutant-specific emissions rates. For example, the significance level for emissions of nitrogen oxides (NO_X) is 40 tpy. *See, e.g.*, 40 CFR 52.21(b)(23)(i). However, for a regulated NSR pollutant for which no specific significance level is listed, PSD applies to "any increase." *See, e.g.*, 40 CFR 52.21(b)(23)(ii). Thus, if GHGs were to become subject to regulation and PSD review, and no significance levels for GHGs had been established, the default value would be "zero."

EPA has promulgated significance levels for criteria pollutants and certain other pollutants, which EPA generally based on levels that represent a *de minimis* contribution to air quality problems. For example, for certain pollutants regulated under the new source performance standards (NSPS), EPA generally based significance levels at 20 percent of the NSPS. These concentrations were compared to available health and welfare data to assure that significant adverse effects ***55298** were avoided.[7] To this point, EPA has not established a significance level for GHGs, and we currently do not have an adequate supporting record to establish a similar health and welfare-based *de minimis* level for significance for GHGs.

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[7] EPA established significance levels for hazardous air pollutants on a similar basis, but subsequently, in the 1990 Clean Air Act Amendments, Congress mooted them by exempting hazardous air pollutants from PSD, under CAA section 112(b)(6).

2. General Requirements for PSD

Under the PSD program, one of the principal requirements is that a new major source or major modification must apply BACT, which is determined on a case-by-case basis taking into account, among other factors, the cost and effectiveness of the control. EPA has developed a "top-down" approach for BACT review which involves a decision process that includes identification of all available control technologies, elimination of technically infeasible options, ranking of remaining options by control and cost effectiveness, and then selection of BACT. Under PSD, once a source is determined to be major for any regulated pollutant, a BACT review is performed for each attainment pollutant whose emissions exceed its PSD significance level as part of new construction or modification projects at the source.

In addition to performing a BACT review, the source must analyze the impact of the project on ambient air quality to assure that no violation of any NAAQS or PSD increments will result, and must analyze impacts on soil, vegetation, and visibility. Sources or modifications that would impact Class I areas (*e.g.*, national parks) may be subject to additional requirements to protect air quality related values (AQRVs) that have been identified for such areas. Under PSD, if a source proposes to locate within 100 kilometers of a Class I area, the Federal Land Manager (FLM) is notified and is responsible for evaluating a source's projected impact on the AQRVs and recommending either approval or disapproval of the source's permit application based on anticipated impacts. There are currently no NAAQS or PSD increments established for GHGs, and therefore these PSD requirements would not apply to GHG emissions sources, even when PSD is triggered for GHG emissions sources. However, as noted previously, if PSD is triggered for a GHG emissions source, all regulated NSR pollutants which the new source emits in significant amounts would be subject to PSD requirements. Therefore, if a facility triggers review for regulated NSR pollutants that are non-GHG pollutants for which there are established NAAQS or increments, the air quality, additional impacts, and Class I requirements would apply to those pollutants.

When the reviewing authority reaches a preliminary decision to authorize construction of a proposed new major source or major modification, it must provide notice of the preliminary decision and an opportunity for comment by the general public, industry, and other interested persons. After considering and responding to the comments, the reviewing authority may issue a final determination on the construction permit in accordance with the PSD regulations.

Usually NSR permits are issued by State or local air pollution control agencies. In these cases, State and local air pollution control agencies may have their own permit programs that are approved by EPA in the SIP or they may be delegated the authority to issue permits on behalf of EPA. In some areas, the EPA issues the permits.

3. Minor NSR Program

The permitting program for minor stationary sources is addressed by section 110(a)(2)(C) of the CAA. We commonly refer to this program as the minor NSR program. A minor stationary source means a source whose PTE is lower than the major source applicability threshold for a particular pollutant as defined in the applicable nonattainment major NSR program or PSD program. As with nonattainment NSR requirements, the CAA does not require that minor source programs apply to GHGs because there are no NAAQS for GHGs.

C. What are the general requirements of the title V operating permits program?

1. Overview of Title V

The title V operating permits program was added to the CAA by Congress in 1990. The operating permits program requirements under title V are intended to improve sources' compliance with the requirements of the CAA. In summary, the title V program requires major sources (generally defined as sources that actually emit or have the potential to emit 100 tpy) and certain other sources to obtain operating permits that: Consolidate all CAA requirements into a single document; provide for review of these documents by EPA, States, and the public; and require permit holders to track, report, and annually certify their compliance status with respect to their permit requirements.

Title V will be triggered for GHG emissions when EPA regulates them for control under another provision of the CAA. Section 502(a) of the Act sets forth the sources required to obtain operating permits under title V. These sources include: (1) Any affected source subject to acid rain rules under title IV of the Act; (2) any major source; (3) any source required to have a permit under part C or D (PSD/NSR) of title I of the Act; (4) "any source subject to section 111 [NSPS] or section 112 [NESHAP];" and (5) any other source designated by rule. *See* also 40 CFR 70.3(a) and 71.3(a). The requirements of section 502(a) are primarily implemented through the operating permit program rules at 40 CFR part 70, which sets out the minimum requirements for title V operating permit programs administered by State, local, and tribal permitting authorities (57 FR 32261; July 21, 1992); and part 71, the Federal operating permit program requirements that apply where EPA or a delegate agency authorized by EPA to carry out a Federal permit program is the title V permitting authority (61 FR 34228, July 1, 1996).

Title V generally does not add new substantive requirements for pollution control, but it does require that each permit contain all of a facility's "applicable requirements" under the CAA, and that certain procedural requirements be followed, especially with respect to compliance with these requirements. "Applicable requirements" for title V purposes include all stationary source requirements, but do not include mobile source requirements.

2. Title V Permit Requirements

When a source becomes subject to title V, it must apply for a permit within 1 year of the date it became subject. The application must include identifying information, a description of emissions and other information necessary to determine applicability of CAA requirements, identification and certification of the source's compliance status with these requirements (including a schedule to come into compliance for any requirements for which the source is currently out of compliance), a statement of the methods for determining compliance, and other information. The permitting authority then uses this information to issue the source a permit to operate, as appropriate. A title V source may not operate without a permit, except that if it has submitted a complete application, the submission acts as a "shield" that ***55299** authorizes it to operate while awaiting issuance of its permit.

Title V permits must contain the following main elements: (1) Emissions standards to assure compliance with all applicable requirements; (2) a duration of no more than 5 years, after which the permit must be renewed; (3) monitoring, recordkeeping, and reporting requirements necessary to assure compliance, including a semiannual report of all required monitoring and a prompt report of each deviation from a permit term; (4) provisions for payment of permit fees as established by the permitting authority such that total fees collected are adequate to cover the costs of developing and implementing the program; and (5) a requirement for an annual compliance certification by a responsible official at the source. An additional specific monitoring requirement, compliance assurance monitoring (CAM), also applies to some emissions units operating at major sources with title V permits. The CAM rule requires source owners to design and conduct monitoring of the operation of add-on control devices used to control emissions from moderately large emissions units. Source owners use the monitoring data to evaluate, verify, and certify the compliance status for applicable emissions limits. The CAM rule is implemented in conjunction with the schedule of the operating permits program. While these are the main elements relevant to a discussion of GHGs, there are numerous other permit content requirements and optional elements, as set forth in the title V regulations at 40 CFR 70.6.

In addition to the permit content requirements, there are procedural requirements that permitting authorities (typically States) must follow in issuing title V permits, including (1) determining and notifying the applicant that its application is complete; (2) providing public notice and a 30-day public comment period on the draft permit, as well as the opportunity for a public hearing; (3) giving notice to EPA and affected States; and (4) preparing and providing to any requester a statement of the legal and factual basis of the draft permit. The permitting authority must take final action on permit applications within 18 months of receipt. EPA also has 45 days from receipt of a proposed permit to object to its issuance, and citizens have 60 days to petition EPA to object. Permits may also need to be revised or reopened if new requirements come into effect or if the source makes changes that conflict with, or necessitate changes to, the current permit. Permit revisions and reopenings follow procedural requirements which vary depending on the nature of the necessary changes to the permits.

D. What is the current treatment of GHG emissions under the title V and PSD programs and what future actions may change that treatment?

This section of the preamble describes the current treatment of GHG emissions under the PSD and title V programs—under which GHG emissions are not included for purposes of determining applicability—including recent regulatory and legal developments related to this action, and then describes what future action may change that treatment.

1. Regulation of GHGs Under the CAA

a. The *Massachusetts* U.S. Supreme Court Decision

On April 2, 2007, in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007), the U.S. Supreme Court held that GHGs are air pollutants covered by the CAA. Therefore, the Court further held that GHG emissions are subject to CAA section 202(a) under which the Administrator must determine whether or not emissions of GHGs from new motor vehicles or motor vehicle engines cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. This decision resulted from a petition for rulemaking under section 202(a) filed by more than a dozen environmental, renewable energy, and other advocacy organizations. As a result of this decision, EPA decided to issue an advance notice of proposed rulemaking (ANPR), discussed later in this preamble, soliciting comment on how GHG emissions should be regulated under the CAA.

b. The EPA ANPR

On July 30, 2008, EPA published an ANPR in the **Federal Register** entitled, "Regulating Greenhouse Gas Emissions under the CAA." 73 FR 44354, July 30, 2008. This ANPR presented information relevant to, and solicited public comment on how to respond to, the U.S. Supreme Court's decision in *Massachusetts* v. *EPA*, holding that GHGs are air pollutants subject to the CAA. The notice reviewed the various CAA provisions (including the PSD and title V requirements) that may be applicable to sources of GHGs, examined the issues that regulating GHGs under those provisions may raise, provided information regarding potential regulatory approaches and technologies for reducing GHG emissions, and raised issues relevant to possible legislation and the potential for overlap between legislation and CAA regulation.

In addition, the notice described and solicited comment on petitions the EPA had received to regulate GHG emissions from ships, aircraft, and nonroad vehicles such as farm and construction equipment. Finally, the notice discussed several other actions concerning stationary sources for which EPA has received comment regarding the regulation of GHG emissions, including promulgation of performance standards or guidelines under CAA section 111 for new and existing sources in various source categories. The EPA included options for phasing in the PSD program and title V programs to mitigate burdens that would occur if GHGs were to be regulated under the CAA and solicited comments on those actions. Section V.C of this preamble summarizes some of the substantive comments received on the ANPR. In issuing the ANPR, EPA made clear that it believed that the best way to address the problems posed by GHG emissions would be through legislation directly addressing GHG emissions, rather than through use of the tools in the CAA.

2. Current Applicability of the PSD Program to Sources of GHG Emissions

As explained earlier in this preamble, EPA treats sources as subject to PSD requirements only if they emit "regulated NSR pollutants" at specified threshold levels. Currently, EPA does not consider GHG emissions to be "regulated NSR pollutants" under the PSD program because GHG emissions have not, thus far, been subject to regulation requiring control under the CAA. As discussed later in this preamble, EPA is in the process of reviewing its approach to PSD applicability and is in the process of developing a rulemaking—the light-duty motor vehicle rule—that will trigger PSD applicability for GHG emissions.

a. PSD Interpretive Memorandum

EPA is currently reconsidering the PSD Interpretive Memorandum (previously referred to as the "Johnson Memorandum"), which describes the circumstances under which EPA considers a pollutant subject to PSD requirements. *See* memorandum (in docket for this rulemaking) from Administrator Stephen L. Johnson to Regional Administrators, "EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program," December 18, 2008. The PSD ***55300** Interpretive Memorandum followed a decision by the Environmental Appeals Board (EAB) in *In re Deseret Power Electric Cooperative*, on November 13, 2008. PSD Appeal No. 07-03 (EAB 2008) (*In re Deseret*). There, the Board remanded a PSD permit that EPA Region VIII issued on August 30, 2007, to Deseret Power Electric Cooperative, authorizing the latter to construct a new waste-coal-fired electric generating unit near its existing Bonanza Power Plant, in Bonanza, Utah. The primary issue before the Board was whether the permit had to include BACT limits for CO_2, which depended on whether CO_2 meets the definition of a "regulated NSR pollutant" under 40

CFR 52.21(b)(50), which in turn interprets the provisions in CAA sections 165 and 169 that apply the BACT requirement to "each pollutant subject to regulation" under the CAA. The Board rejected arguments by the petitioner, the Sierra Club, that the CAA compelled a broad interpretation of the phrase "subject to regulation," which, according to the petitioner, required EPA to apply BACT to pollutants as long as they are subject to monitoring and reporting requirements. Currently, and since 1993, sources covered by the Acid Rain program have been required to monitor and report CO_2 emissions pursuant to the CAA. The Board also rejected the view advanced by the EPA offices involved in the case—Region VIII and the Office of Air and Radiation—that EPA had already established an interpretation of "subject to regulation," which was that this term authorized BACT only for pollutants subject to actual regulatory controls. Thus, the Board remanded the permit to the Region to "reconsider whether or not to impose a CO_2 BACT limit in light of the 'subject to regulation' definition under the CAA." *In re Deseret*, slip op. at 63.

On December 18, 2008, EPA's then-Administrator Stephen Johnson issued a memorandum establishing an interpretation clarifying the scope of the PSD program under the CAA (the PSD Interpretive Memorandum). This memorandum interprets the definition of "regulated NSR pollutant" to include each pollutant subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant, and to exclude pollutants for which EPA regulations only require monitoring or reporting.

On February 17, 2009, EPA Administrator Lisa

Jackson responded to an amended petition for reconsideration dated January 6, 2009, filed on behalf of the Sierra Club and other parties (petitioners), seeking reconsideration of the PSD Interpretive Memorandum. In Administrator Jackson's response, she granted the petition for reconsideration in order to allow for public comment on issues raised in the memorandum and stated that EPA will also seek public comment on any issues raised by the opinion of the EAB with regard to the *In re Deseret* decision (as discussed in the PSD Interpretive Memorandum), to the extent they are not coextensive with the issues raised in the memorandum. However, Administrator Jackson made clear that the current interpretations in the PSD Interpretive Memorandum remain in effect during the reconsideration process.

Because the PSD Interpretive Memorandum concerns PSD applicability, its reconsideration will identify the circumstances under which GHG emissions are treated as "subject to regulation under the CAA" and, therefore, are "regulated NSR pollutants." Once GHG emissions are considered "regulated NSR pollutants," PSD program requirements for existing thresholds (100/250 tpy) are triggered. The PSD Interpretive Memorandum reconsideration is being addressed in a proposed rule published in the **Federal Register** *on October 7, 2009* (74 FR 51535). Although several possible triggering events may be considered in that action, the latest of these events would be the one that applies under EPA's current interpretation: A nationwide rule controlling or limiting GHG emissions. Presently, the EPA expects that the first such rule will be the light-duty motor vehicle rule.

b. Light-Duty Vehicle Rule

EPA is currently developing a rule to regulate GHGs from mobile sources under title II of the CAA (74 FR 24007; May 22, 2009). EPA expects to promulgate this rule by the end of March 2010. As described in the PSD Interpretive Memorandum, it is EPA's position that new pollutants become subject to PSD and title V when a rule controlling those pollutants is promulgated (and even before that rule takes effect). Accordingly, as soon as GHGs become regulated under the light-duty motor vehicle rule, GHG emissions will be considered pollutants "subject to regulation" under the CAA and will become subject to PSD and title V requirements.

3. Current Applicability of Title V Program to GHGs

CAA section 502(a) and related definitions under sections 302 and 501, require that specified types of sources have operating permits. These include any source that emits or has a potential to emit 100 tpy of a pollutant subject to regulation (consistent with EPA's policy interpretation)[8], any source with a NSR or PSD permit, any major source of a hazardous air pollutant (HAP), any source subject to acid rain requirements, and certain minor sources subject to section 111 or section 112 standards. As with the PSD program, currently GHGs are not considered to be subject to regulation and have not been considered to trigger title V applicability.

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[8] EPA included this policy interpretation that title V addresses 100-tpy sources of "pollutants subject to regulation" in a memorandum from Lydia Wegman. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993). EPA continues to maintain this interpretation. The interpretation in this memorandum was based on: (1) EPA's reading of the definitional chain for major source under title V, including the definition of "air pollutant" under section 302(g) and the definition of "major source" under 302(j); (2) the view that Congress did not intend to require a variety of sources to obtain title V permits if they are not otherwise regulated under the Act, (see also CAA section 504(a), providing that title V permits are to include and

V. What would be the administrative burdens of implementing PSD and title V at the current permitting thresholds?

This section of the preamble describes the additional administrative burdens for the PSD and title V programs in terms of staffing needs, time for processing permits, and costs that permitting authorities would incur if sources of GHG emissions were to trigger PSD and title V at the statutory thresholds, which we shorthand as the 100/250-tpy thresholds. Evidence we have collected to this point makes it clear that if PSD and title V applicability requirements are triggered at

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assure compliance with applicable requirements under the Act); and (3) promoting consistency with the approach under the PSD program. While the specific narrow interpretation in the Wegman Memorandum of the definition of "air pollutant" in CAA section 302(g) is in question in light of the *Massachusetts* v. *EPA* decision (finding this definition to be "sweeping"), EPA believes the core rationale for its interpretation of the applicability of title V remains sound. EPA continues to maintain its interpretation, consistent with CAA sections 302(j), 501, 502 and 504(a), that title V applies to 100 tpy sources of pollutants subject to regulation. This interpretation is based primarily on the purpose of title V to include all regulatory requirements applicable to the source in one document to assure compliance, *see*, *e.g.*, CAA section 504(a), and to promote consistency with the approach under the PSD program.

those threshold levels, an enormous influx of permits would occur—tens of thousands of PSD permits and millions of title V permits—which would create enormous administrative burdens for permitting authorities that would far exceed their current capacity to administer the PSD and title V programs. It is also worth noting here that, under a scenario where ***55301** State or local permitting authorities do not have the resources to implement the title V or PSD programs for GHG sources at current CAA permitting applicability thresholds, EPA may withdraw its approval, in which case, EPA would become the permitting authority and the enormous resource requirements would shift to EPA to implement these programs.

A. PSD Implications

We evaluated the additional administrative burden and cost of including GHG emitters in the PSD program at the current 250-tpy major source permitting threshold (but not at 100 tpy[9]). To calculate the administrative burdens and cost, we first estimated the number of new sources and modifications that would be subject to PSD if GHGs were included at the 250-tpy threshold level. We developed these estimates of number of new sources and modifications as part of our GHG threshold data analyses. For more information on these analyses, see the technical support documents entitled "Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation" and "Methodology for Estimating Modified Sources That Would Be Subject to PSD Permitting for GHGs;" Prepared by EPA Staff; August 2009 in the docket for this rulemaking.

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[9] In light of time and resource constraints, we did not calculate the additional administrative burden and cost of including in the PSD program sources that emit between 100 tpy and 250 tpy and that are among the 28 source categories identified in CAA section 169(l). Including these sources in the calculation would increase the administrative burdens and costs of implementing PSD at the statutory thresholds.

After estimating the number of affected facilities and sources, we then evaluated the additional administrative burden and cost of including these numbers of new and modified GHG emitters in the PSD program. Our burden estimates are based on labor and cost information from the existing Information Collection Requests (ICRs) for PSD programs.[10]

Based on our GHG threshold data analysis, we estimate that almost 41,000 new and modified facilities per year would be subject to PSD review, based on the current rate of modifications at major sources, if a GHG major source threshold of 250 tpy CO_2e were applied. Compared to the 280 PSD permits currently issued per year, this would be an increase in permits of more than 140-fold.

We estimated the number of workload hours and cost a permitting authority would expend on each new source and each modification. We based these estimates on the workload hours and cost for processing permits for new sources of non-GHG emissions, which we derived from labor and cost information from the existing ICRs for PSD programs. The ICRs show that permitting authorities expend 301 hours to permit a new or modified industrial source. For more detail on information used from the PSD ICR for this evaluation, please refer to the docket for this rulemaking.

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[10] "Summary of ICR-based Data Used to Estimate Avoided Burden and Evaluate Resource Requirements at Alternative GHG Permitting Thresholds;" Prepared by EPA Staff; August 2009.

We then made assumptions for number of workload hours and costs for new sources of GHG emissions. We assumed that permitting new industrial GHG sources that emit in excess of the 250-tpy threshold would be of comparable complexity to permitting non-GHG emitting industrial sources that are subject to PSD. Thus, for these sources, we assumed that permitting authorities would expend the same number of workload hours and costs, on a per-permit basis, as they do for non-GHG emitting industrial sources. On the other hand, for commercial and residential GHG sources that emit GHGs above the 250-tpy threshold (and as a result would be subject to the requirements of the PSD permitting program at this threshold level), we assumed that the workload hours and cost for permitting these sources would be significantly less than—only 20 percent of—the hours and cost necessary to prepare and issue initial PSD permits or permit modifications for industrial GHG sources. This 20-percent estimate amounts to 60 hours of permitting authority time per residential or commercial permit.

Based on these assumptions, the additional annual permitting burden for permitting authorities, on a national basis, is estimated to be 3.3 million hours at a cost of $257 million to include all GHG emitters above the 250-tpy threshold.

In addition to conducting our burden analysis, we also reviewed summary information from State and local air permitting agencies regarding additional resources and burden considerations if GHG sources that emit above the 100/250-tpy thresholds were subjected to the PSD and title V programs. This information covered 43 State and local permitting agencies, representing programs from different regions of the country and various permitting program sizes (in terms of geographic and source population coverage). A summary of this information can be found in the docket for this rulemaking.[11] This information showed significant burdens projected by permitting agencies with adding sources of GHG emissions in terms of staffing, budget, and other associated resource needs. Importantly, the agencies based their analysis on the assumption that, for purposes of determining whether a source is major, its emissions would be calculated on an actual emissions ("actuals") basis, and not on a PTE basis. On an actuals basis, the agencies estimated a 10-fold increase in the number of permits.

Specifically, the agencies estimated that:

- Assuming, again, that number of permits was to increase by 10-fold (based on actual emissions), the resulting workload would require an average of 12 more FTEs per permitting authority at an estimated cost of $1 million/year;
- Without the additional FTEs, the average processing time for a permit would increase to 3 years,

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[11] "NACAA Summary on Permitting GHGs Under the Clean Air Act"; Memorandum from Mary Stewart Douglas, National Association of Clean Air Agencies to Juan Santiago, EPA/OAQPS, September 3, 2009.

which is three times the current average processing time;

- Permitting authorities would need 2 years on average to add the necessary staff;
- Permitting authorities would also need, on average, eight additional enforcement and judicial FTEs;
- Ninety percent of the permitting agencies indicated that their staff would need training in all aspects of permitting for sources of GHG emissions; and
- A quarter of the permitting agencies reported that they were currently under a hiring freeze.

It is important to reiterate that the State and local permitting information on burden was based on the number of additional facilities subject to PSD because their emissions of GHGs exceed the 100/250-tpy thresholds at actual emissions rates, not PTE-based emissions rates. However, the PSD applicability requirements are based on PTE. By adjusting the increase in number of permits to account for GHG sources that exceed the 100/250-tpy applicability thresholds based on their PTE emissions, EPA estimated a 140-fold increase in numbers of PSD permits, much more than the 10-fold increase estimated by the States based on actual emissions.

The GHG threshold analyses used to identify the number of facilities that would be affected at current PSD permitting thresholds, and which is also used later in Section VIII for evaluating ***55302** alternative thresholds, are based on the PTE of GHG sources. PTE is defined as the maximum capacity of a stationary source to emit a pollutant under its physical and operational design, including certain legal limitations, for example, on emissions or hours of operation. PSD and title V programs both use PTE for defining major sources. Our threshold analyses begin with actual emissions estimates, but we then adjust the numbers upward to account for potential-to-emit. PTE adjustments for industrial sources are generally based on industry-specific capacity utilization factors, while those used for commercial and residential sources are based on general sector-based information on heating equipment and appliance usage in these sectors. While these PTE adjustments are important for estimating affected facilities in all sectors, they are a particularly relevant concern for determining the number of facilities in the commercial and residential sector that may be affected, where CO_2 emissions are primarily due to space heating/appliance usage and combustion units are likely to be used at levels well below constant operation at maximum capacity. For example, our PTE adjustment for commercial and residential sources resulted in an upwards adjustment ranging from 85 to 90 percent in emissions from their actual emission values. The basis for our PTE adjustments is described in the "Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation" found in the docket for this proposal. We ask for specific comment on the reasonableness of these PTE adjustments as they apply to the different sectors and source categories, in particular, the commercial and residential sectors where there is limited information available on equipment capacity utilization.

There are multiple sources of uncertainty in our approaches for estimating emissions, and thus for estimating numbers of sources. For example, the PTE adjustment factors just described may overstate or understate the maximum emissions from sources particularly for the commercial and residential sectors. In addition, there are inherent uncertainties in developing source counts from nationally aggregated statistics, as was done for the estimates for commercial and residential sources which rely on the allocation of national level statistics for energy consumption. The allocation factors we used, based on U.S. Energy Information Administration statistical sampling procedures, are likely the best available to estimate the population of residential and commercial sources exceeding different GHG thresholds. Again, these uncertainties may result in either overestimates or underestimates. The uncertainty is less for industrial categories, where we generally utilized facility-based methodologies, but because it was necessary to use varying methodologies for different source types, as described in the Technical Support Document, the uncertainties will not be uniform across all categories. We request comment on all aspects of our threshold analysis, possible sources of error, suggestions for reducing uncertainties, and alternate approaches to estimating emissions from commercial and residential sources.

B. Title V Implications

The triggering of title V requirements for GHG would result in administrative burdens that stem from sources' obligation to apply for permits. These obligations apply differently depending on whether the source already has a title V permit. Most significant are the more than six million sources of GHGs that would become newly subject to title V requirements because they exceed the 100-tpy threshold for GHG but did not for previously regulated pollutants. Although there are generally not applicable requirements for GHGs that apply to such sources, these six million sources would be required to submit a title V permit application within 1 year. Permitting authorities would need to issue these permits within 18 months of receipt of a complete application, and these permits would need to include any requirements for non-GHGs that may apply to the source, such as provisions of an applicable SIP. For any such requirements, permitting authorities would also need to develop terms addressing the various compliance assurance requirements of title V, including monitoring, deviation reporting, six-month monitoring reports, and annual compliance certifications.

Adding to the burden described above would be the burden to add GHG terms to the 14,700 existing title V permits. While, in general, existing title V permits would not immediately need to be revised or reopened to incorporate GHG (because as noted above, there are generally not applicable requirements for GHGs that apply to such sources), permitting authorities may face burdens to update existing title V permits for GHG under two possible scenarios: (1) EPA promulgates or approves any applicable requirements for GHGs that would apply to such a source, which would generally require a permit reopening or renewal application, or (2) the source makes a change that would result in an applicable requirement for GHGs to newly apply to the source, such as PSD review, which would generally require an application for a permit revision. Permitting authorities will also need to process permit renewal applications, generally on a 5-year cycle, and such renewals would need to assure that the permit properly addresses GHG. Finally they would have to process title V applications for new sources (including all the PSD sources previously discussed).

Obviously, this massive influx of permit applications would overwhelm permitting authorities' administrative resources. Indeed, permitting authorities report that they currently are having difficulty keeping up with their existing permit workloads. The Title V Operating Permits System database, which tracks permit issuance, confirms that issuance of many permits is already delayed. By increasing the volume of permits by over 400 times, the administrative burden would be unmanageable.

As with PSD, we have quantified the extent of the administrative problem that would result in workload hours and cost on the basis of information concerning hours and costs for processing existing title V permits that is indicated on ICRs. However, we recognize that more than 97 percent of these new sources would be commercial and residential sources. We estimate that for permitting authorities, the average new commercial or residential permit would require 43 hours to process, which is 10 percent of the time needed for the average new industrial permit. For an average existing permit, which permitting authorities would need to process through procedures for significant revisions and permit renewals, adding GHG emissions to the permit would result in, we estimate, 9 additional hours of processing time, which is 10 percent of the amount of time currently necessary for processing existing permits. We estimate that the total nationwide additional burden for permitting authorities for title V permits from adding GHG emissions at the 100-tpy threshold would be 340 million hours, which would cost over $15 billion.

As noted in this preamble's discussion of PSD burdens, we also reviewed summary information from

State and local permitting agencies, which showed significant burdens associated with adding GHGs in their title V programs in terms of staffing, budget, and other associated resource ***55303** needs.[12] Again, note that the permitting agencies based their estimates on numbers of permits that would be required from sources subject to the 100-tpy title V applicability threshold on an actuals-not PTE-basis. Based on that level, the agencies assumed a 40-fold increase in numbers of permits, and estimated that:

- The resulting workload would require an average of 57 more FTEs per permitting agency at an estimated cost of $4.6 million/year;
- Without the additional FTEs, the average processing time for a permit would increase to almost 10 years, which is 20 times the current average permit processing time;
- Permitting authorities would need 2 years on average to add the necessary staff;
- On average, permitting authorities would need 29 additional enforcement and judicial staff;
- Eighty percent of the permitting authorities indicated that their staff would need training in all aspects of permitting for sources of GHG emissions; and
- A quarter of the permitting authorities reported that they were currently under a hiring freeze.

It is important to reiterate that, as with PSD, the State and local information on projected permitting burden is based on the number of additional facilities subject to title V because their emissions of GHGs exceed the 100-tpy thresholds at actual emissions rates, not the PTE-based emissions rates. However, the title V applicability requirements are based on PTE. As noted elsewhere in this preamble, the State and local agencies estimated a 40-fold increase in numbers of title V permits based on the amount of GHG sources' actual emissions. By adjusting the summary estimates provided by the State and local agencies to account for GHG sources that exceed the 100-tpy threshold based on their PTE emissions, EPA estimated that the average permitting authority would need 570 more FTEs to support its title V permitting program.

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[12] "NACAA Summary on Permitting GHGs Under the Clean Air Act"; Memorandum from Mary Stewart Douglas, National Association of Clean Air Agencies to Juan Santiago, EPA/OAQPS, September 3, 2009.

C. ANPR Comments

We examined the ANPR comments received for further information on the additional administrative burdens that permitting programs would carry if PSD requirements for sources of GHG emissions were triggered at the current 100/250-tpy thresholds and title V requirements were triggered at the current 100-tpy threshold. Most industry stakeholders who commented on the ANPR believe that triggering title V and PSD applicability for GHG emissions sources would be disastrous and that a regulatory gridlock would ensue. Many of these industry commenters agreed with the U.S. Chamber of Commerce's study[13] which found that regulating GHGs under the CAA would cause 1,000,000 commercial buildings, nearly 200,000 manufacturing operations, and about 20,000 large farms to become CAA-regulated stationary sources. In fact, most of the industry commenters believed that these estimates underestimated the impacts. Commenters expressed that the implications of all these sources becoming CAA-regulated stationary sources would cause a large permitting backlog, as States do not have the staff or training to take on such a large burden. In addition, commenters stressed that many of these sources have never needed an air permit before and would have to obtain basic knowledge of the permitting regulations and how to comply with them, which would also impose more burdens on the permitting authorities. Many of the new sources would be small emitters not previously regulated under the CAA.

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[13] "A Regulatory Burden: The Compliance Dimension of Regulating CO_2 as a Pollutant"; Prepared for the U.S. Chamber of Commerce; September 2008. *See* Docket ID No. EPA-HQ-OAR-2008-0318-0402.1.

VI. What is the legal rationale for this proposed action?

This section of the preamble discusses the legal rationale for phasing in the applicability thresholds for PSD and title V purposes as proposed, which are two doctrines that courts have relied on in interpreting and applying statutory requirements: The "absurd results" doctrine and the "administrative necessity" doctrine. These doctrines are related, apply in this case because of the same factual circumstances, and justify the same application—that is, the phased approach—of the PSD and title V applicability provisions. But they are independent justifications, and therefore will be discussed independently.

A. "Absurd Results" Doctrine

This proposed action establishing the first phase of the PSD and title V applicability thresholds, in lieu of applying the statutory 100/250 tpy thresholds literally for GHG sources, is supported by a judicial doctrine that may be termed the "absurd results" doctrine. Applying the threshold provisions literally for the period immediately after PSD and title V are triggered for GHG emissions would lead to results that contravene congressional intent and, in fact, undermine Congress's purposes for both permitting programs.

1. Overview

As discussed in detail below, the courts are reluctant to invoke this doctrine precisely because it entails departing from the literal application of statutory provisions, but they nevertheless do so when the literal application produces results that are inconsistent with other statutory provisions, run contrary to expressed congressional intent or actually undermine congressional intent, or are otherwise so illogical or contrary to sensible policy as to be beyond anything that Congress could reasonably have intended. This is one of the rare cases in which the doctrine applies because the extraordinary increases in PSD and title V permit applications that would result from a literal application of the 100/250 tpy threshold requirements would, at least during the near term—until EPA and the permitting authorities can develop streamlining methods and ramp up resources—extensively disrupt the two permitting programs and impose undue regulatory burdens in the aggregate on the sources newly subject to PSD and title V permit requirements. These results would create tensions with other explicit requirements of the PSD and title V provisions, run contrary to expressed congressional intent for the PSD and title V provisions, and, in fact, severely undermine both programs.

The applicability of the absurd results legal doctrine to this proposal should be reviewed with EPA's proposed action in mind: EPA proposes to establish a process for implementing the PSD and title V applicability requirements, including a first phase that would consist of establishing the specified thresholds and vigorously developing streamlining methods; then, after 5 years, preparing an assessment; and then, by the sixth year, promulgating a rulemaking for further action. In addition, during this first phase, we expect the permitting authorities to ramp up resources for permit issuance.

With respect to PSD, a literal application of the applicability thresholds in CAA sections 165(a)(1) and 169(2)(C) of 100 or 250 tpy for GHG emitters would create significant tensions with two other PSD provisions during at least the first phase in period after the triggering of PSD applicability by the light-duty vehicle rule, and before the development of streamlining ***55304** methods and the addition of permitting resources. First, a literal application would render it impossible for permitting authorities to meet the requirement in CAA section 165(c) to process permit applications within 12 months. During this initial period, the number of permit applications would increase by 150-fold, an unprecedented increase that would far exceed administrative resources. Permitting authorities have estimated that it would take 10 years to process a PSD permit application, on average, and the resulting backlog would affect the permit applications for all sources, not just the GHG emitters.

This backlog would grow by tens of thousands each year following the triggering of PSD applicability—again, for at least the first few years—and thereby undermine a second express PSD provision, section 160(3). This provision describes, as one of the purposes of the PSD program, "to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources."Because the PSD requirements apply on a preconstruction basis—that is, they require permits before sources may construct or modify—tens of thousands of sources seeking to construct or modify during at least the first few years after the triggering of PSD would instead face many years of delay. This delay would impede economic growth by precluding any type of source—whether it emits GHGs or not—from constructing or modifying for years after its business plan contemplates.

In addition, a literal application of the 100/250 tpy threshold in the PSD provisions during at least the first few years after PSD is triggered for GHG emitters would be contrary to, and in fact would undermine, expressed congressional intent in several important ways: As just noted, it would undermine congressional intent to authorize economic growth, albeit with environmental safeguards. In addition, the PSD requirements entail significant regulatory costs to affected sources because the sources must identify and implement BACT on a source-specific basis. The legislative history of the PSD provisions makes clear that Congress intended the PSD program to apply only to larger sources, and not to smaller sources, in light of the larger sources' relatively greater ability to bear the costs of PSD and their greater responsibility for the pollution problems. In enacting the PSD requirements during the 1977 Clean Air Act Amendments, Congress, focused as it was on sources of conventional pollutants and not global warming pollutants, expected that the 100/250 tpy applicability thresholds would limit PSD to larger sources. But because very small sources emit CO_2 in quantities as low as 100/250 tpy, a literal application of the threshold to GHG emitters, without streamlining, would sweep in large numbers of small sources and subject them to the high costs of determining and meeting individualized BACT requirements, while also overwhelming permitting authorities' capacity to process those applications. Thus, a literal application of the 100/250 tpy thresholds would sweep into the PSD program tens of thousands of smaller sources that Congress did not intend to include, and the resulting strain on administrative resources would preclude the hundreds of larger sources that Congress did intend to be subject to the program from obtaining permits at least for an initial period. In time, the development of streamlining methods and the ramping up of administrative resources would bridge the gap between the literal language and congressional intent, and make it possible to expand the PSD program in a sensible manner that would make sense from the standpoint of the sources and the permitting authorities. But at least for the initial period, these circumstances qualify as "absurd results" that merit avoiding a literal application of the threshold provision.

We reach similar conclusions for title V. A literal application of the applicability threshold in CAA sections 502(a), 501(2)(B), and 302(j) of 100 tpy for GHG sources would bring some 6.1 million sources into the title V program. For at least the first few years after title V is triggered, until streamlining methods are developed and administrative resources are ramped up, this would create significant tensions with other title V provisions. The extraordinary number of permit applications would render it impossible for permitting authorities to meet the requirements of section 503(c) to process title V permit applications within 18 months. Further, this number of permit applications would severely disrupt implementation of the rest of the carefully calibrated set of statutory requirements that Congress set out in title V. These requirements set out specific—and brief—time frames for EPA review and for public participation, and they simply could not be complied with at least initially for this number of permit applications.

A literal application of the 100 tpy threshold would also be inconsistent with express congressional intent concerning title V. The statutory provisions by their terms, supported by the legislative history, indicate that Congress designed the title V program to promote compliance by compiling into a single document all of the requirements applicable to the source under the Act. The legislative history indicates that some in Congress expected the title V permit program to approximate the size of the Federal water permit program. However, applying the 100 tpy threshold for GHG emitters would lead to permit applications in numbers—some 6.1 million—that are almost 100 times greater than what Congress expected. The large permit backlog and inevitable multi-year delays in permit issuance that would ensue would thwart Congress's purposes in enacting title V to promote compliance with CAA requirements. As with PSD, this disruption would affect all sources covered by the provisions, whether or not they emit GHGs.

Moreover, the great majority of the 6.1 million additional permittees would not be subject to any CAA requirements and, as a result, would be issued permits that do not include any applicable requirements. Because Congress designed title V to require permits to address applicable requirements, and because Congress envisioned a much smaller program, immediately sweeping these sources into the program is contrary to congressional intent. Yet, their inclusion in the program would overwhelm administrative resources for at least an initial period, until streamlining methods are developed, and preclude the timely issuance and reissuance of permits to sources that Congress clearly contemplated should be included in the program. Thus, a literal application of the title V threshold provisions would bring in millions of sources that Congress did not intend to cover, and thereby interfere with the administration of the program for the thousands of sources that Congress did intend to cover. As with PSD, in time, the development of streamlining methods and the ramping up of administrative resources would bridge the gap between the literal language and congressional intent, and make it possible to include more of these sources in the title V program in a manner that makes sense for both the permittees and the permitters. But for the initial period, as with PSD, these circumstances qualify as "absurd results" that merit avoiding a literal application of the threshold provisions.

In the cases that apply the "absurd results" doctrine, the courts go on to apply the statutory provisions in question in a manner that—while not in ***55305** accordance with their literal reading—effectuates congressional intent as much as possible. We believe that the process we propose in this notice, which includes a first phase that establishes thresholds at the specified levels while allowing time to develop streamlining approaches and ramp up resources, followed by a study and further rulemaking, is consistent with this caselaw.

2. Tailoring Approach

In discussing the absurd results caselaw and its applicability in this case, it is important to keep in mind EPA's proposed action. As discussed in detail elsewhere in this notice, EPA proposes a phased plan designed to achieve full compliance with the PSD and title V threshold requirements. The first phase entails the establishment of applicability thresholds at the 25,000 tpy CO_2e levels, and significance levels at between 10,000 and 25,000 tpy CO_2e. In addition, the first phase entails development of streamlining methods—including potential revisions to the definition of potential to emit, general permits, and presumptive BACT—that allow us to craft the application of PSD and title V in ways that are achievable and effectively balance the burdens on both the permitting authorities and the regulated community with the reductions achievable. The first phase also includes the collection of information and further assessments in a report, to be completed within 5 years, and culminates in a rulemaking to be promulgated by the sixth year that will establish further action.

3. PSD and Title V Threshold Provisions

Several PSD and title V provisions are relevant for present purposes because of the specific requirements that they establish and the window that they provide into congressional intent. These provisions start with the PSD and title V applicability provisions. For PSD purposes, the key applicability provisions are found in CAA sections 165(a) and 169(1), which identify the new sources subject to PSD, and CAA § 111(a)(4), which describes the modifications of existing sources that are subject to PSD. CAA section 165(a), 42 U.S.C. 7475, provides:

> No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless—
>
> (1) A permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;
>
> (2) The proposed permit has been subject to a review in accordance with this section * * *, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations; * * *
>
> (4) The proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility * * *.

The term "major emitting facility" is defined, under CAA § 169(1) to include:

> * * * stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from [28 listed] types of stationary sources. * * * Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

The thresholds in CAA section 169(1) of 100-tpy for sources in the 28 listed categories and 250-tpy for all other sources may be referred to as the 100/250-tpy thresholds.

As for modification of existing sources, CAA section 169(1)(C) provides that the term "construction," as used in CAA section 165(a) (the PSD applicability section) "includes the modification (as defined in section 111(a)(4)) of any source or facility."Section 111(a)(4), in turn, provides:

> The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

As interpreted by EPA regulations, these provisions, taken together, provide that new stationary sources are subject to PSD if they emit at the 100/250-tpy thresholds air pollutants that are subject to EPA regulation, and that existing stationary sources that emit such air pollutants at the 100/250-tpy thresholds are subject to PSD if they undertake a physical or operational change that increases their emissions of such air pollutants by any amount.

For title V purposes, the key applicability provisions are found in CAA sections 502(a), 501(2)(B), and 302(j). These provisions provide that it is unlawful for any person to operate a "major source" without a title V permit, section 502(a), and define a "major source" as "any major stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant."CAA section 501(2)(B) and section 302(j). As noted elsewhere, these provisions, taken together and as interpreted by EPA, provide that stationary sources are subject to title V if they emit at the 100-tpy threshold air pollutants that are subject to EPA regulation.

Other provisions of particular relevance are the requirements in the PSD and title V programs for timely issuance of permits. For PSD, the permitting authority must "grant[ ] or den[y] [any completed permit application] not later than one year after the date of filing of such completed application."CAA § 165(c). For title V, "the permitting authority shall approve or disapprove a completed application * * * and shall issue or deny the permit, within 18 months after the date of receipt thereof * * *." CAA section 503(c). Title V goes on to include several provisions designed to support this 18-month requirement. First, the permitting authority must develop "adequate, streamlined, and reasonable procedures for expeditiously determining when applications are complete, for processing such applications, for public notice * * * and for expeditious review of permit actions, including * * * judicial review in State court of the final permit action by [specified persons]." CAA section 502(b)(6). Second, title V includes a "hammer" provision designed to reinforce timely permit issuance, which is that the permitting authority's program must include:

> To ensure against unreasonable delay by the permitting authority, adequate authority and procedures to provide that a failure of such permitting authority to act on a permit application or permit renewal application (in accordance with the time periods specified in [CAA § 503] * * *) shall be treated as a final permit action solely for purposes of obtaining judicial review in State court of an action brought by any person referred to in paragraph (6) to require that action be taken by the permitting authority on such application without additional delay. CAA § 502(b)(7).

Third, the permit program must include "[a]uthority and reasonable procedures consistent with the need for expeditious action by the permitting authority on permit applications and related matters, to make available to the public [certain permit-related documents]". CAA section 502(b)(8).

In addition, PSD includes a set of provisions that specifically state "the purposes of [the PSD program]," which are to balance environmental protection and growth. CAA § 160. One of the purposes, in subsection (1), is specifically "to protect public health and welfare," and another, in subsection ***55306** (3), is "to insure that economic growth will occur in a manner consistent with the preservations of existing clean air resources."Title V does not have a parallel set of provisions describing its purpose, but it is clear from its provisions and its legislative history, discussed below, that its key goal is to gather into a single document the Clean Air Act requirements applicable to a source and impose conditions necessary to assure compliance with such requirements, and thereby promote the enforceability of CAA requirements applicable to the covered sources. CAA § 503(b)(1) requires that the source's permit application must assure "compl[iance] with all applicable requirements" of the CAA, and § 504(a) requires that "[e]ach permit issued under [title V] shall include * * * such * * * conditions as are necessary to assure compliance with applicable requirements of [the Clean Air Act]." *See* H.R. Rep. No. 101-490, at 351 (1990) ("It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable to the source.").

In addition, both PSD and title V include detailed procedures for implementation. The PSD provisions most relevant for sources of GHG are that the proposed permit for each source must be the subject of a public hearing with opportunity for interested persons to comment, CAA § 165(a)(2), and each source must be subject to best available control technology, as determined by the permitting authority on a source-by-source basis, CAA § 165(a)(4), 169(3). Title V includes a comprehensive and finely detailed implementation schedule that mandates timely issuance of permits while building in EPA and affected State review, public participation, and timely compliance by the source with reporting requirements. Following the date that sources become subject to title V, they have 1 year to submit their permit applications. CAA § 503(c). As noted above, the permitting authority then has 18 months to issue or deny the permit. CAA § 503(c). Permitting authorities must provide an opportunity for public comment and a hearing. CAA § 502(b)(6). If the permitting authority proposes to issue the permit, the permitting authority must submit the permit to EPA, and notify affected States, for review. CAA § 505(a)(1). EPA then has 45 days to review the permit and, if EPA deems it appropriate, to object to the permit. CAA § 505(b)(1). If EPA does object, then the permitting authority must, within 90 days, revise it to meet the objections, or else EPA becomes required to issue or deny the permit. CAA § 505(c). If EPA does not object, then, within 60 days of the close of the 45-day review period, any person may petition EPA to object, and EPA must grant or deny the petition within 60 days. CAA § 505(b)(2). If a permit is issued, it must include a permit compliance plan, under which the permittee must "submit progress reports to the permitting authority no less frequently than every 6 months," and must "periodically (but no less frequently than annually) certify that the facility is in compliance with any applicable requirements of the permit, and [ ] promptly report any deviations from permit requirements to the permitting authority."CAA § 503(b).

4. "Absurd Results" Doctrine

The familiar *Chevron* two-step analysis provides the starting point for EPA's interpretation of these statutory provisions. Under *Chevron* step 1, an agency must determine whether Congress's intent in a particular provision on a particular question is clear; if so, then the agency must follow that intent. If the intent of a provision is not clear, then the agency may, under step 2, fashion a reasonable interpretation of the provision. *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837, 842-43 (1984).

Here, the applicability provisions for PSD and title V are clear on their face. However, the U.S. Supreme Court has held that the plain meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls." *Ron Pair*, 489 U.S. at 242 (citations omitted).[14]

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[14] Judge Learned Hand's formulation of the doctrine is often quoted in the caselaw:

> Of course, it is true that the words used, even in their literal sense, are the primary and ordinarily the most reliable, source of interpreting the meaning of any writing. * * * But it is one of the surest indexes of a mature and developed jurisprudence not to make a fortress out of the dictionary; but to remember that statutes always have some purpose or object to accomplish, whose sympathetic and imaginative discovery is the surest guide to their meaning.

Cabell v. *Markham*, 148 F.2d 737, 738 (2d Cir.), aff'd326 U.S. 404 (1945). *See Giuseppi* v. *Walling*, 144 F.2d 608, 624 (2d Cir. 1944) (opinion by Judge Hand) ("There is no surer way to misread any document than to read it literally").

In describing these cases as "rare," the U.S. Supreme Court seemed to be referring to the small percentage of statutory-construction cases that are decided on the basis of the doctrine. The D.C. Circuit, in surveying the doctrine over more than a century of jurisprudence, characterized the body of law in absolute numbers as comprising "legions of court decisions." *In re Franklyn C. Nofziger*, 925 F.2d 428, 434 (D.C. Cir. 1991). The U.S. Supreme Court cases include, among others, *Nixon* v. *Missouri Municipal League*, 541 U.S. 125, 132-33 (2004) ("any entity" includes private but not public entities); *Raygor* v. *Regents of Univ. of Minn.*, 534 U.S. 533, 542-45 (2002) ("implying a narrow interpretation of * * * 'any claim asserted' so as to exclude certain claims dismissed on Eleventh Amendment grounds"); *Ron Pair*, 48 U.S. at 242; *Green* v. *Bock Laundry Machine Company*, 490 U.S. 504 (1989) (provision in Federal Rule of Evidence that protects "the defendant" against potentially prejudicial evidence, but not the plaintiff, refers to only criminal, and not civil, defendants); *Train* v. *Colorado Public Interest Research Group, Inc.*, 426 U.S. 1, 23-24 (1976) (prohibition in Federal Water Pollution Control Act against discharging into navigable waters "pollutants," which are defined to include "radioactive materials," does not apply to three specific types of radioactive materials); *Lynch* v. *Overholser*, 369 U.S. 705, 710, (1962) (statutory construction is not confined to the "bare words of a statute"); *Utah Junk Co.* v. *Porter*, 328 U.S. 39, 44 (1946) ("literalness may strangle meaning"); *Markham* v. *Cabell*, 326 U.S. 404, 409 (1945) ("The policy as well as the letter of the law is a guide to decision."); *United States* v. *American Trucking Associations, Inc.* 310 U.S. 534 (1940) (the term "employees" in the Federal

Motor Carrier Act, is limited to employees whose activities affect safety); *C.V. Sorrels* v. *U.S.*, 287 U.S. 435, 446-49 (1932) (provisions of National Prohibition Act that criminalize possessing and selling liquor do not apply if defendant is entrapped; Court declines to apply the "letter of the statute" because doing so "in the circumstances under consideration is foreign to its purpose"); *Holy Trinity Church* v. *U.S.*, 143 U.S. 457, 516-17 (1892) ("any alien" does not include a foreign pastor; Court stated, "It is a familiar rule, that a thing may be within the letter of the statute and yet not within the statute, because not within its spirit, nor within the intention of its makers * * * If a literal construction of the words be absurd, the Act must be construed as to avoid the absurdity"); *United States* v. *Kirby*, 7 ***55307** *Wall*, 482, 486, 19 L.Ed. 278 (1868) (the statute punishing obstruction of the mails is not to be applied to obstruction for the lawful purpose of arresting a mail carrier indicted for murder).

The D.C. Circuit has also handed down several decisions that applied the absurd results doctrine to avoid a literal interpretation or application of statutory provisions. See *Buffalo Crushed Stone, Inc.* v. *Surface Transportation Board*, 194 F.3d 125, 129-30 (D.C. Cir. 1999) (regulation of Surface Transportation Board providing that if a notice of exemption "contains false or misleading information, the use of the exemption is void ab initio" does not apply to a notice containing false information when declaring the notice void ab initio would undermine the goals of the governing statute; a conflict between the "literal application of statutory language" and maintaining the integrity of the regulatory scheme should be resolved by construing the text in accordance with its purpose); *U.S. v. Stewart*, 104 F.3d 1377, 1388 (D.C. Cir.

1997)*Environmental Defense Fund* v. *EPA*, 82 F.3d 451, 468-69 (D.C. Cir. 1996) (although Clean Air Act requires that a Federal action conform to the State implementation plan that is currently in place, EPA may instead require conformity to a revised implementation plan that State commits to develop; "[t]his is one of those rare cases * * * [that] requires a more flexible, purpose-oriented interpretation if we are to avoid 'absurd or futile results.' "); *In re Nofziger*, 925 F.2d 428, 434-35 (D.C. Cir. 1991) (provision authorizing payment of attorney fees to the subject of an investigation conducted by an independent counsel of the Department of Justice only if "no indictment is brought" against such individual does not preclude payment of attorney fees when an indictment is brought but is determined to be invalid).

To determine whether "the intentions of the drafters" differ from the result produced from "literal application" of the statutory provisions in question, the courts may examine the overall context of the statutory provisions, including whether there are related statutory provisions that either conflict or are consistent with that interpretation, [15] and including whether there is legislative history that exposes what the legislature meant by the terms in question. In addition, the courts may examine whether a literal application of the provisions produces a result that the courts characterize variously as absurd, futile, strange, or indeterminate, and therefore so illogical or otherwise contrary to sensible public policy as to be beyond anything Congress would reasonably have intended. After concluding this examination, the courts uphold an application of the provisions that, albeit not the literal application, is one that is nevertheless as consistent with congressional intent as possible.

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[15] A related line of cases addresses statutory provisions that directly, on their face, conflict with other statutory provisions. In these cases, as with the "absurd result" cases, the courts may decline to interpret literally the statutory provisions in question, and instead interpret them to give as much effect as possible to all of the relevant provisions. See, *e.g.*, *Mountain States Telephone and Telegraph Co.* v. *Pueblo of Santa Ana*, 472 U.S. 237 (1985); *Clark* v. *Uebersee Finanz-Korporation*, 332 U.S. 480 (1947); *Citizens to Save Spencer County* v. *EPA*, 600 F.2d 844 (D.C. Cir. 1977).

The U.S. Supreme Court applied the absurd results doctrine in *Green* v. *Bock Laundry Machine Company,* 490 U.S. 504 (1989). There, the Court considered Federal Rule of Evidence 609(a), which provides:

> General Rule. For the purpose of attacking the credibility of a witness, evidence that the witness has been convicted of a crime shall be admitted * * * but only if the crime (1) [is of a specified type] and the court determines that the probative value of admitting this evidence outweighs its prejudicial effect to the defendant.

(Emphasis added.) The Court recognized that read literally, Rule 609(a) applies in both criminal and civil litigation and gives an advantage to defendants. Specifically, the rule extends to both the criminal and civil defendants the protection of weighing the probative value of evidence of certain crimes against its prejudicial effect, but as for plaintiffs, the rule requires that evidence of those crimes be admitted without weighing against prejudicial effect. The Court found that for criminal litigation, this result makes sense because it is consistent with the greater protections generally afforded to defendants. However, for civil litigation, the Court found that this "literal reading would compel an odd result" because, among other things, civil defendants are not accorded greater protections than civil plaintiffs and, in any event, whether a litigant is designated plaintiff or defendant often is happenstance. The Court emphasized that "[n]o matter how plain the text of the Rule may be," it could not accept this result, and concluded that "as far as civil trials are concerned, Rule 609(a)(1) 'can't mean what it says.' " 490 U.S. at 509-11 (citations omitted). The Court reviewed the legislative history, and concluded that notwithstanding the plain language, Congress "intended that only the accused in a criminal case should be protected from unfair prejudice by the balance set out in Rule 609(a)(1)." *Id.* at 523-24.

In cases in which the "absurd results" doctrine of statutory constructions authorizes an agency to depart from the literal meaning of the statute, the agency must do so in as limited a manner as possible to effectuate underlying congressional intent. As the D.C. Circuit has stated:

> The rule that statutes are to be read to avoid absurd results allows an agency to establish that seemingly clear statutory language does not reflect the "unambiguously expressed intent of Congress," * * * and thus to overcome the first step of the *Chevron* analysis. But the agency does not thereby obtain a license to rewrite the statute. When the agency concludes that a literal reading of a statute would thwart the purposes of Congress, it may deviate no further from the statute than

is needed to protect congressional intent.

Mova Pharmaceutical Corp. v. *Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998).

5. PSD and Title V Applicability Requirements

The plain meaning of the PSD applicability provisions in CAA §§ 165(a)(1) and 169(1) is clear that once PSD is triggered for GHG emissions, a source will be subject to PSD if it either belongs to one of 28 specifically identified source categories and "emit[s], or ha[s] the potential to emit, one hundred tons per year or more of any air pollutant," including GHGs, or does not belong to one of those source categories and has "the potential to emit two hundred and fifty tons per year or more of any air pollutant," including GHGs. Similarly, the plain meaning of the title V applicability requirements in CAA §§ 501(2)(B) and 302(j) is clear that once the title V requirements are triggered, they would apply to a source that "directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant," including GHGs.

As described in detail elsewhere, applying the plain meaning of these provisions once PSD and title V are triggered for GHG emissions would impose PSD and title V permitting requirements on an extraordinarily large number of sources: The number of sources subject to PSD permits would increase from less than 300 per year to some 41,000 per year, and the number of sources subject to the title V requirements would grow from less than 14,000 to some 6.1 million. For at least an initial period of time, before permitting authorities could develop streamlining mechanisms, these obligations would have severe effects. From the permitting authorities' standpoint, the number of permit applications would far exceed their ***55308** administrative capacity, and would inevitably result in delays in issuance of permits to all sources—whether emitting conventional pollutants or GHGs—that would be measured in many years. From the sources' standpoints, thousands of sources that are quite small and that have never been confronted with CAA obligations would incur the expenses of PSD permitting requirements, including, most importantly, indentifying and developing BACT controls on a source-by-source basis. As for title V, millions of sources would be required to submit permit applications that meet title V requirements, even though the great majority of them would not be subject to any applicable CAA requirements. During this initial period, permitting authorities could develop streamlining approaches and ramp up administrative resources so that afterwards, they would be better able to accommodate the large numbers of permit applications and sources would be better able to comply. But, again, during the initial period, severe problems would ensue.

We believe that these effects of a literal application of the PSD and title V applicability thresholds and their collateral consequences are well beyond anything that Congress envisioned when it drafted the PSD and title V requirements, and indeed undermine both permitting programs. As a result, these effects bring into play the "absurd results" doctrine.

a. PSD

(1) Tensions With Other Statutory Requirements

Turning first to PSD, an important indication that

Congress would not have intended that the threshold provisions be applied literally under the present circumstances may be found in the tensions that this literal application would create with other PSD provisions. CAA § 165(c) is particularly important in this regard. It requires that the permitting authority grant or deny "[a]ny completed permit application for a major emitting facility * * * not later than one year after the date of filing of such completed application."A literal interpretation of CAA sections 165(a)(1) and 169(1) to apply at the 100/250 tpy levels for GHG sources would render compliance with this provision impossible by requiring far more permit applications than permitting authorities could process under this 12-month deadline, for at least an initial period of time until streamlining methods are developed. As noted elsewhere, States have estimated that the number of PSD permits that would be required under a 100/250 tpy threshold on an actuals basis would result in an average processing time of 10 years.[16]

A literal interpretation of CAA sections 165(a)(1) and 169(1) to apply at the 100/250 tpy levels would also be directly inconsistent with the PSD-purpose provision in CAA § 160, in particular, § 160(3), which is "to insure that economic growth will occur in a manner consistent with the preservation of existing clear air resources."As the legislative history makes clear, Congress enacted the PSD provisions to resolve issues arising when sources of criteria pollutants seek to build or expand in areas with air quality that meets the national ambient air quality standards, but that would deteriorate with the addition of such new or expanded sources. Congress designed the PSD provisions to provide a mechanism for allowing sources to construct or modify in those clean-air areas, but with safeguards that both protected health and welfare, and that also left enough room in the airshed for still more economic growth. *See, e.g.*, H. Rpt. 95-294, 95th Cong., 1st Sess., at 154 (legislation "not only protect[s] public health and welfare but also assur[es] future air resources will be available for continuing the industrial and energy development so necessary for the growth of the Nation"). Because PSD is a preconstruction requirement, increasing permitting authorities' workload from 300 to 41,000 permits would severely undermine this purpose of facilitating economic growth, at least initially, until permitting authorities can develop streamlining methods and ramp up resources. Each year, many thousands of sources would face multi-year delays in receiving their permits, and as a result, for all practical purposes, they would be forced to place on hold indefinitely their plans to construct or modify.

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[16] As noted elsewhere, because the applicability provisions apply on a potential-to-emit basis, as well as an actuals basis, the number of permit applications would be much greater than the permitting authorities assumed, and therefore the processing times would be much longer than 10 years.

(2) Inconsistency With Congressional Intent

The legislative history of the PSD provisions—enacted, again, in the 1977 Clean Air Act Amendments—also makes clear that a literal application of the applicability provisions would lead to results that are diametrically inconsistent with Congress's expressed intent. In reviewing the legislative history, it should be borne in mind that Congress was focused on sources of criteria pollutants—primarily sulfur dioxide (SO_2), particulate matter, nitrogen oxides (NOx), and carbon monoxide (CO)—and not GHG emissions. This focus stems from the basic purpose of the PSD program, which is to safeguard maintenance of the NAAQS, combined with the limited awareness at that time of the problem of climate change. See S 95-127 (95th Cong., 1st Sess.), at 27.

Congress designed the PSD provisions to impose significant regulatory requirements, on a source-by-source basis, to identify and implement BACT and, for criteria pollutant, to also undertake certain studies. Congress was well aware that because these requirements are individualized to the source, they are expensive. Accordingly, Congress designed the applicability provisions to apply these requirements to industrial sources of a certain type and a certain size—sources within 28 specified source categories and that emit at least 100 tpy—as well as all other sources that emit at least 250 tpy, and, by the same token, to exempt other sources from these requirements. The legislative history shows that Congress's limitation of PSD to larger sources was quite deliberate, and was based on its determination to limit the costs that PSD permitting entails to the larger sources in certain industries. The D.C. Circuit has had occasion, in *Alabama Power*, to acknowledge this legislative history: "Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air." *Alabama Power*, 636 F.2d at 353. The Court added, "Though the costs of compliance with [the PSD] requirements are substantial, they can reasonably be borne by facilities that actually emit, or would actually emit when operating at full capacity, the large tonnage thresholds specified in section 169(1).". *Id.* at 354.

Although Congress required that CAA requirements generally apply to "major emitting facilities," defined as any source that emits or has the potential to emit 100 tpy of any pollutant, Congress applied PSD to only sources at 100 tpy or higher in 28 specified industrial source categories, and at 250 tpy or more in all other source categories. This distinction was deliberate: According to Sen. McClure, Congress selected the 28 source categories after reviewing an EPA study describing 190 industrial source categories. 122 Cong. Rec. 24521 (July 29, 1976) (statement by Sen. McClure).

***55309** Congress also relied on an EPA memorandum that identified the range of industrial categories that EPA regulated under its regulations that constituted the precursor to the statutory PSD program, and listed both the estimated number of new sources constructing each year and the amount of pollution emitted by the "typical plant" in the category. The memorandum was prepared by B.J. Steigerwald, Director of the Office of Air Quality Planning and Standards and Roger Strelow, EPA's Assistant Administrator for Air and Waste Management ("Steigerwald-Strelow memorandum). The Steigerwald-Strelow memorandum makes clear that the 100 tpy cut-off for the 28 listed sources categories, and the 250 tpy cut-off for all other sources, was meaningful; that is, there were a large number of sources below those cut-offs that Congress explicitly contemplated would not be included in PSD. *Id.* at 24548-50.

Consistent with this, the legislative history on the Senate side also specifically identified certain source categories that Senators believed should not be covered by PSD. The Senate bill language limited PSD to sources of 100 tpy or more in 28 listed source categories, and to any other categories that the Administrator might add. Sen. Muskie stated that the Senate bill excluded "houses, dairies, farms, highways, hospitals, schools, grocery stores, and other such sources."123 Cong. Rec. 18021 (June 8, 1977) (statement of Sen. Muskie). Sen. McLure's list of excluded source categories were "[a] small gasoline jobber, or a heating plant at a community college, [which] could have the potential to emit 100 tons of pollution annually."122 Cong. Rec. 24548-49 (July 29, 1976) (statement of Sen. McClure). The Senate Committee Report included a comparable list, and in describing it, concisely articulated the cost-conscious basis for the line-drawing: "[the PSD] procedure * * * must include an effective review-and-permit process. Such a process is reasonable and necessary for very large sources, such as new electrical generating plants or new steel mills. But the procedure would prove costly and potentially unreasonable if imposed on construction of storage facilities for a small gasoline jobber or on the construction of a new heating plant at a junior college, each of which may have the potential to emit 100 tons of pollution annually." S. Rpt. 95-127 at 96-97.

The enacted legislation differs from the Senate bill by replacing the authorization to EPA to include by regulation source categories in addition to the listed 28 source categories with an inclusion of all other sources if they exceed 250 tpy, and with an authorization for the States to exempt hospitals and educational institutions. But Congress's overall intention remains clear, as the D.C. Circuit described in *Alabama Power*:. "Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air * * * [With respect to] the heating plant operating in a large high school or in a small community college * * * [w]e have no reason to believe that Congress intended to define such obviously minor sources as 'major' for the purposes of the PSD provision."[17] 636 F.2d at 353-54. However, applying the 100/250 tpy threshold literally to CO_2 emissions would frustrate congressional intent by subjecting to PSD sources that Congress specifically intended not to include. This occurs simply because although Congress evaluated whether sources should be included in PSD by reference to the amount of the emissions of conventional pollutants, many sources combust fossil fuels for heat or electricity, and the combustion process produces quantities of CO_2 that are far in excess of the sources' quantities of conventional pollutants and, in many cases, Congress's carefully considered 100 and 250 tpy thresholds. As a result, many of the "typical plant [s]" identified in the Steigerwald-Strelow memorandum that Congress thought would be excluded from PSD due to the relatively small amounts of their conventional pollutants would in fact be included due to the CO_2 emissions from their heating or electricity generating equipment. But the clearest and most important indication that applying the 100/250 thresholds literally in the case of GHG emissions would undermine congressional intent comes in considering the emissions profile of the small-sized boilers. Congress focused closely on identifying which sources with emissions in excess of 100 tpy should not be subject to PSD even though they are subject to CAA requirements generally. But Congress viewed a large set of sources as emitting below 100 tpy and therefore not included in the PSD program and, indeed, not even subject to debate as to whether they should be included in the PSD program. Chief among these sources, in terms of absolute numbers of sources, were small boilers. The Steigerwald-Strelow memorandum identified two categories of these boilers, differentiated by size. The first ranges in size from 10 to 250 x 10^6 Btu/hr, and has a "typical plant" size of 10^7 Btu/hr, with "BACT emissions from typical plant" of 53 tpy, and a total of 1,446 sources in the category. The second category ranges in size from 0.3 to 10 x 10^6 Btu/hr, and has a "typical plant" size of 1.3 x 10^6 Btu/hr, with "BACT emissions from typical plant" of 2 tpy, and a total of 11,215 sources in the category. The memorandum discusses these two categories in the context of explaining which source categories exceed a size of 100 tpy—and therefore would be subject to PSD if a 100 tpy threshold were set—by stating, "Fortunately, most truly small boilers and typical space heating operations would not be covered." 122 *Cong. Rec.* 24549 (July 29, 1976). However, if the CO_2 emissions of these small boilers are considered, then most of them would be subject to PSD. In general, most boilers of these small sizes are fired with natural gas, and a natural gas boiler greater than 0.5 x 10^6 Btu/hr emits at least 250 tpy CO_2. As a result, the small commercial and residential sources that include these boilers would become subject to PSD, and this would directly contravene Congress's intention to limit PSD to "industrial plants of significant impact." 122 Cong. Rec. 24548-49 (statement of Sen. McClure). The legislative history also provides a window into the scope of the program that Congress anticipated and related administrability concerns. According to the Steigerwald-Strelow memorandum, the number of new sources each year whose "BACT emissions from typical plant" exceed 100 for the 28 listed source categories and 250 for all other source categories is less than 100 per year. Although the Steigerwald-Strelow memorandum does not attempt to estimate the number of modifications, it appears that based on this information, Congress had reason to expect the total size of the PSD program to be measured in the hundreds of permits each year. A program of this size would be manageable by EPA and the permitting authorities.

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[17] Note that although Congress specifically authorized the States to exempt "nonprofit health or education institutions" from the definition of "major emitting facility," this statement by the D.C. Circuit should be taken as the Court's view that Congress did not design PSD to cover sources of the small size described.

The D.C. Circuit based its holding in *Alabama Power* that potential-to-emit for purposes of the applicability thresholds should be defined as ***55310** emissions at full capacity with implementation of control equipment, in part on its view that with this definition, the number of sources subject to PSD would be manageable:

> Though the costs of compliance with section 165 requirements are substantial, they can reasonably be borne by facilities that actually emit, or would actually emit when operating at full capacity, the large tonnage thresholds specified in section 169(1). The numbers of sources that meet these criteria, as we delineate them, are reasonably in line with EPA's

administrative capability.

Alabama Power, 636 F.2d at 354 (emphasis added). However, applying the thresholds literally to GHG emissions would increase the size of the PSD program far beyond what Congress had reason to expect and what the D.C. Circuit evidently had in mind. Returning to the Steigerwald-Strelow table, applying the thresholds literally would bring into PSD the great majority of the small boilers constructed each year, which numbered, in total, 12,661. Adding more sources from other source categories, and, most importantly, modifications, indicates that the size of the PSD program would very likely be at least an order of magnitude greater than what Congress intended. At least for an initial period of time, until streamlining methods could be developed, these numbers of sources would be well beyond the "administrative capability" that the D.C. Circuit described EPA as having.

(3) Absurd Results

Applying the PSD thresholds to sources of GHG emissions literally results in a PSD program that is so contrary to what Congress had in mind—and that in fact so undermines what Congress attempted to accomplish with the PSD requirements—that it should be avoided under the "absurd results" doctrine. As described above, Congress designed the PSD program as a mechanism to allow construction of new sources and expansion of existing sources in areas meeting the NAAQS, but only after those sources, on a source-by-source basis, undertook analyses to demonstrate that their emissions would not significantly deteriorate air quality and implemented controls representing BACT. Recognizing that PSD imposed significant costs on sources, Congress constructed a statutory scheme that it viewed as limiting PSD to large industrial sources that could bear the financial costs and that caused most of the pollution problem. These limits were the 100/250 tpy thresholds. Congress had reason to expect that with these thresholds, the program would approximate the size of the current PSD program, which numbers in the hundreds of sources each year. Throughout its deliberations, Congress focused primarily on emissions of conventional pollutants.

But applying the 100/250 tpy thresholds literally to sources of CO_2 would sweep aside this carefully designed construct by bringing in tens of thousands of sources of a different type and much smaller size than Congress had in mind: Commercial and residential sources whose primary—if not sole—source of emissions is CO_2 from small boilers that primarily provide heat. Moreover, applying the thresholds literally would bring in many additional sources in the source categories Congress expected PSD to apply to, but of a size Congress expected to be below the cut-off. Congress did not intend to apply PSD to these sources because of the expenses that compliance with PSD entails and because Congress did not view these sources as causing a sufficiently great part of the pollution problem. Including these sources would also expand the PSD program to well beyond what Congress had reason to expect, and what permitting authorities can administer.

The administrability problems lead the results of applying the thresholds literally beyond contravening congressional intent and into actually undermining congressional intent. At least for an initial period, until streamlining methods could be developed, the extraordinary number of sources subject to PSD would preclude the permitting authorities from processing permit applications for all sources, including those that Congress intended be subject to PSD. Because PSD is a preconstruction program, those sources would face many years of delay before they could construct or modify, which would undermine congressional intent to allow economic growth in PSD areas. These results are the types of "absurd results" from a literal reading of statutory provisions that courts have declined to sanction.

b. Title V

For title V, the application of the absurd results doctrine parallels that of PSD. First, a literal application of the 100 tpy threshold requirement in CAA §§ 502(a), 501(2)(B), and 302(j) would be in tension with a specific CAA requirement, that of CAA § 503(c), which imposes a time limit of 18 months from the date of receipt of the completed permit application for the permitting authority to issue or deny the permit. It would be flatly impossible for permitting authorities to meet this statutory requirement if their workload increases from some 14,000 permits to 6.1 million. Instead, permit applications would face multi-year delays in obtaining their permits.

Moreover, these delays would undermine the overall statutory design that promotes the smooth-running of the permitting process, and the very purpose of the title V program itself. As noted elsewhere, Congress intended through title V to facilitate compliance by establishing an operating permit program that requires the source to combine in a single permit all of its CAA requirements. Congress established a comprehensive process to implement the operating permit program. Through this process, following the date that sources become subject to title V, they have 1 year to submit their permit applications. CAA § 503(c). As noted, the permitting authority then has 18 months to issue or deny the permit. CAA § 503(c). Permitting authorities must provide an opportunity for public comment and a hearing. CAA § 502(b)(6). If the permitting authority proposes to issue the permit, the permitting authority must submit the permit to EPA, and notify affected States, for review. CAA § 505(a)(1). EPA then has 45 days to review the permit and, if EPA deems it appropriate, to object to the permit. CAA § 503(b)(1). If EPA does object, then the permitting authority must, within 90 days, revise it to meet the objections, or else EPA becomes required to issue or deny the permit. CAA § 503(c). If EPA does not object, then, within 60 days of the close of the 45-day review period, any person may petition EPA to object, and EPA must grant or deny the petition within 60 days. This set of applicant, permitting authority, and EPA actions and deadlines establishes the process for the prompt and efficient issuance of operating permits for the appropriate universe of sources.

The legislative history of title V, enacted by Congress in the 1990 CAA Amendments, indicates that Congress expected the provisions to apply to a much smaller set of sources than would become subject at a 100-tpy GHG threshold level. The Senate Committee report noted that under the title V provisions that would be enacted, "the additional workload in managing the air pollution permit system is estimated to be roughly comparable to the burden that States and EPA have successfully managed under the Clean

Water Act[,]" under which "some 70,000 sources receive permits, including more than 16,000 major sources." S. Rep. 101-228, ***55311** at 353. Applying title V to GHG emitters at the 100-tpy threshold would result in approximately 6.1 million sources becoming subject to title V, which is far in excess of the number that Congress contemplated.

Moreover, the great majority of these sources will not be subject to any CAA requirements, so that although they would need to apply for and receive a permit, there would be no applicable requirements to include in the permit and the exercise would not improve compliance. But at least for an initial period, until streamlining methods could be developed, the extraordinary numbers of these sources would sweep aside Congress' carefully constructed program, with its multi-step process and deadlines of as short as 45 days—and instead, backlog the permit authorities for many years. Multi-year delays in issuance of all permits would ensue, those for sources that have applicable requirements and that Congress clearly intended the program to cover, and for the millions of sources that are not subject to any applicable requirements. Thus, as with PSD, a literal interpretation of the title V threshold provisions would apply title V to millions of sources that Congress did not intend be covered, and the ensuing administrative burdens—at least initially—would impede the issuance of permits to the thousands of sources that Congress did intend be covered. This result is the type of "absurd results" from a literal application of statutory provisions that the courts have held should be avoided.

c. Application of PSD and Title V Thresholds

Because a literal application of both the PSD and title V threshold requirements produces absurd results, EPA may develop a different application that promotes consistency with other statutory provisions and is consistent with congressional intent. We believe that this proposal would achieve these objectives by establishing a threshold for the first phase at the level of 25,000 tpy CO_2e, and committing to vigorous efforts to streamline implementation of both programs' requirements and to complete a study and then conduct further rulemaking.

A first phase 25,000-tpy CO_2e major source GHG threshold, combined with vigorous efforts to develop streamlining methods, is consistent with congressional intent for the PSD provisions for several reasons. The 25,000-tpy CO_2e threshold reconciles the PSD provisions that, absent this regulation, would be in tension with each other, and thereby maintains the overall functioning of the PSD program. The threshold maintains the environmental purposes of the PSD program, while allowing economic growth, as set forth in CAA § 160. As discussed elsewhere in this preamble, a majority of stationary source GHG emissions in the U.S. come from a relatively small number of high-emitting sources that would remain subject to PSD because they emit at or above the 25,000-tpy CO_2e threshold. By comparison, about 75 percent of stationary source GHG emissions come from all sources above 250 tpy. Accordingly, the 25,000-tpy CO_2e threshold would, during this first phase, exempt from PSD numerous small sources that emit only about 7 percent of GHGs, and that smaller amount of emissions coverage would not jeopardize the environmental protection goals of PSD. Moreover, the program will remain of a manageable size, so that permitting authorities will be able to process permit applications and issue permits, which sources must have to construct or expand. As discussed elsewhere, the information available to us indicates that the 25,000-tpy CO_2e level is the level closest to the statutory levels that permitting authorities can reasonably administer during this initial phase. The "absurd results" caselaw requires that if a statutory provision cannot be applied literally, then it should be applied as close to literally as possible, consistent with congressional intent. With this level of 25,000-tpy CO_2e, permitting authorities would be able to reasonably comply with the 12-month deadline requirement for acting on PSD permit applications under CAA § 165(c). Further, the first phase threshold of 25,000 tpy and the development of streamlining methods is consistent with congressional intent to limit the PSD program—with the high costs that result from its source-by-source applications—to sources that can bear the costs. The first phase would allow for the implementation of streamlining methods, which could facilitate the orderly development of the program by reducing the costs of compliance for sources of GHG emissions. In addition, the first phase threshold maintains the program at a manageable size so that permitting authorities will be able to continue to timely issue permits to sources seeking to construct or expand.

The first phase 25,000-tpy CO_2e threshold, combined with the development of streamlining methods and the study and subsequent regulations, is also consistent with the purposes of the title V provisions. This first phase would assure a manageable size for the program so that permitting authorities could continue to issue permits to sources with applicable CAA requirements, as Congress intended. The implementation of streamlining methods—in particular, general permits—could facilitate the orderly development of the title V program to include a broader set of sources based on their GHG emissions.

B. "Administrative Necessity" Doctrine

1. Overview

Once EPA takes regulatory action to trigger PSD and title V requirements for GHG emitters, a literal application of the PSD and title V applicability requirements (*i.e.*, the 100/250-tpy PSD major stationary source threshold and a "zero" significance level threshold, and the 100-tpy title V threshold) would result in a volume of permit applications that is so high that the PSD and title V programs would become impossible for State and Federal authorities to administer. The PSD and title V permitting processes would become overwhelmed and essentially paralyzed.

Under these circumstances, the judicial doctrine of administrative necessity authorizes EPA to undertake a process for rendering the PSD and title V requirements administrable. As part of this process, EPA must consider ways to streamline the PSD and title V definitions and operative requirements so that the permitting authorities may more efficiently process the expected influx of GHG permit applications. These streamlining methods may include refinements to the definition of PTE and issuance of some form of general permits with presumptive BACT. *See* section VII.A of this preamble for a description of what these streamlining methods entail for PSD and title V programs, respectively.

However, the development, adoption, and implementation of these streamlining approaches would take several years, and, upon their completion, would still leave permitting authorities confronting a sufficiently large increase in workload that, absent a corresponding increase in resources, would continue to render the PSD and title V programs impossible to administer. *See* section VII of this preamble for an explanation of the procedures and timeframes necessary to develop these streamlining techniques.

As a result, under the doctrine of administrative necessity, EPA is authorized to phase in the PSD and title V requirements in as refined a manner as possible, so as to allow ***55312** administration of the PSD and title V programs. As part of the first phase, EPA proposes to establish the thresholds at the levels proposed, as well as undertake streamlining as much as possible and as quickly as possible, and explore with permitting authorities methods to ramp up resources for processing GHG permit applications. EPA also commits to conduct an assessment of the administrability issue within 5 years and, by the end of 1 year later, promulgate the second phase of the tailoring process, which would include the thresholds and streamlining methods determined at that time to be appropriate.

2. Chevron Standard for Statutory Interpretation

As noted above, the PSD requirements apply to the construction and modification of a "major emitting facility," CAA §§ 165(a)(1), 169(2)(C), which is defined as a "stationary source[ ] [in one of 28 listed categories of sources] of air pollutants which emit[s], or ha[s] the potential to emit, one hundred tons per year or more of any air pollutant" or "any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant," with certain exceptions. CAA § 169(1). The title V requirements apply to any "major source," CAA § 502(a), which is defined to include "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant."CAA §§ 501(2)(b), 302(j).

Although these applicability provisions are clear by their terms, the Courts have held that the *Chevron* approach of applying the literal language of the provisions may not apply when the administrability of the provisions is at issue.

3. Doctrine of Administrative Necessity

a. Administrative Necessity Doctrine in the Context of *Chevron*

The Courts have acknowledged the administrative necessity doctrine as an overlay on the *Chevron* doctrine of statutory construction, so that even when a statutory requirement expresses a clear congressional intent, if the provision is impossible for the agency to administer, then the agency is not required to follow the literal requirements, and instead, the agency may adjust the requirements in as refined a manner as possible to assure that the requirements are administrable, while still achieving Congress's overall intent. As discussed below, the D.C. Circuit set out the doctrine of "administrative necessity" in a line of cases that most prominently includes *Alabama Power* v. *Costle*, 636 F.2d 323 (D.C. Cir. 1980). The Court cited the doctrine most recently in *New York* v. *EPA*, 443 F.3d 880, 884, 888 (D.C. Cir. 2006).[18]

b. Alabama Power

The Court provided its most robust expression of the "administrative necessity" doctrine in the seminal decision, *Alabama Power Co.* v. *Costle*, 636 F.2d 323 (D.C. Cir. 1980) (*Alabama Power*), a case that resolved industry and citizens group challenges to many aspects of the regulations EPA promulgated shortly after enactment of the 1977 CAA Amendments to implement the newly enacted statutory provisions. One regulatory provision purported to exempt sources that qualified as major emitting facilities if their actual emissions were 50 tpy or less. EPA sought to justify this provision on grounds that some 2,400 major emitting facilities emit 50 tpy or less, and that the large burdens on the agency and industry of permit development and review would outweigh the small benefits of permitting. The Court invalidated this regulatory exemption as not authorized by the statute, but in so doing, recognized EPA's concerns about administrative burdens and, anticipating future agency efforts to adjust statutory mandates to administrative realities, went on to articulate the basis for the administrative necessity doctrine.[19] 636 F.2d at 356-57.

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[18] It should be noted that numerous cases have held that an agency may consider administrative factors in choosing regulatory policies under statutory provisions that authorize choices. *See, e.g.*, *National Mining Association* v. *EPA*, 59 F.3d 1351, 1364 (D.C. Cir. 1995); *Phillips Petroleum Co.* v. *EPA*, 803 F.2d 545, 562 (D.C. Cir. 1986); *National Wildlife Federatión* v. *Gorsuch*, 693 F.2d 156, 182 (D.C. Cir. 1982). While these cases support the general proposition that administrative considerations are important, they differ from the "administrative necessity" doctrine because in those cases, the Agency's actions were within the ambit of the statutory language; whereas under the "administrative necessity" doctrine, the Agency's actions depart from the statutory language.

First, the D.C. Circuit described the basis for the administrative necessity doctrine as, in effect, an overlay on clear statutory intent. Specifically, in a section of the opinion titled, "Exemptions Born of Administrative Necessity," the Court stated:

> Certain limited grounds for the creation of exemptions are inherent in the administrative process, and their unavailability under a statutory scheme should not be presumed, save in the face of the most unambiguous demonstration of congressional intent to foreclose them.

Id. at 357.

Second, the Court identified several types of administrative relief that may be available to an agency. One is "[c]ategorical exemptions from the clear commands of a regulatory statute," which the court stated are "sometimes permitted," but emphasized "are not favored." *Id.* at 358. A second is "an administrative approach not explicitly provided in the statute," such as "streamlined agency approaches or procedures where the conventional course, typically case-by-case determinations, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress." *Id.* A third is a delay of deadlines upon "a showing by [the agency] that publication of some of the guidelines by that date is infeasible."Id. at 359 (quoting *NRDC* v. *Train*, 510 F.2d 692, 712 (D.C. Cir. 1974).

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[19] The Court also explained that in that case, EPA's concern that large numbers of small sources would be subject to PSD was misplaced because it was based on an erroneous interpretation of the requirement that the threshold for determining whether a source was a major emitting facility (and thereby subject to PSD) was the source's PTE. EPA erroneously believed that PTE had to be calculated without reference to pollution controls, an interpretation that would have meant that many sources of a low level of actual emissions would be treated as major emitting facilities. The Court held, in another part of the *Alabama Power* opinion, that PTE must be calculated with reference to pollution controls, and went on to observe that this holding effectively mooted EPA's concerns that underlay its effort to exempt 50-tpy-or-less sources from PSD requirements.

Finally, the Court explained it would evaluate whether the agency faced an administrative impossibility, and the acceptability of the agency's choices, based on the essential circumstances confronting the agency, including the volume and nature of the tasks required of the agency, its financial and personnel resources, and the time available to it. Specifically, the Court observed that the administrative necessity doctrine would apply based on the "administrative need to adjust to available resources * * * where the constraint was imposed * * * by a shortage of funds * * *, by a shortage of time, or of the technical personnel needed to administer a program." *Id.* at 358. The Court added that another administrative constraint could be "the degree of administrative burden posed by enforcement." *Id.* at 405. *See NRDC* v. *Train*, 510 F.2d 692, 712 (D.C. Cir. 1974) (recognizing constraints imposed by budgetary commitments, manpower demands, or inability to evaluate sufficiently the necessary scientific and technical determinations).

Even so, the Court went on to caution that "administrative necessity" is a high hurdle: "[T]he agency [bears] a heavy ***55313** burden to demonstrate the existence of an impossibility." *Id.* at 359. The Court particularly noted its reticence to uphold agency claims of administrative impossibility when those claims are made in advance of actual efforts to administer or enforce: "The agency's burden of justification in such a case is especially heavy." *Id.* at 359.

In Alabama Power, the D.C. Circuit emphasized that its exposition of the administrative necessity doctrine was consistent with U.S. Supreme Court decisions holding that administrative considerations could factor into agency decisions. The D.C. Circuit noted that the Supreme Court, in *Permian Basin Area Rate Cases*, 390 U.S. 747 (1968), "approv[ed] the adopting by the FPC of area rate regulation as the practical means to regulate thousands of natural gas producers," and quoted the Supreme Court as explaining, "[c]onsiderations of feasibility and practicality are certainly germane to the issues before us. * * * We cannot, in these circumstances, conclude that Congress has given authority inadequate to achieve with reasonable effectiveness the purpose for which it has acted." *Alabama Power*, 636 F.2d at 359 (citing *Permian Basin Area Rate Cases*, 390 U.S. at 777). The Court in *Alabama Power* also cited *Morton* v. *Ruiz*, 415 U.S. 199, 230-31 (1973), in which the Supreme Court "acknowledged the substantive authority of the Secretary [of the Bureau of Indian Affairs] to take appropriate action to cope with the administrative impossibility of applying the commands of the substantive statute. *Alabama Power*, 636 F.2d at 359.[20]

It should be emphasized that the Court in Alabama Power discussed the "administrative necessity" doctrine in the context of PSD applicability, which, along with title V applicability, is the subject of this action. The Court discussed the doctrine extensively in the part of its opinion that followed its invalidation of EPA regulations that attempted to overlay an exemption for PSD applicability onto statutory requirements, where the Court stated it was anticipating future agency efforts to adjust statutory mandates to administrative realities. *Id.* at 356-57. Moreover, the Court made clear in another part of its opinion that the doctrine could be applied to another aspect of PSD applicability, concerning existing sources. There, the Court stated:

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[20] Although *Alabama Power* presented the D.C. Circuit's most robust exposition of the administrative necessity doctrine, the Court first identified the doctrine, albeit in the relatively narrow application of a deadline extension, in the 1974 decision, *NRDC* v. *Train*, 510 F.2d 692 (D.C. Cir. 1974). There, the Court considered EPA objections that it would be unable to meet a statutory requirement that established a deadline for promulgating effluent limitations. While declining to grant extensions of the deadline in that case, the Court acknowledged that under certain circumstances, judicial relief in the form of a deadline extension would be warranted in light of administrative considerations. The Court observed that "budgetary commitments and manpower demands" needed to meet a deadline could be "beyond the agency's capacity or would unduly jeopardize the implementation of other essential programs;" and that "EPA may be unable to conduct sufficient evaluation of available control technology" by the deadline. Under these circumstances, the Court stated, "[t]he courts cannot responsibly mandate flat * * * deadlines * * *." The Court grounded its conclusion, that a court could consider administrative considerations in evaluating an agency's claimed inability to meet a statutorily mandated deadline, in a court's equitable powers to fashion appropriate relief. *Id.* at 713 (citations omitted). Although the *NRDC* v. *Train* decision concerned the agency's compliance with deadlines, which are a relatively narrow issue, the case established the proposition that an agency may, under certain circumstances, depart from a statutory mandate due to administrative considerations.

> EPA does have discretion, in administering the statute's "modification" provision, to exempt from PSD review some emission increases on grounds of *de minimis* or administrative necessity.

Id. at 400.

c. Case Law After *Alabama Power*

Shortly after *Alabama Power*, the D.C. Circuit reiterated the validity of the "administrative necessity" doctrine in *EDF* v. *EPA*, 636 F.2d 1267 (D.C. Cir. 1980), which reviewed the legality of EPA's regulation of polychlorinated biphenyls (PCBs) under the Toxic Substances Control Act. As the Court noted, "The statutory language is simple: "no person may * * * use any polychlorinated biphenyl in any manner other than in a totally enclosed manner." 15 U.S.C. 2605(e)(2)(A). Similarly, the prohibitions on manufacture, processing, and distribution refer to "any polychlorinated biphenyl." *See id.* § 2605(e)(3)(A)." *EDF* v. *EPA*, 636 F.2d at 1281. EPA's regulations exempted materials containing concentrations of PCBs less than 50 parts per million (ppm). EPA justified the 50-ppm cutoff as an exemption based on administrative necessity. The Court reiterated that such an exemption was at least potentially available. Quoting *Alabama Power*, the Court stated:

> Under the heading of "administrative necessity," this court has recognized that an agency may depart from the requirements of a regulatory statute. * * * While the court in Alabama Power emphasized that "categorical exemptions from the clear commands of a regulatory statute, though sometimes permitted, are not favored." *Id.* at 358-360, it also noted that there is "substantive authority (for an agency) to take appropriate action to cope with the administrative impossibility of applying the commands of the substantive statute." *Id.* at 358-359.

EDF v. *EPA*, 636 F.2d at 1283. However, on the facts before it, the Court found that EPA had not "made [a] showing that it cannot carry out the statutory commands for concentrations of PCBs below fifty ppm," and therefore that "EPA [had] fail[ed] to meet its heavy burden. Thus, administrative need, on this record, provides no basis for the fifty ppm cutoff." *Id.*

Some 3 years later, the D.C. Circuit handed down a decision concerning the "administrative necessity" doctrine in *Sierra Club* v. *EPA*, 719 F.2d 436, 463 (D.C. Cir. 1983). There, the Court reviewed EPA's efforts to justify a narrow regulatory definition of "dispersion techniques" on administrative necessity. CAA § 123 prohibits the use of tall stacks and "other dispersion techniques" to meet emissions limitations. The Court found that the term "dispersion techniques" should be defined broadly "to encompass * * * the use of devices, alterations to the stack, or other techniques when they are significantly motivated by an intent to gain emissions credit for greater dispersion." *Id.* at 462. EPA's regulations defined the term narrowly to include only certain types of equipment, and not to require an inquiry into intent. The Court observed, that "[s]ince the regulations do not regulate all the techniques contained in this definition, the regulations effectively create an exemption not indicated in the statute itself. Such categorical exemptions are generally not favored * * * but there are two situations in which they are allowed: Cases of administrative necessity and de minimis situations" (citing *Alabama Power*). *Id.* Thus, the Court affirmed that the doctrine of "administrative necessity" could be used to allow an agency to depart from the requirements of the statute.

The Court went on to find, however, that in this case, EPA's justification for "administrative necessity" was not sufficient. EPA had explained that defining "dispersion techniques" more broadly to necessitate inquiring into a source's subjective intent as to whether other equipment or methods were designed to disperse emissions, as opposed to achieving some other end, would be "difficult" to enforce, a conclusion generally supported by a few State and local agencies that commented on the rule. The Court found that the Agency's narrow definition of "dispersion techniques" amounted to a ***55314** categorical exemption from statutory requirements, and one that was based on Agency predictions of future enforcement difficulties rather than actual experience. The Court reiterated its statements in *Alabama Power* under these circumstances, that the Agency's burden of showing impossibility is especially heavy, and that in this case, EPA's showing "falls far short." *Id.* at 463. The Court added that EPA may be able to develop "less taxing" ways to define "dispersion techniques," including developing classes of plant techniques that could be considered to be dispersion techniques. *Id.*[21]

In 1989, in *Public Citizen* v. *FTC*, 869 F.2d 1541 (D.C. Cir. 1989), the D.C. Circuit reiterated the validity of the "administrative necessity" doctrine, although on the facts, the Court held that the Federal Trade Commission's (FTC) claims of administrative necessity failed. There, the Court considered the Smokeless Tobacco Act, which, according to the Court,

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[21] Shortly after *Sierra Club*, the D.C. Circuit considered another case that raised an "administrative impossibility" issue, *Northern Colorado Water Conservancy Dist.* v. *FERC*, 730 F.2d 1509 (D.C. Cir. 1984) (*NCWCD*). However, there the Court did not appear to follow the line of cases that included *Alabama Power*. In *NCWCD*, the Court found that the Federal Energy Regulatory Commission (FERC) improperly failed to comply with requirements under section 4(f) of the Federal Power Act to give written notice to local water authorities of preliminary permit applications filed by private developers for a hydroelectric power project. In failing to give notice, FERC had followed a longstanding, but unannounced policy, which it justified in part on grounds "that strict adherence to the statute's language would be administratively impossible."FERC explained that the requirement to notify municipalities required administrative flexibility in light of the "estimated 50,000 specialized local governmental units performing a myriad of services," many of which, "such as water, utility or drainage districts, are not readily identifiable."

The Court rejected FERC's contention that those administrative concerns justify FERC's practices. Without citing *Alabama Power* or any of its other decisions concerning the "administrative necessity" doctrine, the Court stated that those practices must nevertheless remain "within a range of reasonableness with respect to Congress' instruction," that is, within the ambit of the statutory requirements, as well as be reasonably well articulated and generally made known to the public, and that in this case, FERC's practices failed on all those counts. 731 F.2d at 1521. Notwithstanding this case, the weight of the D.C. case law supports the availability of the administrative necessity doctrine to authorize agency departure from statutory requirements in limited circumstances.

"imposes a blanket requirement, subject only to one narrow and specifically mentioned exception for billboard advertising, that producers and distributors of smokeless tobacco products must include a warning label whenever they 'advertise * * * any smokeless tobacco product.'15 U.S.C. 4402(a)(2)." *Id.* at 1553. In the face of this provision, the FTC issued an exemption for utilitarian items (ranging from golf balls to T-shirts) distributed for promotional purposes, so that such objects would not need to include the warning label. The FTC attempted to justify the exemption on grounds of administrative necessity. The Court acknowledged the doctrine, stating that "there exists a narrow range of inherent discretion in an agency to create case-by-case exceptions in order to come within the practical limits of *feasibility* in administering a statute." *Id.* at 1556 (citing *Alabama Power*) (emphasis added by Court). However, the Court went on to dismiss the FTC's claims of administrative necessity, stating that the FTC had not justified its application and suggesting that the FTC had improperly undertaken a cost-benefit analysis in the guise of an administrative necessity claim. Id.

d. Analogous Case Law Concerning Other Legal Obligations

There is another line of case law, which involves contempt-of-court proceedings, in which the Courts recognize that impossibility of performance is relevant to the lawful discharge of legal obligations, and this case law provides some analogous support to the administrative necessity doctrine. In contempt-of-court proceedings, as the Supreme Court has noted, "a defendant may assert a present inability to comply with the order in question" and may thereby be excused from the duty to comply. *U.S.* v. *Rylander*, 460 U.S. 752, 757 (1983) (citing *Maggio* v. *Zeitz*, 333 U.S. 56, 75-76 (1948); *Oriel* v. *Russell*, 278 U.S. 358, 366 (1929)) (emphasis in original) ("*Rylander*"). In addition, as discussed below, this doctrine applies fully to administrative agencies, providing even closer analogous support for the doctrine of administrative necessity. Even so, it should be acknowledged that the extent of support is limited because the contempt-of-court line of cases involves a court's equitable discretion in enforcing court orders, and the administrative necessity line of cases involves the extent to which a Court will allow deviation from explicit statutory requirements.

In *Rylander*, which involved a corporate officer's failure to comply with a civil contempt order imposed for noncompliance with an earlier order enforcing an IRS summons, the Court stated that "[w]hile the court is bound by the enforcement order, it will not be blind to evidence that compliance is now factually impossible. Where compliance is impossible, neither the moving party nor the court has any reason to proceed with the civil contempt action." *Rylander*, 460 U.S. at 757 (finding that contemnor failed to meet the burden of production sufficient to establish an impossibility defense).

The D.C. Circuit, noting that "[i]t is well established that impossibility of performance constitutes a defense to a charge of contempt," has recognized that the Court has an obligation to "consider carefully a claim by the alleged contemnor that compliance was impossible. * * * Although both the fact and duration of noncompliance with [an] order are elements to be considered, the court must consider as well [a party's] inability, without fault on its part, to render obedience." *Tinsley* v. *Mitchell*, 804 F.2d 1254 (D.C. Cir. 1986) (quoting *SEC* v. *Ormant Drug & Chemical Co.*, 739 F.2d 654, 656-57 (D.C. Cir. 1984)) (remanding to District Court to adjudicate contemnor's claim of inability to pay fines).

Importantly, the doctrine is fully available to government agencies, as the D.C. Circuit affirmed in *Evans* v. *Williams*, 206 F.3d 1292 (D.C. Cir. 2000). There, in a class action challenging conditions at a public institution for the mentally retarded, the District of Columbia failed to comply with deadlines set in a consent decree, citing unanticipated "financial problems of horrendous proportions." *Id.* at 1293. Discussing the district court's refusal to make retroactive a modification of the consent decree ameliorating the financial penalties for missing deadlines, the Court noted,

> We do not of course suggest that a party may be relieved from the obligation to comply with an injunction simply by making a motion for a modification. But here the District claimed that it could not comply, despite making a good faith effort to do so. If true, this should have relieved it from liability. *See Tinsley* v. *Mitchell*, 804 F.2d 1254, 1256 (D.C. Cir. 1986) ("If a party lacks the financial ability to comply with an order, the court cannot hold him in contempt for failing to obey.")

Id. at 1299. Finding that the district court based its order on irrelevant information regarding the District's financial circumstances, the Court reversed and remanded for further proceedings. *Id.*

The Courts have also recognized that a party may avoid compliance with a court order by showing that it made a good-faith effort to comply but fell short, and that under these circumstances, the party is not required to demonstrate that compliance is absolutely impossible. In *Washington Metropolitan Transit Authority* v. *Amalgamated Transit Union*, 531 F.2d 617 (D.C. Cir. 1976), the D.C. Circuit vacated a final contempt judgment and ***55315** fine against a labor union for continuing to strike in contravention of a restraining order; among other procedural failings, the district court made no findings of fact on the union's defenses of substantial compliance and inability to comply. *Id.* at 619-20. In directing the district court to provide adequate due process on remand, the court emphasized, "[e]valuation of good faith efforts to comply, once raised, is necessary to determine the possibility of compliance. In our view good faith should also be considered in mitigation of penalty." *Id.* at 621 (citation omitted).

This aspect of the doctrine is also fully applicable to agencies. In *Chairs* v. *Burgess*, 143 F.3d 1432 (11th Cir. 1998), the Eleventh Circuit emphasized that good-faith compliance efforts by a State agency could support a claim for relief based on impossibility. There, the State of Alabama was required under a consent decree to remove State prisoners from a county jail within a certain timeframe. *Id.* at 1434. The county sought a court order to enforce the decree and requested that the Court hold the State in contempt. *Id.* In light of the fact that the State was then subject to 79 identical court orders, the Court accepted the State's defense of present inability to comply due to "entirely inadequate" resources in the State prison system. *Id.* at 1437. The Court vacated the district court's order, declaring: " 'Inability,' as a defense to contempt, does not mean that compliance must be totally impossible. Instead, the inability that will absolve a party from being held in contempt requires only that the noncomplying party has made 'in good faith all reasonable efforts to comply' with the terms of a court order." *Id.* (citations omitted).

3. Step-by-Step Process for Implementing the Administrative Necessity Doctrine

We believe that the administrative necessity case law establishes a three-step process under which an administrative agency may, under the appropriate circumstances, in effect revise statutory requirements that the agency demonstrates are impossible to administer so that they are administrable. This section of the preamble describes the requirements for each step, along with a brief application of each step to PSD permitting thresholds and significance levels as well as title V permitting thresholds.

In brief, the three steps are as follows: When an agency has identified what it believes may be insurmountable burdens in administering a statutory requirement, the first step the agency must take is to evaluate how it could streamline administration as much as possible, while remaining within the confines of the statutory requirements. The second step is that the agency must determine whether it can justifiably conclude that even after whatever streamlining of administration of statutory requirements (consistent with those statutory requirements) it conducts, the remaining administrative tasks are impossible for the agency because they are beyond its resources, *e.g.*, beyond the capacities of its personnel and funding. If the agency concludes with justification that it would be impossible to administer the statutory requirements, as streamlined, then the agency may take the third step, which is to phase in or otherwise adjust the requirements so that they are administrable. However, the agency must do so in a manner that is as refined as possible so that the agency may continue to implement as fully as possible Congressional intent.

Step 1: Reduce administrative burdens by streamlining administration as much as legally permissible. When an agency has identified what it believes may be insurmountable burdens in administering a statutory requirement, the agency must first evaluate how it could streamline administration as much as possible, while remaining within the confines of the statutory requirements. *Sierra Club*, 719 F.2d at 463 (even if EPA's claims that its method for enforcement "is in fact impossible, there nevertheless may be less taxing ways to enforce the law"); *Alabama Power*, 636 F.2d at 358 ("Courts frequently uphold streamlined agency approaches or procedures where the conventional course, typically case-by-case determinations, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress").

As discussed in detail below, EPA believes that it may have several potentially useful tools available in the streamlining toolbox for the PSD permitting threshold level, the PSD significance level, and the title V permitting threshold. For the PSD permitting threshold level and significance level, there are at least three such tools: The first is interpreting the definition of "potential to emit" so that the amount of a source's emissions that counts in determining whether it qualifies as a major source and therefore is above the permitting threshold requirements is closer to the amount of its emissions when it is in actual operation, rather than the amount of emissions that the source would emit if it were operating continuously. Narrowing the definition of PTE is a potentially extremely important tool in this context because identifying the amount of a source's emissions as closer to its actual emissions in this manner would mean that very large numbers of residential and commercial sources would have significantly lower emissions and would fall below the statutory threshold requirements for triggering PSD. Second, EPA believes it may be able to develop programs involving general permits, under which large numbers of similarly situated sources would each be covered by essentially the same permit established through a regulatory action by the permitting authority. This approach could achieve economies of scale and thereby reduce administrative burden. Third, EPA believes it may be able to streamline the single most time-consuming element of the PSD permit program, which is the determination of BACT as required under CAA § 165(a)(4), by establishing presumptive BACT levels for certain source categories that comprise large numbers of sources. As for title V, as discussed below in detail, EPA believes that defining "potential to emit" to reflect more closely a source's actual operation and developing a program of general permits could streamline the administration of title V permits.

As also discussed below, these streamlining efforts cannot be implemented as soon as PSD and title V are triggered, or even shortly thereafter. However, EPA intends to develop these streamlining methods as vigorously and as quickly as possible and phase them into the program. These streamlining methods were described in the ANPR and EPA received comment on them, and EPA is continuing to develop the methods and to solicit further comment with this action.

Step 2: Determine that the task that remains is impossible to administer. The agency must determine whether it can justifiably conclude that even after whatever streamlining of administration of statutory requirements the agency is able to effectuate, the agency's remaining administrative tasks are impossible for the agency because they are beyond its resources. To make this determination, the agency must consider: (1) When it can complete streamlining administration of the statutory requirements and how well it can administer those requirements in the meantime; and (2) what administrative tasks would remain after it achieves streamlining and how well it can handle those tasks. To make this latter determination, the agency must compare its resources to the tasks at ***55316** hand. The agency must then determine whether it can administer the statutory requirements as mandated by Congress, or whether it may justifiably conclude that those requirements remain impossible to administer.

As discussed below, PSD and title V requirements will become applicable to very large numbers of sources immediately following a final rule regulating GHG emissions. EPA expects to complete such a rule, establishing emissions limits for motor vehicles, by the end of March 2010.

As discussed below, although EPA intends to aggressively develop streamlining methods to the extent feasible, EPA simply does not have time to do so prior to the date that we expect PSD and title V to become applicable. As a result, EPA and the States will have to implement PSD for those sources as soon as PSD is triggered. Preliminary information that we have obtained concerning State permitting authority resources, and data we collected concerning the numbers of sources that emit GHGs (using both a CO_2 and CO_2e basis) at the 100- and 250-tpy levels, make clear that as of the date that PSD and title V applicability is triggered, the number of sources needing permits would overwhelm permitting authorities and thereby effectively paralyze the permitting.

Specifically, the total number of PSD permits that are issued in the U.S. is approximately 280 per year. A permitting authority's action on each PSD permit is resource-intensive because for each permit, the authority must apply source-specific BACT, apply other source-specific requirements, and allow public comment. However, EPA estimates that when the PSD requirements are triggered for sources of GHGs, more than 40,000 PSD permits both from newly constructed facilities that emit at greater than 250 tpy (using either a CO_2 or CO_2e metric) and from modifications at existing major sources will be required. Under the PSD program as presently constituted, permitting authorities' actions on each of these permits will be resource-intensive, as described above.

This volume of permitting represents more than a 140-fold increase from the current volume—again, approximately 280 permits per year—of major PSD permits that are processed by permitting authorities nationwide. We estimate that this increase in volume of PSD permits would require an annual increase in labor hours of almost 44 times the current labor allocation for PSD programs. This increase in workload would overwhelm the permitting authorities' resources and paralyze the permit issuance process.

The problem for title V purposes is comparable. Specifically, the total number of existing title V permits in the U.S. is approximately 14,700. However, EPA estimates that when the title V requirements are triggered for sources of GHGs, approximately 6.1 million sources that emit at least 100 tpy (using either a CO_2 or CO_2e metric) will be required to obtain a title V permit. These sources will be required to submit a permit application within 1 year, and the permitting authorities will be required to act on those applications, including allowing an opportunity for a public hearing.

We estimate that this additional volume of permitting would require an annual increase in labor hours of almost 250 times the current labor allocation for title V programs. Like the increase in PSD workload, this increase in title V workload, combined with the source-by-source nature of the permitting process and the requirements for public input, would overwhelm the permitting authorities' resources and paralyze the permit issuance process.

For both PSD and title V permits, permitting authorities would be required to hire and train staff in numbers that are multiples of their current staff, a task that cannot be accomplished—or, indeed, can barely be begun—by the time PSD and title V requirements become applicable to GHG emitters.

Step 3: Implement a scheme that is administrable, but in doing so, depart from the statute as little as possible.

If the EPA concludes with justification that it would be impossible to administer the statutory requirements, as streamlined, then the agency may phase in or otherwise adjust the requirements so that they are administrable. However, the agency must do so in a manner that is as refined as possible so that the agency may continue to implement as fully as possible congressional intent.

In this tailoring rulemaking, EPA is proposing, as the first phase, to establish a temporary "major stationary source" threshold for PSD purposes, a temporary "significance level" threshold for PSD purposes, and a temporary "major source" threshold for title V purposes, for sources that emit GHGs, to levels that capture a significant share of GHG emissions while rendering both permitting programs administratively feasible. The specific options proposed for temporary thresholds and the rationale for their selection are described below.

Moreover, and as explained in detail below, EPA intends to proceed aggressively to develop streamlining methods, and it is possible that permitting authorities will be able to augment their permitting resources. Even so, available information does not confirm that EPA and the permitting authorities will be able to rely on these steps within 6 years after PSD and title V requirements become applicable to GHG emissions. Accordingly, it is necessary to maintain the major stationary source threshold and significance level proposed and also necessary to reassess the administrative situation and conduct further rulemaking to address it within 6 years.

5. Consistency With Case Law

EPA's proposed application of the administrative necessity doctrine to phase in the major source permitting thresholds for PSD and title V purposes, and to establish the significance level for PSD purposes, is consistent with the case law.

It is clear under the D.C. Circuit case law that the administrative necessity doctrine is available under certain circumstances, to authorize an agency to "depart from the requirements of a regulatory statute."*EDF* v. *EPA*, 636 F.2d at 1283 (citing *Alabama Power*). Thus, it is clear that the doctrine may be applied—under the appropriate circumstances—to authorize EPA to phase in the major source thresholds for PSD and title V permitting as well as to establish a PSD significance level. Indeed, the D.C. Circuit established the administrative necessity doctrine, in Alabama Power, in the context of efforts by EPA to establish thresholds for PSD permitting of new and existing sources. *Alabama Power*, 636 F.2d at 357, 400.

The D.C. Circuit has emphasized, however, that the agencies have a high threshold to justify the use of the doctrine, *EDF* v. *EPA*, 636 F.2d at 1283, and the Court did not uphold the attempts by the agencies in those cases to invoke the doctrine. *EDF* v. *EPA*, 636 F.2d at 1283; *Sierra Club* v. *EPA*, 719 F.2d at 463; *Public Citizen* v. *FTC*, 869 F.2d at 1556.

We believe that the facts here are much more supportive of an administrative necessity application than in those cases. EPA's application of the administrative necessity doctrine hews closely to the three-step process that we read the case law to establish.

Step 1: Reduce administrative burdens by streamlining administration as much as legally permissible. In some of the case law described above, the D.C. Circuit emphasized that the agencies had failed to consider means of solving ***55317** their alleged administrative problems in ways consistent with the statutory requirements. In *Sierra Club* v. *EPA*, the Court invalidated EPA's effort to narrow the definition of "dispersion techniques" to only certain types of equipment and thereby exempt from the definition certain categories of methods that were intended to disperse emissions. The Court based its holding in part on the grounds that EPA had failed to explore available, "less taxing" regulatory alternatives that would reduce the administrative burden of determining the purpose of changes in stack or plume parameters. *Sierra Club* v. *EPA*, 719 F.2d at 463-64. The Court offered examples of possible streamlining measures, such as quantifying the amount of plume rise that could be presumed to have an engineering rationale, or selectively exempting classes of improvements that have a trivial impact on the goals of the CAA or for which use as a dispersion technique was only theoretically possible. *Id.* at 464. Stating that "[w]e see no evidence that EPA has adequately explored these regulatory alternatives," the Court overturned EPA's effective categorical exemption. *Id.*

The Court used similar reasoning in *EDF* v. *EPA*, where the Court found that EPA's proposed 50-ppm cutoff for regulating PCBs was not administratively necessary. *EDF* v. *EPA*, 636 F.2d at 155. There, although basing its dismissal of the claim primarily on EPA's failure to make a *prima facie* showing of impossibility, the Court emphasized that statutorily authorized alternatives were available to EPA. *See id.* at 154-156. "While some cutoff may be appropriate," the Court noted, "the Administrator did not explain why the regulation could not be designed expressly to exclude ambient sources, thus directly fulfilling congressional intent, rather than achieve that goal indirectly with a cutoff, thereby partly contravening congressional intent." *Id.* at 154.

Here, in contrast, EPA has begun the process of narrowing the administrative burden through means consistent with the statutory requirements by evaluating what streamlining approaches would be feasible but, as discussed below, this process is complex and EPA cannot complete it for several years. EPA is soliciting comment on those methods and any others that may occur to stakeholders or the public. In *NRDC* v. *Train*, the Court indicated that an agency's diligent, good-faith efforts to discharge its statutory responsibilities will factor in favor of the Court's resolution of an impossibility claim. *NRDC* v. *Train*, 510 F.2d at 333.

Step 2: Determine that the task that remains is impossible to administer. In *Alabama Power*, the D.C. Circuit described the administrative necessity doctrine as rooted in agency workload and resources: Specifically, the Court stated that the administrative impossibility doctrine would apply based on the "administrative need to adjust to available resources * * * where the constraint was imposed * * * by a shortage of funds * * *, by a shortage of time, or of the technical personnel needed to administer a program."636 F.2d at 358. The Court added that another administrative constraint could be "the degree of administrative burden posed by enforcement." *Id.* at 405. However, the Court cautioned that "the agency [bears] a heavy burden to demonstrate the existence of an impossibility." *Id.* at 359.

In several of the cases described above, the D.C. Circuit emphasized that the agencies had failed to meet their heavy burdens of establishing administrative impossibility. In *NRDC* v. *Train*, EPA neglected to specify the resource or methodological constraints that prevented the agency from meeting a mandatory deadline for promulgating effluent limitation guidelines. *NRDC* v. *Train*, 510 F.2d at 712-13. Although the Court inferred from the imminent deadline that the Agency would likely experience a burden on its resources in promulgating the guidelines for most source categories, the Court was reluctant to grant EPA an extension in response to a merely conclusory statement that compliance with the deadline would be impossible. *Id.* at 713.

A few years later, in *EDF* v. *EPA*, the Court based its dismissal of EPA's administrative necessity claim on the fact that the Agency did not provide sufficient data to support the claim that administering the statute as written was impossible. In that case, EPA failed to provide information relating to the amount of PCBs that would be left unregulated by its use of a 50-ppm cutoff, where the statute required "any" PCB to be prohibited. *EDF* v. *EPA*, 636 F.2d at 155. As a result, EPA could not show that carrying out the statutory requirements for concentrations of PCBs below 50 ppm would be administratively impossible. *Id.* "Thus," the Court found, "administrative need, on this record, provides no basis for the fifty ppm cutoff." *Id.* Furthermore, the Court noted in a footnote that EPA's claim that the burden to industry justified a categorical exemption was undermined by EPA's lack of "firm data" on the extent of the burden. *Id.* at 155, fn. 43.

Likewise, in *Sierra Club* v. *EPA*, EPA alleged only that it would be "difficult" to administer a proposed subjective intent test that would examine whether dispersion techniques were used for the prohibited purpose of achieving compliance with emissions limitations. Without more, the Court determined, EPA's showing fell "far short" of meeting the heavy burden of demonstrating the existence of an impossibility. *Sierra Club* v. *EPA*, 719 F.2d at 461-62.[22]

Thus, in the cases concerning administrative necessity, the agencies generally did not attempt to quantify the administrative workload and resource constraints that they thought merited departure from the statutory requirements and instead limited themselves to generally conclusory assertions. In *NRDC* v. *Train*, the Court recognized that EPA could cure its insufficient record and demonstrate the administrative impossibility of complying with the deadline once it specified the actual burden on its resources. *NRDC* v. *Train*, 510 F.2d at 713. In the event that EPA could demonstrate that "manpower or methodological constraints" threatened to delay the promulgation of guidelines for particular categories of sources, the Court held open the possibility of an exemption from the deadline. *Id.* at 714.

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[22] In *Public Citizen* v. *FTC*, the D.C. Circuit dismissed FTC's claims of administrative necessity where the agency's rationale for its categorical exemption appeared to rely on an impermissible weighing of the relative costs and benefits of compliance, rather than on the impossibility of compliance. *Public Citizen*, 869 F.2d at 1556.

Here, in sharp contrast to that case law, EPA has developed specific factual evidence concerning the administrative difficulties of implementing PSD and title V at the statutory threshold levels. Moreover, those constraints are compelling; it is clear from just the evidence collected so far that at the time that EPA expects to trigger application of the PSD and title V programs to sources that emit GHGs—which, if based on a possible mobile source final rulemaking, would be near the end of March 2010—it will be flatly impossible for permitting authorities to administer the PSD and title V programs at the statutory threshold levels. The massive number of permits would overwhelm the limited resources available to the permitting authorities. EPA expects to collect as much specific information concerning administrability as possible through the comment period.

***55318** The administrative burdens that EPA confronts in administering the PSD and title V thresholds have no precedent in the case law. The closest situation appears to be *Alabama Power*, where the Court rejected EPA's interpretation of "potential to emit" as a matter of legal interpretation, and not on administrative necessity grounds, but where the Court noted that EPA's interpretation would have brought approximately 2,400 additional facilities into the PSD program, which entailed the case-by-case review and BACT determination for each permit application. *Alabama Power*, 636 F.2d at 356. Even so, the PSD and title V program burdens anticipated for GHG emitters at the statutory thresholds are exponentially greater than the burdens alleged in Alabama Power. The projected resource burden for administering the PSD program alone will be greater than 10-fold the burden alleged in *Alabama Power*: Each year, regulating GHGs under the CAA is estimated to trigger PSD requirements for approximately 41,000 sources that emit at levels greater than the 100/250-tpy threshold when they engage in new construction or significant modifications. As for title V, in total, some six million permits would be required, which would entail an enormous expenditure of administrative resources, as described elsewhere.

It should be acknowledged that the D.C. Circuit has stated that the administrative necessity doctrine is particularly difficult to assert when the agency had not yet tried to enforce the statutory requirements. *Sierra Club* v. *EPA*, 719 F.2d at 463. Although the Court did not spell out its reasoning for this distinction, a logical reason would be that actual efforts to implement the statutory provision would more clearly establish the extent of the administrative problems than would advance predictions. Even so, the Court left the door open to approving claims of administrative necessity in advance of actual implementation efforts. Here, EPA does not propose to attempt to administer the statutory thresholds once PSD and title V requirements are triggered for GHG emitters, but the impact of the statutory thresholds on permitting authority caseloads and resources are so massive as to be predictable with a sufficient degree of accuracy to support a claim of administrative necessity. EPA has gathered a substantial amount of evidence concerning those impacts and intends to gather more through the comment period on this notice. Under these circumstances, it is not necessary to await actual implementation. Attempting to do so—that is, allowing the statutory thresholds to apply, assessing the extent of the administrative problem, and then conducting rulemaking to raise the thresholds—would leave the PSD and title permitting process in disarray for years.

Step 3: Phase-in the statutory requirements to be administrable, but in doing so, depart from the statute as little as possible. In Alabama Power, the D.C. Circuit listed the types of departures from the statute that it would sanction, under the appropriate circumstances, on grounds of administrative necessity. One is "[c]ategorical exemptions from the clear commands of a regulatory statute," which the Court stated are "sometimes permitted," but "are not favored." A second is an "administrative approach," such as "streamlined agency * * * procedures" in lieu of, for example, case-by-case determinations, and a third is a delay of deadlines. 636 F.2d at 358.

Here, turning first to PSD, EPA is proposing to phase in the threshold for PSD permitting, which would have the effect of allowing sources that are above the statutory threshold of 100/250 tpy but below the regulatory threshold of 25,000 tpy CO_2e to build new facilities or modify existing ones without being subject to PSD. Thus, this proposal is a type of exemption.

Although the Court has said that "categorical exemptions" are "not favored," the Court has indicated that they are "sometimes permitted," and the exemption at issue here is one that should be permitted. For one thing, it is time limited. In addition, during phase one of the phase-in period, establishing the thresholds at 25,000 tpy CO_2e and [10,000 to 25,000] tpy CO_2e, and thereby exempting sources from PSD applicability at the time that they construct or modify, is the only way to address the administrative burdens that would otherwise result at the time that PSD is triggered. At that time, EPA will not have been able to develop any streamlining methods, which is the second type of relief that the D.C. Circuit identified in *Alabama Power*. Even so, this proposal is that, as quickly as possible, during the next 6 years, EPA will implement as extensive a streamlining of PSD requirements as possible (consistent with statutory requirements) and then will reassess the administrative burdens and conduct additional rulemaking concerning the thresholds and streamlining techniques. This approach has the potential to limit the extent of the exemption. It should be noted that a deferral of the permitting obligation, which is the third type of relief that the D.C. Circuit identified, would not be useful. For PSD purposes, because sources cannot construct or modify without first obtaining a permit, a deferral would prevent construction and modification activities. In addition, a deferral would simply create a backlog that would quickly become unmanageable at any foreseeable point in the future and would create unacceptable uncertainty for the regulated community. In particular, because sources cannot construct or modify without first obtaining a permit, the backlog would prevent construction and modification activities.

As discussed elsewhere, for PSD purposes, the 25,000-tpy and [10,000 to 25,000] tpy CO_2e levels proposed for the major source permitting threshold and significance level, respectively, are the lowest levels that we believe permitting authorities will be able to administer for the upcoming 6-year period. By the end of the first 5 years, EPA will conduct a study and, within the following year, will conduct another rulemaking to revisit and possibly revise those thresholds, depending on the Agency's findings of the maximum extent to which permitting authorities can administer the statutory program. In this manner, the levels proposed are the least possible departure from the statutory requirements.

For the title V purposes, the first phase threshold level of 25,000 tpy CO_2e must also be considered to be the narrowest possible departure from the statutory requirements because it is the lowest amount that is administrable and because there are no other choices. There is not enough time for EPA to develop streamlining measures or for the States to ramp up resources. Although sources have 1 year to submit permit applications, and, once they submit them, they receive the protections of the permit shield, failure to phase in the threshold level would leave permitting authorities confronting an influx of millions of permit applications that would begin within a year. Little can be done during that year to meaningfully streamline the program.

In addition, for title V purposes, the first-phase threshold must be considered a deferral of, and not an exemption from, permitting obligations because existing sources must apply periodically for a title V permit. That is, if, during the second-phase rulemaking, EPA lowers the threshold, sources that are able to avoid title V permitting obligations under the first phase may be required to obtain a title V permit.

***55319** *C. Step-by-Step Process*

In addition to the "absurd results" and "administrative necessity" case law, a separate line of cases may be relevant for this action: Cases that have held that agencies may approach problems one step at a time. In these cases, the Courts have dismissed challenges to agency actions that implement part of, but not the entirety of, a statutory mandate, on grounds that agencies may proceed in an incremental fashion. In these cases, the Courts emphasized that the agency's partial action was a step in an overall path toward achieving full implementation of the statutory mandate. We solicit comment on whether this caselaw is supportive of our action in this notice.

In *Massachusetts* v. *EPA*, 549 US 497, 524 (2007), the U.S. Supreme Court, in holding that EPA has authority under the Clean Air Act to regulate GHG emissions, noted that "[a]gencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop."Instead, they may permissibly implement such regulatory programs over time, "refining their preferred approach as circumstances change and as they develop a more nuanced understanding of how best to proceed."

The D.C. Circuit, in *Grand Canyon Air Tour Coalition* v. *FAA*, 154 F.3d 455, 477-78 (DC Cir 1998), considered a challenge to the Federal Aviation Administration's ("FAA") final rule for reduction of aircraft noise from sightseeing tours in Grand Canyon National Park. There, the 1987 Overflights Act required the FAA to develop a plan within 120 days for limiting aircraft overflights in order to achieve substantial restoration of natural quiet. The Overflights Act further required that the FAA implement the plan by regulation; and then, within 2 years after the date of the plan, submit to Congress a report discussing whether the plan had met the statutory goals or whether revisions to the plan were needed. The FAA did issue a final rule—the one that was challenged—but did not do so until 10 years after enactment, and that rule required only partial action for limiting overflights. At the same time that it issued the rule, the FAA proposed two additional rules, and stated that the set of three rules together would achieve substantial restoration of natural quiet in another 10 years. The Court upheld the final rule and declined to compel the FAA to take additional action on a faster time frame. The Court explained:

> We agree that it would be arbitrary and capricious for an agency simply to thumb its nose at Congress and say—without any explanation—that it simply does not intend to achieve a congressional goal on any timetable at all. * * * But the FAA has not taken that course here. It has never defended the Final Rule as the sole means for restoring the natural quiet, but only as the first of three steps. Its contemplation was that the three rules together would achieve that goal [within 10 additional years].

Id.

Similarly, in *City of Las Vegas* v. *Nevada Dev. Comm'n*, 891 F.2d 927, 935 (DC Cir 1989), the Court upheld the Department of Interior's emergency regulation listing as endangered species the tortoise population in the Nevada portion of the Mojave Desert, even though the regulation excluded the population in the Sonoran portion. The Court found that "agencies have great discretion to treat a problem partially," and held that it would not strike down agency action "if it were a first step toward a complete solution."

In these cases, the agencies were required to implement a statutory directive through rulemaking. The D.C. Circuit upheld partial action by the agencies when the Court considered it to be an initial step towards meeting the directive. This action is set in a somewhat different context. The statutory provisions at issue here—the PSD and Title V applicability thresholds —provide that when GHG requirements are triggered, GHG emitters must obtain permits. When the triggering event occurs, the agency need take no further action before regulatory consequences ensue; sources included within the PSD and Title V programs must obtain permits once these statutory provisions are triggered. However, as we have described, if sources are required to apply for permits in accordance with the literal requirements of the statute, the permitting authorities would not have the resources to process those permits, and severe adverse results would occur. This action would ameliorate that situation by establishing a process for compliance with the statutory requirements. As discussed elsewhere, this process consists of a first phase that entails establishing the applicability thresholds at the specified levels, developing methodologies for general permits and other streamlining approaches, collecting data, preparing an assessment, and then promulgating rulemaking for further action. This process would allow us to craft the application of PSD and title V in ways that are achievable and effectively balance the regulatory burdens with the reductions achievable. In this sense, this action bears similarity to the agency actions upheld by the D.C. Circuit as partial steps.

We solicit comment on whether this line of cases is relevant for our action in this notice.

In particular, we solicit comment on whether an approach that includes step-downs in the applicability thresholds, coupled with regular examination of whether the administrative situation is improving, is an appropriate way to achieve compliance while taking into account the administrative imperatives. If so, we ask for suggestions on how we could structure such an approach (*e.g.*, when future phases should begin, how we should determine the appropriate thresholds for each phase, *etc.*) In addition, we solicit comment on the level of detail with which we would be required to identify our path towards facilitating full administration of the PSD and title V applicability requirements in order for the Court to uphold our initial steps under this case law. We also solicit comment on whether this proposal establishes such a path with sufficient detail and, if not, what further actions we should include in the final rulemaking or commit to undertake in subsequent rulemaking.

D. What were the ANPR comments received on GHG tailoring options for regulating GHG emissions under PSD and title V?

Responses to the ANPR give us some perspective of the initial views of some of the permitting authorities, sources, and the public on permit GHG tailoring options. Many of the ANPR commenters, including representatives from States, environmental groups and industry, recommended that EPA limit permitting, at least initially, to higher-emitting sources. While there were few recommendations on specific permitting levels, suggestions ranged from 10,000 to 100,000 tons per year CO_2. A number of environmental groups stated that if the rationale for treating smaller sources differently relies on principles of administrative necessity, the cutoff point should relate to what is administratively feasible while maximizing the objectives of the CAA.

Most industry stakeholders, representing a broad profile of affected sources, stated that title V and PSD applicability for sources of GHG emissions at current permitting thresholds would be economically disastrous and would create regulatory gridlock. Alternatively, some environmental groups opposed any temporary permitting thresholds, stating that EPA does not have legal authority to change thresholds to limit applicability.

Some States and environmental groups recommended streamlining ***55320** through the use of general permits and presumptive BACT. This option was supported mostly by States, but one industry commenter also agreed that it was an alternative worth pursuing if EPA insisted on regulating GHG emissions under the current CAA. Some States noted that they have a successful history of using general permits and believe the use of general permits as well as presumptive BACT could be part of an effective and reasonable approach to reduce regulatory costs and administrative burdens. Other industry groups said that presumptive BACT and general permits are unaffordable and require too much negotiation, and EPA lacks authorization to use them.

States and industry commenters acknowledged that it would take a significant amount of time to define presumptive BACT or general permits for different categories, although some States said that, over time, they have developed similar approaches to permitting with success for non-GHG gases for certain source categories. Industry commenters argued that the case-by-case review of permit applications that the NSR program requires is the epicenter of NSR, and that a one-size-fits-all approach will not mesh with the diversity of different manufacturing industries of all sizes. Furthermore, even with the use of these streamlining approaches, industry claims that there will still be tens of thousands of previously unregulated sources who would need to undergo PSD permitting. To review comments received on the "Regulating Greenhouse Gas Emissions Under the Clean Air Act" ANPR (73 FR 44354, July 30, 2008), see Docket ID No. EPA-HQ-OAR-2008-0318.

VII. Streamlining Options and Tools To Address the Administrative Burdens of PSD and Title V for GHGs

As noted in earlier sections of this preamble, we believe that the application of PSD and title V requirements to sources of GHG emissions at current statutory thresholds would be administratively impossible at the time that we expect PSD and title V requirements to be triggered for those sources, which we expect to be the end of March 2010. These requirements would also impose undue burdens on the sources. However, we recognize that there are several streamlining techniques with the potential to reduce over time the burdens on sources and the administrative burdens of the PSD and title V requirements. We have initially assessed the general availability and usefulness of the streamlining techniques that are consistent with the statutory requirements to address, manage and reduce the administrative burden on permitting authorities. In addition, if we are compelled to promulgate regulatory requirements that depart from the statutory requirements, we recognize that we must do so to the smallest extent possible and must remain as close as possible to congressional intent. Other of these streamlining techniques may depart from the statutory requirements, but they may be preferable to the extent that the departure is to a smaller degree than raising the applicability thresholds.

However, as we will discuss below, we do not believe that we can develop and implement any of these streamlining techniques in the near term in the manner necessary to make the programs administrable at the statutory PSD and title V permitting thresholds. Accordingly, at this time, we cannot rely on these techniques in lieu of phasing in the applicability thresholds in the manner that we propose. However, we believe that these streamlining techniques should be an integral part of a strategy during the first phase of the phase-in period—which includes evaluating the threshold we propose to establish—to address and reduce the burden on permitting authorities. Thus, during the first phase, we plan to aggressively pursue further development of these techniques, and we plan to implement as many of them for as many source categories as possible and to do so as soon as possible. The reassessment and additional rulemaking that we propose to undertake at the end of the first phase will take into account the extent to which these streamlining techniques, as well as the permitting authorities' ability to enhance their resources, promote administrability. Moreover, for smaller sources for which PSD and title V requirements would not apply due to the increase in the major source applicability thresholds, EPA will also assess and identify cost-effective opportunities available in this notice to achieve GHG reductions through means other than PSD (*e.g.*, energy efficiency and other appropriate measures).

In section VII.A of this preamble, we discuss streamlining techniques that either have been used or could potentially be used in the PSD and title V programs. Some techniques may have applications to both programs (*e.g.*, general permits), while some are applicable to only one program (*e.g.*, presumptive BACT for PSD). In sections VII.B and VII.C of this preamble, we describe the implementation of these techniques as they relate both to permitting GHG emitters under current PSD and title V permitting thresholds and to a broader GHG tailoring strategy that involves the applicability thresholds proposed with this action.

We solicit comment on the permit streamlining approaches discussed in section VII.A of this preamble and also request information and comment on any other tools or options that could address or reduce the administrative burden of implementing PSD and title V for major GHG sources and reduce the burdens on the sources.

A. Permit Streamlining Techniques for PSD and Title V

We believe that a strategy to address the administrative burden associated with implementing the PSD and title V programs for sources of GHGs could include one or more of the following permit streamlining techniques or processes.

1. Redefining "Potential to Emit"

Both PSD and title V requirements apply to "major" sources, and "major" sources are defined as sources that emit, on a PTE basis, 100/250 tpy for PSD purposes and, in general, 100 tpy for title V purposes. PTE is basically defined as the maximum capacity of a source to emit any air pollutant under its physical and operational design, including legal limitations, if any, on, for example, emissions or hours of operation. Many source categories have no legal limits on their hours of operation and, as a result, are treated as if operating 24 hours per day, seven days per week—which totals 8,760 hours per year—and emitting during that entire time. As a result, basing the applicability thresholds on PTE, rather than on actual emissions, has the effect of sweeping enormous numbers of additional sources into the PSD and title V programs. For example, sources that do not in fact operate for part of the year, but that have no legal limitation on their operating hours, must calculate their PTE on the basis of the amount of emissions that would result if those sources did operate, and therefore emit, on a year-round basis.

However, sources in such situations may take legally and practically enforceable limits on their operational parameters, by, for example, agreeing to operate during only part of the year or during only a limited number of hours per day, or employing control devices. These limitations would lower the sources' PTE and thereby allow them to avoid classification as "major." PTE limits are already frequently used in PSD and title V permitting programs. There, the permitting authorities ***55321** typically apply PTE limits as a source-specific limit that is crafted in a facility's minor source permit and tailored to the source's individual circumstances.

This approach of reducing PTE to more closely approximate a source's actual emissions—and, in the case of smaller sources, thereby allowing the PTE to fall below the "major" source threshold that triggers PSD or title V applicability—offers promise to significantly reduce the number of sources subject to PSD and title V, and thereby significantly ease administrability of those programs once GHG emitters become subject to them.

This approach may be particularly suitable to sources in certain categories of GHG-emitting, combustion-related, small sources that do not operate at anywhere close to the 8,760 possible hours over a given year that is generally assumed in the PTE calculation. These categories may include: Furnaces, which likely only operate during the winter season and parts of spring and fall; water heaters, which only combust fuel at periodic intervals necessary to maintain water temperature; and small stationary engines, which may operate only for limited and defined periods of time for certain businesses.

The permitting authorities typically apply PTE limits as a source-specific limit that is crafted in a facility's minor source permit and tailored to the source's individual circumstances.

However, creating PTE limits for very large numbers of GHG-emitting sources nationwide would require a more efficient approach than creating them through individual minor source permits, as permitting authorities have done to date. Otherwise, the sheer volume of permits and the process involved for each permit would themselves create administrative burdens that would be self-defeating. This could particularly be the case for the title V program, for which many sources may seek PTE limits as soon as the program becomes effective for GHG emitters, and as a result, permitting authorities would need to deal with a large number of sources at the same time.

In lieu of individual minor source permitting, we intend to evaluate and to consider adopting, or encouraging State permitting authorities to adopt, rules for source categories that we expect to include large numbers of sources whose actual GHG emissions are well below major source thresholds but which, absent such rules, have PTE above those thresholds.

There are several approaches through which EPA could take this action or encourage States to undertake similar actions. For certain source categories, it may be possible to define the source so that its PTE more closely tracks its actual emissions. To return to one of the examples provided earlier, it may be possible to define furnaces (which have the potential to operate year-round) to include the thermostats to which they are attached, which constrain them from operating in warmer weather. In this manner, the PTE of the furnace-thermostat source would take into account the operational constraints, so that PTE would more closely approximate actual emissions. This type of rule would not constitute any legal constraint within which the source must comply; rather, it would define the source as including specified pieces of equipment that, in turn, incorporate operational constraints.

For other source categories, it is conceivable that the only way to limit PTE would be to promulgate regulations that limit a source's operation. These regulations are often referred to as "prohibitory rules." For example, the permitting agency could promulgate a regulation that would preclude certain sources from operating for more than a certain number of hours per year, while also providing a streamlined method to allow a source to operate for longer hours upon request to the permitting agency.

We have some experience with developing and issuing guidance on PTE calculation methodologies through 1990s guidance for States wishing to create PTE limits through prohibitory rules or other mechanisms for several categories that were subject to seasonal operational shutdowns or that did not operate at maximum capacity for each hour of each day, so that actual emissions were well below their unadjusted PTE. See the memorandum entitled "Potential to Emit (PTE) Guidance for Specific Source Categories," from John S. Seitz, Director, OAQPS, OAR, EPA, to EPA Regions, April 13, 1998, found at EPA-HQ-OAR-2009-0517. These categories included grain elevators, industrial boilers, gas stations, emergency generators, printing operations, and cotton gins. The guidance document provided assumptions and calculations that States could use to develop prohibitory rules or other mechanisms to easily limit the PTE of sources in these categories.

We envision a similar approach to establish PTE calculation methods for various categories of sources that emit GHGs. The following steps would need to occur for full development and implementation of such a program:

Step 1: EPA identifies source categories that are generally conducive to this approach, considering the amount of their GHG emissions, complexity of operations, and emissions unit characteristics.

Step 2: EPA collects data from the industry and individual sources on typical operations, including emissions unit and process parameters.

Step 3: Acting through guidance or regulatory changes to the Federal PSD regulations, EPA develops PTE calculation methodologies and implementation procedures for the appropriate source categories.

Step 4: EPA solicits comment from permitting authorities and affected sources on PTE calculation methodologies and implementation procedures.

Step 5: EPA issues the final regulations or guidance.

Step 6: Permitting authorities adopt revisions that incorporate EPA's regulations or guidance.

Step 7: Sources comply with any applicable legal limits.

Based on our efforts in the 1990's, we believe that it would take EPA approximately 1 year to issue guidance for a given source category. We believe many States would be able to immediately apply this guidance. Some States may need to adopt the guidance in their SIP, which EPA must then approve, a process that could take approximately 3 years. Finally, for those rules that would not be self-implementing, sources would need time to meet the requirements of the rule. We ask for specific comment on stakeholders' experience with limiting PTE by rule rather than through individual permits, considerations in phasing in this approach to GHG sources, and identification of categories that might benefit from the use of rules limiting PTE.

2. Presumptive BACT

CAA section 165(a)(4) requires that sources subject to PSD implement BACT for each pollutant subject to regulation under the Act, and CAA section 169(3) requires that BACT emissions limits be determined "on a case-by-case basis" that reflects the use of state-of-the-art demonstrated control technology at the time of the permit action. Thus, BACT is required to be source-specific, changes over time, and requires continual updating. The permitting authority's decision as to what control requirements constitute BACT affords flexibility to consider a range of case-specific factors, such as available control options and collateral cost, energy, and environmental impacts. ***55322** However, full consideration of those factors requires significant data and analysis in order for permitting authorities to arrive at a case-by-case permitting decision that is appropriate for each individual source when it constructs or modifies. For all these reasons, determining BACT for a particular source can often be a complicated, resource-intensive, time-consuming, and sometimes contentious process. If the number of required PSD permitting decisions increases significantly, these challenges will be magnified, and BACT determinations will be a major factor contributing to uncertainty and delay for sources seeking PSD permits. Furthermore, the increase in workload of BACT determinations will require large investments of resources by permitting authorities, sources, EPA, and the public interested in commenting on these decisions.

In order to streamline the BACT process for the many new small sources that will be brought into the PSD program based on their GHG emissions, EPA will investigate ways to move from a system under which permitting authorities set BACT limits on an individual, case-by-case basis to a system under which they make BACT determinations for common types of equipment and sources, and apply those determinations to individual permits with little to no additional revision or analysis. The EPA has previously introduced this concept, known as "presumptive BACT", to streamline permitting for desulfurization projects at refineries as well as in other instances,[23] and some State permitting authorities have adopted similar approaches. [24] Based on our understanding of the types of sources that will become subject to PSD if GHG emissions are regulated at the statutory 100/250-tpy threshold, we believe the presumptive BACT process could offer significant streamlining benefits. These benefits arise because many of the sources that would become subject to BACT will likely have very similar emissions producing equipment, and there will be little variation across sources with respect to the cost, energy, and environmental considerations in the BACT decision.

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[23] *See* Memorandum, "BACT and LAER for Emissions of Nitrogen Oxides and Volatile Organic Compounds at Tier 2/Gasoline Sulfur Refinery Projects," from John S. Seitz, Director, Office of Air Quality Planning and Standards, to Regional Air Division Directors (January 19, 2001).

[24] For example, Wyoming has a minor source permitting program that includes a BACT analysis, and they use a presumptive BACT process for issuing minor source permits to a particular source category—oil and gas production facilities. See Permitting Guidance for Oil and Gas Production Facilities, Wyoming Dept. of Environmental Quality, Air Quality Division (August 2007 revision).

The central component of a presumptive BACT approach would be the recurring technical determination, subject to notice and comment, of the presumptive BACT levels for various categories. Because of the limited data currently available about the number and types of sources that would become subject to the BACT requirement for GHGs, we cannot at this time predict how many or which categories might benefit from such an approach. We recognize that considerable work will be needed to determine what options exist for controlling GHG emissions from these categories of sources and the various types of emitting equipment they use.

As noted above, the CAA requirement for BACT, found in sections 165(a)(4) and 169(3), mandate that BACT determinations be made for each pollutant on a "case-by-case basis." Accordingly, we need to explore whether we can develop a process that benefits from the efficiencies that presumptive BACT would provide while also allowing for individualization of permits. A possible approach would be to develop, through notice-and-comment rulemaking, a presumptive BACT level for sources in a particular source category, but require that permitting authorities allow public comment on individual permits as to whether there are significant case-specific energy, economic, and/or environmental impacts that would require adjustment of the presumed limit for that particular source. This phase in approach could streamline the BACT determination process to some extent, although the prospect that presumptive BACT determinations would, as a result of public comment, still have to be reviewed for numerous individual sources could well negate those streamlining benefits.

Accordingly, we believe that we also need to investigate a system under which presumptive BACT levels for a source category are developed through notice-and-comment rulemaking but applied to individual sources in that category without requiring permitting authorities to individualize the BACT determination or to allow for public comment on how presumptive BACT levels would apply to an individual source. The D.C. Circuit, in the *Alabama Power* case discussed above, stated that courts "frequently uphold streamlined agency [regulatory] approaches or procedures where the conventional course, typically case-by-case determinations, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress." 636 F.2d at 358. The Court recognized that such streamlining measures may be needed when time or personnel constraints or other practical considerations "would make it impossible for the agency to carry out its mandate." *See id.* at 359. Given the significant increase in new sources that would likely be brought into the PSD program once GHGs are regulated, maintaining individual case-by-case BACT determinations may well be impractical and may well warrant a presumptive BACT approach that does not authorize individualized, source-specific determinations. This approach could well be an important tool to allow EPA, State and local permitting authorities to carry out the PSD program in as timely and efficient manner as necessary to promote (rather than hinder) control of GHG emissions from the many new, small source categories that would be required to have PSD permits based on their GHG emissions. This approach would preserve opportunities for public participation by taking comment during the determination of presumptive BACT levels for a source category. Although this type of presumptive BACT approach—one that does not permit individualized, source-specific determinations—would depart from a literal application of the statutory requirements for BACT, it may nevertheless remain closer to the congressional intent for the PSD program than maintaining the applicability threshold at a level higher than the statutory level. If this is the case, then EPA could be required to establish a presumptive BACT approach and lower the applicability thresholds from the first phase level proposed in this action.

Several other factors should be taken into account when considering a change from case-by-case BACT determinations to a presumptive BACT process for some specific source categories within the PSD program. As a general matter, we will need to consider how such presumptive BACT limits should be established and used, and what provisions in the CAA would set requirements or limits on their establishment and use. In particular, EPA recognizes the CAA section 169(3) requirement to set BACT limits after taking into account site-specific energy, economic, and environmental impacts (otherwise known as collateral impacts).

In addition, while case-by-case BACT determinations allow for the continual evolution of BACT requirements over time (as controls applied in prior ***55323** permits are considered in each subsequent case-by-case BACT determination), EPA recognizes that application of presumptive BACT to a category of sources over many permitting decisions may diminish the technology forcing effects of PSD. EPA is interested in options that would help maintain advances in control technologies, such as a requirement to update and/or strengthen BACT at set intervals (such as after 3 years).

EPA seeks comment on all aspects of the use of presumptive BACT limits within the PSD program, including EPA's authority to do so, whether there is need for and value to such an approach, and suggestions for how such limits could be established, updated, and used consistently within the requirements of the CAA, or by departing as little as possible from those requirements. We also ask for comment on whether there are issues at traditional PSD major sources that arise for GHGs and that would not be addressed by a presumptive BACT approach. If so, we ask for comment on additional options for streamlining the BACT requirement to address these issues.

3. General Permits and Permits-by-Rule

A general permit is a permit that the permitting authority drafts one time, and then applies essentially identically (except for some source-specific identifying information) to each source of the appropriate type that requests coverage under the general permit. Congress expressly codified the concept of general permits when it enacted the title V program and States have been using general permits and similar processes for years in their own permit programs, particularly for minor source NSR and operating permits. Due to the case-by-case nature of PSD for "traditional" major sources and the differences among individual PSD sources, there has not been much interest or activity in general permitting for the PSD program. However, we believe this approach merits strong consideration for both PSD and title V programs due to the large number and similar characteristics of many of the sources that EPA expects will become newly subject to these permitting programs because of their GHG emissions.

A general permit provides a streamlined application and permitting process for sources that are similar in terms of operations, emissions units, and applicable requirements. By issuing a general permit, a permitting authority indicates that it approves the activities authorized by the general permit, provided that the owner or operator of the source registers with the permitting authority and meets the requirements of the general permit.

Permit-by-rule provisions may be very similar to general permit provisions, but they typically authorize a source owner to operate in accordance with certain requirements provided that the source owner registers with the permitting authority or certifies that they are complying with all applicable requirements. Thus, a source subject to the permit-by-rule would not need to wait for permitting authority approval, as is the case with the general permit, prior to operating under a permit-by-rule.

General permits are attractive in their ability to dramatically reduce permitting timeframes for affected source types. At the same time, general permits are highly conducive to automation and the development of web-based applications. For example, New Jersey's Department of Environmental Quality has fully automated its air general permitting process, allowing source owners to go online, apply for a general permit, build the permit themselves, issue it to themselves by printing it out, and pay for it by credit card. This type of one-stop processing has the potential to dramatically streamline the air permitting process for source types covered by general permits, and the resulting electronic records create spillover benefits for compliance tracking, inspection management, and pollution prevention outreach.

a. General Permits for the PSD Program

EPA has limited experience in developing general permits and permits-by-rule under the PSD program due to the predominance of the case-by-case BACT decision process described in section VII.A.2 of this preamble. In considering the use of general permits within the PSD program, EPA is considering how such general permits should be established and used, and what provisions in the CAA might limit their establishment and use. One option is to model PSD general permits on the general permits used in title V, as provided in 40 CFR 70.6(d). However, an important consideration in establishing PSD general permits is the requirement in CAA § 165(a)(2) that permits be issued after "a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations."One option for addressing this public participation requirement at least to some extent is the approach followed for title V general permits in 40 CFR 70.6(d), which provides that permitting authorities may establish general permits after following notice-and-comment procedures required under 40 CFR 70.7(h) and then grant a source's request to operate under a general permit without repeating the public participation procedures. Other considerations for establishing general permits under the PSD program include the requirement to determine BACT on a case-by-case basis (as discussed in an earlier section of this preamble), and the other procedural requirements referred to in section VII.A.3 of this preamble concerning the Class I consultation and the analysis of air quality and other potential impacts under CAA section 165(e).

Because permitting authorities have had minimal experience in developing general permits and permits-by-rule for PSD, sufficient time would be needed to develop them as useful tools to reduce the administrative burden associated with the application of the PSD program to major GHG sources. Sufficient time would be needed for the following steps: (1) EPA must determine best candidate sources for general permits and permits-by-rule; (2) EPA must determine similar types of processes and source types and sizes to combine; (3) EPA must prioritize the development and use of general permits and permits-by-rule; (4) EPA must issue guidance or rulemaking (as needed) for each grouping of similar sources; (5) States must adopt the guidance or rulemaking in their SIPs, as needed; and (6) sources must implement the requirements. We estimate that EPA would require more than 3 years to develop and deploy general permits and permits-by-rule would require more than 3 years to develop and deploy for a candidate group of sources, and that additional time would be needed for the States and sources to take the indicated steps.

EPA seeks comment on the use of general permits within the PSD program, including both EPA's authority to do so and suggestions for how general permits would be established and used consistent with the requirements of the CAA and identification of source categories that could benefit from such an approach.

b. General Permits for the Title V Program

In contrast to the PSD program, in the title V program, general permits are specifically authorized under CAA section 504(d), which provides:

> The permitting authority may, after notice and opportunity for public hearing, issue a general permit covering numerous similar sources. Any general ***55324** permit shall comply with all requirements applicable for permits under this subchapter. No source covered by a general permit shall thereby be relieved from the obligation to file an application under section 503 of this Act.

EPA regulations describe general permits in 40 CFR § 70.6(d). These provisions specifically authorize the use of general permits covering numerous similar sources under the title V program. The general permit must also follow the public participation requirements of 40 CFR 70.7(h). The information development and review conducted as part of streamlining for an individual source can be used by the permitting authority to generate a general permit for similar sources or portions of sources. If a general permit were used, EPA and public review beyond that needed to issue the general permit would not be necessary when sources subsequently applied for the streamlined permit conditions established under the general permit. Even where a general permit is not issued, the availability of information obtained from the streamlining of one source may be useful as a model for future streamlining actions involving other similar sources. EPA notes that the part 71 regulations addressing title V permits issued by EPA (and delegated authorities) contain parallel provisions regarding general permits. *See* 40 CFR 71.6(d).

We believe general permits may have more near-term applications for the title V program than for the PSD program because of past experience of permitting authorities, however limited, in using this permit streamlining technique for title V. Certain States have already used general permits for a relatively narrow population of certain minor, mainly area-type sources with a simple set of applicable requirements that were relatively easy for both permitting authorities and sources to implement. These general permits allowed the sources a more focused "roadmap" to meeting their regulatory requirements with far less burden associated with applying for the permits and administering them in general. In response to the ANPR, some State commenters noted that they have a successful history of using general permits and believe the use of general permits could be an effective and reasonable approach to reduce regulatory costs and administrative burdens.

We agree that there are similarities between the way general permits have been used in the past, particularly under title V, and the challenges permitting authorities would face for permitting GHG emissions for sources that would not already have, or necessarily need, a more comprehensive title V permit. However, most permitting authorities lack experience with general permits and with GHG sources in general. As a result, we believe that the process of developing general permits for title V purposes would parallel in certain respects the process of developing them for PSD purposes. Specifically, title V permitting authorities would need sufficient time to (1) determine candidate sources for general permits, (2) determine similar permit elements for those sources and develop adequate templates and formats for the general permits for those sources, (3) conduct formal EPA and public review of the general permit, and (4) develop an adequate implementation plan for sources to apply for such permits and for permit review staff to process such permits. After this, sources would need additional time to comply with the general permits. We believe this process would take at least 2 to 3 years for a partial set of general permits to be fully developed and ready for deployment.

4. Electronic Permitting

Implementation of electronic permitting (e-permitting) systems is growing across the U.S., as more and more States implement new or upgraded systems. We believe these systems, possibly in conjunction with general permitting procedures, could assist in addressing some of the administrative burden created by adding GHG emissions sources to the PSD and title V programs.

Most States are currently using agency Web sites to deliver a range of air permitting program services, from enabling electronic submittal of permit applications to providing the public web access to permits and related documents. Permitting authorities find value in e-permitting systems because these systems can lead to improved customer service, decreased data entry errors, shortened permit review timeframes, and improved systems for managing permitting processes. In short, e-permitting systems can make better permits more quickly. Common State e-permitting activities include:

- Development of air permit application forms which can be accessed, completed, and submitted online;
- Development of specialized software or database applications to review submitted permit applications and to support the permit development process; and
- Posting issued permits and draft permit documents to air permitting Web sites.

New technology is expanding the opportunity for collaboration and joint development around information system tools. To enable permitting authorities to handle the administrative workload associated with the application of the PSD and title V programs to GHG sources, EPA could assess and identify best practices for e-permitting system implementation and support States in implementing effective and efficient systems using targeted e-permitting tools and resources. For example, EPA could work with States to develop effective GHG permitting strategies in the following areas:

- Permit application submittal which would involve processes for facilities to identify permits needed, determine the scope of information to include in permit applications, access and complete application forms, and submit those forms and supporting data to State and local permitting authorities.
- Application review and draft permit generation which would involve processes for State and local permitting authorities to conduct administrative and technical permit application reviews, develop permit

conditions, and sometimes create draft permit documents. This category could also include a broad range of information technology tools and resources that could support permit writers in preparing better permits more quickly.

- Draft permit review and final permit issuance which would involve processes for State and local permitting authorities to manage completion of external reviews (including public and EPA review periods) and any related updates to the draft permit document, issuance of the final permit, and collection of permit fees.
- Post-issuance activities which would incorporate all activities related to permits that are managed by State and local permitting authorities after permits are issued (including public access to permits and related documents, permit appeals, permit modifications, permit renewals, and inspections and compliance monitoring).
- Workflow tracking and management which would incorporate all of the management procedures and tools that State and local permitting authorities use to track the permit development process, including internal permit authority timeline tracking and public access to workflow information.

***55325** 5. "Lean" Techniques for Permit Process Improvement

In the business world, "lean" techniques refers to a collection of process improvement principles, methods, and tools designed to help organizations identify and eliminate non-value-added activity ("waste"), in order to meet customer needs better, more quickly, and more efficiently. Lean techniques have been adopted across numerous business sectors and been adapted to address both production and administrative processes. Lean process improvements could help permitting authorities to address administrative burdens that are created if numerous GHG sources are added to their air permitting programs.

In the context of air permitting, Lean improvement events typically focus on eliminating the following types of administrative process waste: Backlogs in permitting; errors in documents; unnecessary rework on documents; and delays associated with transmission of documents between the various parties that develop and approve them. Since 2003, State environmental agencies have increasingly used Lean manufacturing principles and methods to drive rapid, continuous improvement in air permitting and other agency processes.

B. Implementation of Streamlining Techniques and Overall Approach To Administering PSD and Title V Programs

As noted above, these potential streamlining options and tools will require time to develop, issue, and reach full deployment. Each technique would generally take from 3 to 4 years to fully develop and implement. Therefore, if we did not phase in the applicability thresholds for sources of GHG emissions as soon as PSD and title V requirements are triggered for them, there would be a significant time period when numerous GHG sources exceeding the statutory permitting thresholds for PSD and title V would need to obtain permits, and permitting agencies would be faced with overwhelming administrative burdens. Also, at this point in time we do not have enough information to predict the full potential applications and impact of these streamlining techniques for permitting GHG sources. Therefore, it is impossible to predict a specific time in the future when and if such streamlining techniques would reduce the administrative burden of permitting authorities sufficiently for them to administer PSD and title V programs for GHGs at the current permitting thresholds. Instead, we propose to commit to investigating and developing these techniques as vigorously and as soon as possible as part of an overall GHG tailoring strategy that involves phasing in the GHG major source permitting thresholds as soon as PSD and title V requirements are triggered for GHG emitters, but that further involves reassessing the situation, completing a study within 5 years, and then taking up to 1 additional year to finalize regulations adopting the lowest threshold that we conclude is administrable based on the study.

Even so, we have enough information now about some streamlining techniques, such as presumptive BACT in support of PSD permitting and general permits in support of title V permitting, to recognize that those techniques are quite likely to be beneficial to both permitting agencies and affected sources. We believe that within the framework we propose in this action there will be sufficient time to deploy the streamlining techniques and to evaluate their effectiveness in addressing administrative burden.

Therefore, in conjunction with our proposed action to tailor the GHG permitting thresholds, we are committing to a concurrent effort to investigate, evaluate, and support the implementation of permit streamlining techniques to address GHG sources. We believe that while the proposed temporary thresholds will allow the permitting authorities to implement their programs for PSD and title V, it is also necessary for us to pursue applicable streamlining techniques that may help our assessment of the temporary thresholds as part of the threshold evaluation study. We believe that at the end of the threshold evaluation period we will have a better understanding and a sufficient record of the effectiveness of different permit streamlining techniques and how these techniques may influence the need to consider alternative thresholds.

We request comment on which types of streamlining techniques, and for what source categories, would be of most value to permitting authorities and affected sources. We also request comment on the anticipated impact such techniques would have on permitting authorities' administrative capabilities to address GHG permitting and how such impact would affect the need for the temporary thresholds proposed under this action. We also request comment on the time periods needed to develop and implement any such streamlining techniques and on how such time frames can expeditiously meet CAA requirements in light of the administrative burden that would remain.

C. Strategies for Obtaining GHG Reductions From Sources Under the Proposed GHG Permit Thresholds

In addition to pursuing permit streamlining techniques that may ultimately have application to smaller GHG source categories (*e.g.*, those in the commercial and residential sectors), we also recognize that there are both current and future EPA programs that could be used to mitigate GHG emissions from these smaller sources. It may well be the case that, for the smaller sources, these approaches, which are summarized in this section, will result in more efficient and cost-effective regulation than would case-by-case permitting. We therefore intend to fully explore the use of all available tools for addressing these sources at the same time as we explore streamlining the permitting programs.

While EPA is proposing that during the first phase, GHG sources less than 25,000 tpy CO_2e will not be subject to PSD and title V requirements for purposes of applicability, there are feasible, cost-effective opportunities for reductions from these sources through means other than PSD and title V during the first phase. The tailoring proposal does not restrict our ability to explore these opportunities during this first phase. EPA has strong interest in pursuing such opportunities and therefore requests your comments on the practicability of near-term regulatory and nonregulatory programs to address smaller sources.

The near-term opportunities for GHG emissions reductions in smaller-scale stationary sources include increased energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes that could reduce inputs of carbon or other GHG-generating materials. The use of alternative fuels and energy are also promising methods for achieving GHG reductions.

One key challenge in addressing sources emitting less than 25,000 tpy CO_2e is their diversity. The source types may range from landfills to small stationary fuel combustion devices to waste water treatment plants and electronics manufacturing. In addition to including a range of processes, these source categories may include large (>25,000 tpy CO_2e) and small sources. EPA is soliciting public comment on a fair and systematic way to address the diverse number of categories where individual sources are comparatively small, but the source category could be addressed through some cost effective means.

***55326** Controls on sources at this scale would likely involve decisions on how proposed installations of equipment and processes for a specific source category can be redesigned to make those sources more energy efficient, for example, while taking cost considerations into account. However, these types of approaches have yet to be adopted widely, because of market barriers, insufficient financial and legal incentives, or other barriers. Below, EPA provides some examples of approaches that could be taken and existing programs that could provide useful platforms to address smaller sources.

We request comment on the types of strategies that may be appropriate for these sources, considerations—such as cost and feasibility—with respect to implementing programs for smaller sources, approaches to incentivize these types of programs, and ways to measure the effectiveness of such initiatives. We also request comment on whether these initiatives have the potential to be developed in such a way as to meet the essential PSD and title V program requirements for sources, even if the initiatives do not necessarily meet the letter of those requirements (such as the case-by-case determinations required under the PSD program), based on administrative imperatives.

For instance, EPA could design a hybrid approach where sources on the larger end of the below-25,000-tpy CO_2e range could be required to analyze pathways to reduce GHG emissions by a certain percentage, but EPA or the States could use flexible criteria in requiring reductions from those sources, including the timeframe for achieving such reductions. These requirements could be supplemented by an incentive program, through which a State could use loan, grant, or emissions credit incentives to help such sources lower their GHG emissions profile, especially when the source is performing a modification. Any approach would have to be systematic, in that the criteria used would have to be responsive to the source volume of emissions, the reductions that might be achieved, cost-effectiveness, permanence and enforceability.

A further alternative would be the use of section 111(d) of the CAA to work with smaller sources to reduce emissions. In contrast to other provisions in the Act which require regulation of all sources above specific size thresholds, section 111 gives EPA significant discretion to identify the facilities within a source category that should be regulated. To define the affected facilities, EPA can use size thresholds for regulation and create subcategories based on source type, class or size. Emissions limits also may be established either for equipment within a facility or for an entire facility. EPA also has significant discretion to determine the appropriate level for the standards.

In addition to exploring regulatory options, EPA will continue to consider existing nonregulatory programs to achieve cost-effective emissions reductions. Some of the EPA's current programs, discussed below, are aggressively working to cost-effectively mitigate GHG emissions through energy efficiency in industry and consumer products and other voluntary programs that address several key CH_4 and other high-GWP sources. The source categories discussed below are not exhaustive, and are discussed as illustrative examples. It is also important to note that particular sources in these categories could fall above or below a threshold value of 25,000 tpy CO_2e.

Energy efficiency is one of the lowest cost means for addressing climate change. Since 1992, EPA, through the ENERGY STAR program, has achieved GHG reductions by helping U.S. businesses adopt cost-effective, energy-efficient technologies and practices. The program combines several elements, including: ENERGY STAR branding of commercial products with superior energy performance and promoting strategic energy management practices across the commercial and industrial sectors. We also work with States to leverage wider use of such ENERGY STAR products as commercial roofing materials, furnaces, and boilers in commercial settings. States can promote the purchasing of ENERGY STAR qualified products in residential multi-family housing and commercial buildings such as offices, hospitals, hotels, schools, and warehouses. These building types comprise the vast majority of sources that would have emissions below the proposed 25,000-tpy CO_2e major source threshold.

Also for these building types, States can take advantage of EPA tools to encourage, track and reward improvements in building efficiency. Already, States are leveraging such tools as Portfolio Manager to make disclosure of building efficiency part of sale/lease transactions. Many States also use ENERGY STAR to incentivize adoption of energy-efficient equipment and buildings through regulated utilities and other energy efficiency program sponsors. Finally, EPA provides resources to help—or to enable States to help—manufacturers improve energy efficiency through a transferable platform that States can adopt which includes sector-targeted energy efficiency guidance, energy program development tools, and a national rating system that scores the energy performance of plants and enables documentation of energy improvement for those interested in demonstrating change in performance. For additional information on these programs, visit *http://www.energystar.gov.*

Methane and other high-GWP gases, including PFCs, HFCs, and SF_6, are potent GHGs that contribute to climate change. In an effort to reduce emissions of these gases, EPA is working cooperatively with a variety of companies and organizations in the energy, waste management, agriculture, and industrial sectors to implement voluntary programs that encourage cost-effective emissions reductions. These programs offer a range of technical and policy information products and exchanges and track emissions reductions in the following key sectors: landfills, oil and gas systems, animal waste, coal mines, industrial processes including aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and the production of HCFC-22, and wastewater from domestic or industrial sources. Experience and lessons learned through these programs can be used by States and EPA for regulatory and nonregulatory initiatives. For additional information on the CH_4 and high-GWP programs, visit *http://www.epa.gov/methane/voluntary.html* and *http://www.epa.gov/highgwp/voluntary.*

html. For more information on opportunities for GHG reductions at wastewater treatment facilities, visit *http://www.epa.gov/chp/documents/wwtf—opportunities.pdf.*

VIII. Description and Rationale of Proposed Action

A. Proposed Permitting Thresholds for GHGs

Based on the legal rationale of "absurd results" and "administrative necessity" described in section VI of this preamble, EPA is proposing with this action to establish the first phase of the thresholds for determining applicability under both the PSD and title V permitting programs and to set a significance level for GHGs under the PSD program. For both PSD and title V purposes, we are proposing to set the applicability threshold at 25,000 tpy CO_2e. In addition, for the PSD significance level, we are proposing a range from 10,000 to 25,000 tpy CO_2e. Upon finalization of this rule, and based ***55327** on comments received and the supporting record, we will establish a singular value for the GHG significance level.

EPA is also proposing in this action to commit to evaluating the impact, effectiveness, and need for these GHG permitting thresholds as well as other aspects of the administrative burden for permitting authorities in a study to be completed within 5 years from the promulgation date of the final version of this rulemaking. Based on the results of that study, EPA would propose and promulgate a rulemaking within a year later that would establish the second phase of the tailoring program. This rulemaking would reaffirm the first-phase GHG permitting thresholds or revise those thresholds, promulgate other streamlining techniques, and/or take action consistent with the goal of expeditiously meeting CAA requirements in light of the administrative burden that remains at that time.

This section of the preamble defines the GHG metric used for purposes of determining whether the proposed thresholds are exceeded, describes the policy and technical rationale for selecting the proposed applicability thresholds for PSD and title V, and discusses the proposed 5-year threshold evaluation study.

While the rest of this section discusses the details of our proposed approach, we note at the outset that there may be other ways to structure the first phase of permit program applicability for GHGs than the one we describe as our preferred approach. For example, we could address the administrative burden by defining the sources in the first phase subject to permitting for GHGs to include only sources that are or become subject to title V or PSD permitting obligations under the existing 100/250 tpy statutory thresholds on the basis of their emissions of a non-GHG pollutant. Under this approach, for example, a new source that triggered PSD for a non-GHG regulated NSR pollutant and that also emits GHGs, or an existing source going through a modification that triggered PSD for a non-GHG regulated NSR pollutant and which also increased its GHG emissions would have to do a BACT analysis for GHGs. This BACT process would be expected to identify control options which are technically feasible and cost effective for a particular source based on the tons emitted, thereby ensuring that the first phase of permitting would apply to the largest sources of GHG that are currently subject to CAA regulation based on emissions of non-GHG pollutants. Sources that do not trigger PSD or title V for a non-GHG pollutant would not be subject to these programs solely on the basis of their GHG emissions. Under such an approach, we may still need to establish a significance level for GHG emissions at sources that are subject to PSD due to their non-GHG emissions, but we could consider setting this based on the 10,000 ton CO_2eq significance level proposed elsewhere in this package. We solicit comment on this approach, and on other potential variations on our proposal that commenters believe could address the administrative concerns in more effective ways.

B. What is the definition of the GHG pollutant for the proposed permitting thresholds?

1. Background on GHG Metrics

The selection of a GHG metric is an important consideration in developing the GHG permitting threshold options because it sets the basis for evaluating whether a particular source exceeds a given threshold. As noted in section IV.A of this preamble, one commonly utilized metric is to estimate and report emissions of GHGs as the collective sum of emissions of the six primary GHGs, with applicable GWPs applied to the non-CO_2 gases. When GWPs are applied to the mass emissions of one of the primary GHGs, the resulting weight is referred to as CO_2e (*see* section IV.A of this preamble for a description of CO_2e). Another possible metric would consist of individual mass-based emissions for each GHG, without their GWP values applied. The choice of the GHG metric can have a significant impact on design and implementation of the GHG permitting threshold.

For example, if a source only evaluated its CO_2 emissions against a permitting threshold, it may fall below the threshold, but if it evaluated the sum of all its primary GHG emissions on a CO_2e basis, it may fall above the threshold. Although there may be a variety of considerations for including one GHG metric over another, the choice of a GHG metric, whether it be the sum of the CO_2e emissions or individual GHGs, for both PSD and title V programs, must include any of the individual GHGs that may be subject to regulatory action under the CAA, as discussed in section IV.D of this preamble.

One of the reasons EPA is undertaking this rulemaking is because it intends to propose and finalize a separate rule that regulates GHG emissions from light-duty motor vehicles and that would trigger PSD and title V permitting requirements for stationary GHG emissions sources. The light-duty motor vehicle rule will identify a GHG pollutant or pollutants subject to regulation. However, at the time of this proposal there is uncertainty as to exactly what GHG metric will ultimately be finalized in the light-duty motor vehicle rule. Also, as discussed in the ANPR, there may be other future regulatory actions or decisions by EPA that would determine what form of GHGs would be subject to regulation under the CAA, such as new source performance standards for certain source categories under CAA section 111. This uncertainty over the form of the GHG metric in future regulatory actions is an important factor in our selection of the GHG metric for the permitting threshold.

In order to better inform our consideration of different GHG metrics for the proposed GHG permitting thresholds, we also reviewed the GHG metrics used in two recent EPA proposals: the endangerment finding and the GHG mandatory reporting rule.

In the proposed endangerment finding for GHGs, the Administrator proposed to define the air pollutant as the "[c]ollective class of the six greenhouse gases," and referred to the widespread use of CO_2e as a means to evaluate the six primary GHGs as a group (74 FR 18886, April 24, 2009). The Administrator also identified this collective approach to defining GHGs, for the contribution test, as most consistent with the treatment of GHGs by those studying climate change science and policy, where it has become common practice to evaluate GHGs on collective CO_2e basis. However, the Administrator also recognized in the proposed finding that each GHG could be considered a separate air pollutant and that defining the air pollutant as the group of six GHGs does not preclude setting standards that control emissions of individual GHGs, as constituents of the group.

Under EPA's GHG Mandatory Reporting Rule proposal, the emissions-based applicability thresholds for reporting are based on total CO_2e calculated from the sum of a facility's emissions of the six primary GHGs plus other fluorinated GHGs, applying GWP values to non-CO_2 gases (74 FR 16448, April 10, 2009). However, annual reporting is required for both total CO_2e and individual GHGs on a mass basis, with no GWPs applied for non-CO_2 gases.

We also note that both domestic regional cap-and-trade programs (*e.g.*, the Regional Greenhouse Gas Initiative) and international trading programs (*e.g.*, *55328 the European Union Emission Trading Scheme) make use of the CO_2e metric for purposes of offsets accounting and emissions trading that involves different GHGs. Under the United Nations Framework Convention on Climate Change (UNFCCC), the U.S. and other countries also report their annual emissions of the six GHGs in terms of CO_2e units.

2. Rationale for GHG Metric Selection for Proposed Permitting Thresholds

As discussed elsewhere, EPA interprets the PSD and title V requirements to apply to each "air pollutant" that is "subject to regulation" under other provisions of the CAA. It is important to determine which GHGs to treat as the "air pollutant" that is subject to PSD and title V requirements and how to measure those GHGs. Taken together, this is termed the GHG metric. As noted above, in the proposed endangerment and cause or contribute findings under section 202(a) of the CAA, EPA proposed to define the "air pollutant" for the contribution analysis as the class of six GHGs CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs); but EPA also took comment on the concept of defining each GHG as a separate air pollutant. In connection with the light-duty vehicle rule under CAA § 202(a) that EPA is proposing at the same time as this action, four of those six GHGs which are emitted by light-duty motor vehicles are proposed to be subject to controls under the light-duty vehicle rule (all but SF_6 and PFCs). As EPA explains in the light-duty vehicle rule and below, EPA has discretion under section 202(a) to establish controls at the GHG-specific level regardless of whether the final definition of "air pollutant" for the contribution analysis is the class of six GHGs or each GHG individually. In light of the ongoing relevant rulemakings, this proposal discusses several possible ways for identifying the GHG metric for PSD and title V requirements. First, the metric could address each GHG individually, or it could address them as a single GHG group. Second, the metric could include (whether individually or as a group) all six of the GHGs, or only those four GHGs subject to controls in the light-duty vehicle rule. Third, the metric could measure the GHGs (whether individually or as a group) on the basis of their actual tonnage or their equivalent tonnage based on global warming potential (GWP), which we refer to as CO_2 equivalent, or CO_2e.

We propose to identify the GHG metric as the group of six GHGs, on a CO_2e-basis. Using a CO_2e basis, a source's emissions for any of the six primary GHGs that are "subject to regulation" under the Act, and therefore considered "regulated NSR pollutants," are summed on a CO_2e basis using their GWP values. The summed CO_2e emissions would then be compared to the applicable permitting threshold to determine whether the source is subject to PSD and title V requirements. We solicit comment on whether we should identify the GHG metric in a different way, such as one of the options identified above.

a. Legal Rationale

Because PSD and title V apply to each "air pollutant" subject to regulation, it is necessary both to examine the definition of "air pollutant" and to determine which air pollutant or pollutants are proposed to be subject to regulation under CAA § 202(a).

PSD applies to a "major emitting facility," under

CAA § 165(a), and that term is defined under CAA § 169(1) as—

> any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any *air pollutant* from * * * stationary sources [in 28 listed categories]. * * * Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any *air pollutant*.

(Emphasis added.) Similarly, Title V requirements apply to "major source[]s," under CAA § 502(a), and that term is defined under CAA § 501(2)(B) and CAA § 302(j) as—

> any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any *air pollutant* * * *.

(Emphasis added.) The term "air pollutant," which, as just noted, is central to the applicability provisions of both PSD and title V, is defined under CAA § 302(g) as—

> any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air.

As just noted, EPA treats sources emitting air pollutants as subject to PSD and title V requirements only if the air pollutants are "subject to regulation" under other provisions of the CAA. EPA's current interpretation of "subject to regulation" is found in the PSD Interpretive Memorandum, which defines the term as meaning subject to either a provision in the CAA or a regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant, and to exclude pollutants for which EPA regulations only require monitoring or reporting. Accordingly, under the PSD Interpretive Memorandum, the air pollutant that is subject to regulation is the air pollutant for which actual controls are required under other provisions of the CAA.

We believe that PSD and title V requirements will be triggered for GHGs if EPA completes the rulemaking that EPA is currently proposing for light-duty vehicles and vehicle engines. That rule is based on CAA § 202(a). Paragraph (1) of § 202(a) provides, in relevant part:

> The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any *air pollutant* from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(Emphasis added.) This provision, by its terms, requires, as a pre-requisite for regulating an "air pollutant" from the described mobile sources, that EPA must make what has come to be called an "endangerment finding" for that "air pollutant;" and further requires that once EPA makes that endangerment finding, EPA must proceed to "set standards [for new motor vehicles] applicable to the emission of [the] air pollutant" for which the endangerment and companion cause or contribute finding was made. EPA has already proposed an endangerment finding for the air pollutant comprised of the collective group of six GHGs: CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs, as well as a finding that new motor vehicle emissions of the 6 GHGs, viewed as a single group air pollutant, contribute to this endangerment. 74 FR 18886, 18904, 18907 (April 24, 2009).[25] Four of these GHGs are emitted by light-duty motor vehicles; as a result, concurrently with this rule, EPA is proposing to set emissions standards for those four GHGs. As noted in the light-duty vehicle rule and below, EPA can set standards for the specific GHGs emitted by light-duty motor vehicles versus for the single air pollutant that is comprised of the six GHG, and still comply with the requirement in section 202(a) regardless of how EPA finally defines "air pollutant" in the final endangerment and contribution findings. EPA is proposing to regulate the GHGs emitted by light-duty vehicles by establishing separate emission ***55329** standards that limit emissions of CO_2, CH_4, and N_2O. EPA would also allow credit towards the CO_2 standard based on vehicle air conditioner controls that reduce emissions of HFCs.

In light of how the proposed endangerment and contribution finding identifies, and light-duty vehicle rule regulates, emissions of, the "air pollutant" under CAA § 202(a), EPA's task in this proposal is to identify the "air pollutant" for which PSD and title V will become applicable under CAA §§ 165(a)/169(1) and CAA §§ 502(a)/501(2)/302(j). This "air pollutant," for PSD and title V purposes, is the "air pollutant" that is "subject to regulation" under CAA § 202(a), according to EPA interpretation.

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[25] In the proposed endangerment finding, the Administrator also stated that if each of the four GHGs emitted by new motor vehicles were treated as separate air pollutants, she would find that each of the four contributes individually to the air pollution that endangers.

We are proposing that the relevant "air pollutant" for purposes PSD and title V applicability is the single air pollutant that is comprised of the group of six GHGs, as proposed in the § 202(a) endangerment and contribution findings. These six GHGs as a class comprise the air pollutant that is the subject of the endangerment finding and companion contribution finding and constitute the air pollutant that is regulated by the light-duty vehicle rule through measures that address the components of that air pollutant that are emitted from the mobile sources. Thus, although the CAA § 202(a) proposal establishes controls only with respect to four GHGs, as a legal matter the proposal covers the entire set of GHGs that as a class are the single "air pollutant" in the proposed endangerment and contribution findings.

We also solicit comment on whether only the four GHGs actually controlled under the mobile source rule should be treated as the "air pollutant" subject to PSD and title V applicability. In particular, we solicit comment on whether such an approach would be consistent with our treatment of other "air pollutants" that are comprised of numerous individual substances (*e.g.*, VOCs or PM), and how it interacts with EPA's duty under section 202(a) to sets standards for emissions of the "air pollutant" for which a contribution finding is made under that section.

In addition, we further believe that the definition of "air pollutant" for PSD and title V purposes provides for sufficient flexibility that the form of the standard—that is, the metric—that EPA adopts for PSD purposes may differ from the form that EPA adopts for purposes of regulation under CAA § 202(a). Section 202(a) authorizes EPA to set "standards applicable to the emission of [the] air pollutant."This provides EPA significant discretion in determining how to structure its new motor vehicle standards, as long as they are "applicable to emission" of the air pollutant. How EPA exercises its discretion under this provision, whether by separate standards, a collective standard, or some combination of these, as has been proposed, does not change the fact that each of these approaches has the same result—regulating the air pollutant which is the subject of the contribution finding under section 202(a). It is this overall result—regulation of the air pollutant—that determines the applicability of PSD and title V, not the particular form of the standards adopted under section 202(a). To reiterate, under 302(g), "air pollutant" means "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air."We believe that as long as the same "air pollution agent or combination of such agents" is regulated for PSD and title V purposes as is regulated under CAA § 202(a), then the PSD and title V applicability requirements are met, whether or not the structure of the regulation is the same as employed under section 202(a). Accordingly, we believe that as long as the six GHGs that are the "air pollutant" being regulated under CAA § 202(a) are subject to PSD and title V applicability through some metric, then the precise metric through which they are subject to PSD and title V may differ from the precise manner in which they are regulated under CAA § 202(a). Thus, we believe we may treat the six GHGs as a group for PSD and title V purposes, and weight them by their GWP, even though they are generally regulated individually under the mobile source rule.

b. Policy and Programmatic Rationale

For individual GHGs, differing CO_2 equivalent factors (such as GWP values) are found in the literature. As noted earlier in this preamble, the U.S. and other countries report their annual emissions of the six GHGs in terms of $CO_{2}e$ units, following UNFCCC guidelines. The UNFCCC reporting guidelines for national inventories, as updated in 2006, require the use of GWPs from the IPCC SAR (IPCC 1996) for $CO_{2}e$ calculations, even though the IPCC has subsequently updated its GWP values.[26] Consistent with these most recent guidelines, we are proposing to use the same SAR-derived GWP values, which are based on the effects of GHGs over a 100-year time horizon, for purposes of calculating GHG emissions in tpy $CO_{2}e$ for this tailoring rule.

We recognize a number of advantages in the use of a cumulative $CO_{2}e$ measure ("cumulative" here refers to the summation of emissions of CO_2e for all applicable GHGs) using GWP over an individual, mass-based metric, including: (1) A cumulative CO_2e metric, by incorporating the GWP values, addresses the combined radiative forcing of the GHGs emitted; (2) a cumulative CO_2e metric by definition includes any of the six primary GHGs that are emitted and therefore would effectively include any one or combination of the six primary GHGs that might become subject to regulation, thus encompassing a greater variety of possible future regulatory approaches; (3) a cumulative CO_2e metric would be consistent with the proposed mandatory reporting rule thresholds (thereby creating a "common currency" for recordkeeping for both industry and permitting authorities); and (4) a CO_2e metric could allow more flexibility for designing and implementing control strategies that maximize reductions across multiple GHGs and would also likely align better with possible future regulations that allow for such flexibility.

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[26] "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007," U.S. Environmental Protection Agency, EPA 430-R-09-004, April 15, 2009. p. ES-3. See also the SAR GWPs (IPCC 1996) in table 1-2, p. 1-6. *http://www.epa.gov/climatechange/emissions/usinventoryreport.html.*

We also considered a GHG permitting threshold metric based on individual GHGs on a mass basis, with no GWP applied. The main benefit of an individual-GHG-based metric is that it may provide some ability to better differentiate sources and project emissions that affect one particular GHG. Because of this differentiation, it also may allow for simpler program implementation with regards to establishing emissions limits, establishing BACT, compliance assessment, and measurement/monitoring methods. However, we believe that the benefits in using the cumulative group of GHGs outweigh any implementation advantages to using an individual-GHG-based metric. In particular, the cumulative-GHG, CO_2e-based metric addresses all GHGs and their radiative forcing potential and would provide some flexibility to a source to design and maximize GHG reductions across the facility. Conversely, an individual-GHG-based metric may limit a facility's flexibility to maximize GHG reductions across GHGs and is generally less consistent with the widespread treatment of GHGs in inventory, reporting, and emissions ***55330** offset protocols mentioned in section VIII.B.1 of this preamble.

We solicit comment on the benefits and limitations of our proposed GHG PSD and title V permitting threshold metric based on CO_2e. We also request comments on proposed alternative metrics (such as individual GHG basis) and the effect those alternative metrics would have on setting permitting thresholds for GHGs.

3. Possible Limitation of Proposed Metric for PSD and Title V Thresholds and for PSD Netting Purposes

a. PSD and title V applicability thresholds

This proposed metric may also warrant a limitation for PSD and title V threshold purposes. In rare instances, it is possible that a source may emit only a non-CO_2 GHG in very small amounts, on a mass basis, but one that carries a very large GWP. In this case, it is possible that the source may emit the GHG in amounts that fall below the PSD statutory applicability threshold of 100/250 tpy on a mass basis, and fall below the title V statutory applicability threshold of 100 tpy on a mass basis, but exceed the 25,000 CO_2e PSD and title V applicability thresholds (which, as discussed above, are calculated on a GWP basis) proposed in this action. Under these circumstances, the source would trigger PSD and title V under our proposed rule even though its GHG mass emissions would not, in fact, exceed the statutory triggers.

We seek comment on whether we should address this case; that is, whether such a source should be subject to PSD or title V. Because the PSD and title V statutory thresholds are expressed on a mass basis—*i.e.*, tpy—we are concerned that the metric proposed with this action could have the effect of subjecting to PSD or title V requirements a source whose emissions fall below the statutory threshold limits on a mass basis. Accordingly, we seek comment on whether we should include some refinements to the CO_2e metric, such as adding a 100- or 250-tpy metric that is mass-based. Under this refinement, a source would be subject to PSD and title V only if its GHG emissions exceeded the statutory threshold levels on an actual tonnage basis and if its GHG emissions exceeded the first phase threshold emissions proposed in this notice on a CO_2e basis.

However, we are also concerned that efforts to address this circumstance—for example, by requiring separate tracking of individual GHG mass emissions in addition to CO_2e for up to six gases—would be complex and confusing to administer. Similarly, as discussed above, we are concerned that implementing permitting only on an individual gas basis would have several disadvantages compared to our proposed CO_2e-based approach.

b. Netting

The same issue is also a concern as the proposal relates to PSD netting. By way of background, an existing source becomes subject to PSD when it makes a major modification, which generally occurs when the source is a major emitting facility and makes a physical or operational change that increases its emissions of a regulated air pollutant by a significant amount. In calculating the amount of the increase in emissions, the source must add to the increase the amount of any contemporaneous—generally, within the previous 5 years—increases and decreases that resulted from other changes the source made. If the total amount, so calculated, does not exceed the significance level, then the source is not subject to PSD for the change, and instead has "netted out" of PSD.

In rare instances, it is possible that a source of two or more different types of GHGs, with different GWPs, may make two or more contemporaneous changes that increase its emissions of one type of GHG and decrease its emissions of another type of GHG. The effect of those changes may be that the source will have decreased its emissions of its GHGs on a mass basis, but increased its emissions of GHGs on a CO_2e basis above the significance level. Under these circumstances, we are seeking comment on whether that source should be treated as being subject to PSD due to its physical or operational change.

We could prevent the source in this example from becoming subject to PSD by requiring that for an existing source's physical or operational change to be treated as a modification that triggers PSD due to its GHG emissions, the change must, taking into account contemporaneous changes, increase GHG emissions on a mass basis by any amount, and increase GHG emissions on a CO_2e basis by the amount of the significance level proposed in this action. However, we are concerned that efforts to address this circumstance would be even more complex and confusing to administer for netting than it would be for major source determinations.

We therefore solicit comment on how best to address these situations involving new source permitting and netting in light of our proposed choice of a GHG PSD and title V permitting threshold metric based on CO_2e. We are asking for comment on whether these rare circumstances should be addressed in light of the statutory language, and if so, how. Would a mass-based metric for each individual GHG be an appropriate way to address the issue and, if so, should it be implemented in addition to, or in place of, our proposed CO_2e metric?

C. What is the rationale for selecting the proposed GHG permitting thresholds for PSD?

1. Major Stationary Source Applicability Threshold for Sources of GHGs

With this action, we are proposing to establish, for the first phase of the PSD GHG tailoring program, the PSD major source threshold at 25,000 tpy CO_2e and the significance level at 10,000 to 25,000 tpy CO_2e, based on the legal doctrine of "absurd results" and "administrative necessity," as described in section VI of this preamble. This first phase will be followed by a study and then promulgation of additional rulemaking that will establish the next phase of requirements. This section provides a more detailed discussion of the technical and policy basis for establishing these threshold levels.

a. Administrative Burdens Associated With the Statutory Threshold Level and the Proposed Permitting Threshold Level

As noted previously, for PSD purposes, if we do not establish a different "major" source level for GHG emitters, the effect would be that the statutory threshold level would apply, so that GHG sources in the 28 listed categories under CAA section 169(1) would be subject to a 100-tpy threshold, and all other GHG sources would be subject to a 250-tpy threshold. Under this scenario, tens of thousands of sources each year would undertake projects that would have to comply with the PSD program, which would overwhelm the permitting authorities and interfere with the issuance of permits to all sources, whether they emit GHGs or not.

Accordingly, EPA is proposing a PSD "major" source applicability threshold of 25,000 tpy CO_2e. The rationale for this level is to reduce the administrative burden to the point where it is no longer administratively impossible to implement the PSD program. Although requiring permitting authorities to permit sources of GHG emissions at 25,000 tpy CO_2e and higher would increase the level of PSD permitting and therefore increase administrative burdens, compared to current permitting levels, EPA believes that this increase would not exceed the capacity ***55331** of permitting authorities to implement the PSD program.

EPA calculated the administrative burden of permitting GHG emitters at the 25,000-tpy CO_2e threshold level as follows: As noted earlier in this preamble, EPA conducted a threshold data analysis that provided information on the numbers of facilities that could potentially be subject to PSD review under different CO_2e-based emissions thresholds and the administrative resources needed to process permits for these facilities. Through the process described in this section of the preamble, we estimate that, at a 25,000-tpy CO_2e applicability threshold for PSD major sources, approximately 400 additional new or modified facilities would be subject to PSD review in a given year. These include approximately 130 new facilities and approximately 270 modifications at existing major sources that would be subject to PSD review as major modifications. Many, but not all, of these facilities would be subject to PSD review for other pollutants that they emit. These estimates compare to the 280 PSD permits that are currently issued in a typical year.

We acknowledge that our estimates for both new facilities and modifications are highly uncertain because they rely on growth trends in industries and businesses, which are inherently difficult to predict, especially under changing economic conditions.

We developed these estimates as follows: To estimate the number of new sources, we identified the various source or industry categories included in the threshold data analysis, along with the number of sources in each category. We then applied source- or industry-specific growth rates to estimate the number of new facilities that would be added in a year at a given major source threshold for a source or industry category. The methodology and results for estimating new sources is described in the Technical Support

Document, in the docket for this rulemaking.[27]

To estimate the number of modifications at existing major sources, EPA first calculated the number of existing facilities that would be treated as "major" sources due to their PTE-based CO_2e emissions rates. At a 25,000-tpy CO_2e permitting threshold, EPA estimates that about 13,600 existing facilities would be classified as "major" sources. Second, EPA determined the current rate of PSD-permitted modifications occurring at major sources nationwide, which is approximately 2 percent of existing major sources. The basis for this modification rate is described in a technical support document found in the docket for this rulemaking.[28] Then, we assumed that GHG sources would modify at the same 2-percent rate. Based on this assumption, EPA estimates that approximately 270 modifications would result from a 25,000-tpy CO_2e major source permitting threshold.

We calculated the additional administrative burden in workload hours and costs based on the per-permit hourly workload estimates and costs for PSD permitting from the PSD ICR.[29] Of the group of 130 new sources, we estimated the number of industrial sources and of commercial or residential sources. For the industrial sources, we assumed that permitting authorities would need to spend 301 hours, on a per-permit basis, for issuing permits that cover both the GHG and non-GHG emissions. This is the same amount of time that permitting authorities need to permit non-GHG emissions from industrial sources. We did not assume additional workload requirements for the GHG emissions because permitting authorities will have some experience with the emissions units, sources, and configurations at these facilities. Also, although there will be new and unique GHG sources to consider at some of these facilities, this experience should provide some administrative efficiencies in preparing and processing GHG-based permit applications for these facilities. Note that some of the 130 new sources would be sources that are subject to PSD only because of their GHG emissions. We estimate that the permitting authorities would need to spend the same amount of time and money on these permits, on a per-permit basis, as the authorities do on new sources of non-GHG emissions. For the commercial or residential sources, we assumed that permitting authorities would require 20 percent of the time for industrial sources, or 60 hours, because these sources tend to be less complex than industrial sources.

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[27] Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation;" Air Quality Policy Division, Office of Air Quality Policy and Standards; U.S. Environmental Protection Agency; July 7, 2009."

[28] "Methodology for Estimating Modified Sources That Would be Subject to PSD Permitting for GHGs;" Prepared by EPA Staff; August 2009.

[29] "Summary of ICR-based Data Used to Estimate Avoided Burden and Evaluate Resource Requirements at Alternative GHG Permitting Thresholds;" Prepared by EPA Staff; August 2009.

The next group of permittees is the 270 GHG sources that are subject to PSD each year because they undertake modifications. For modifications involving industrial sources, we assumed that permitting authorities would need to expend 301 hours, the same as for new sources; for modifications involving commercial or residential sources, we assumed 60 hours—the same, again, as for new sources.

All told, the increase in burden for permitting authorities from including sources of GHGs at a 25,000-tpy CO_2e level, on a total national basis, would be approximately 112,000 staff hours at an additional cost of approximately $8 million. This workload amount represents an increase of about 1.3 times, or 32 percent, in the current burden for permitting authorities on a nationwide basis. We believe that this additional burden is manageable, but that it will necessarily pose some challenge to permitting authorities, and that to accommodate the additional burden, permitting authorities may need to expand their resources or seek efficiencies in processing permits. We believe that any threshold lower than 25,000 tpy CO_2e, would create undue administrative burdens. Thus, we believe that the amount of administrative burden attendant to a threshold level of 25,000 tpy CO_2e is consistent with the administrative necessity case law, which, as described earlier, we read to limit us to depart from the statutory requirements to the smallest extent possible, consistent with congressional intent.

We request specific comments on our estimated burden at the 25,000-tpy CO_2e threshold and on whether the additional workload would be manageable to permitting authorities.

We also request comment specifically on the assumptions we used for calculating the administrative burden from modifications. As noted earlier, our estimate for the number of modifications that would undergo PSD review as a result of a 25,000-tpy CO_2e permitting threshold is based on the modification rate at existing major sources for currently regulated pollutants, which means that the estimate assumes that the modification rate for GHG sources is similar to that for sources of currently regulated pollutants despite the potential difference in types of projects and significance levels. We acknowledge that our estimates for modifications are highly uncertain because they rely on growth trends in industries and businesses, which are inherently difficult to predict, especially under changing economic conditions. Thus, there is significant uncertainty in applying this modification rate and therefore in predicting not only how many major sources will undergo ***55332** physical or operational changes in any given year, but also which of those changes would result in GHG emissions increases that would exceed a proposed GHG significance level. We are therefore requesting specific comment on our estimate of modification rates at major sources and soliciting any additional information and data that would improve our estimate of the number of modifications affecting GHG emissions at different types of source categories.

b. Administrative Burdens Associated With Other Permitting Threshold Levels

In addition to the 25,000-tpy threshold for CO_2e, we also considered major source applicability thresholds for PSD ranging from 1,000 to 100,000 tpy CO_2e. Using the basic analysis of new and modified facilities that would become subject to PSD review as described above, we estimated the number of new facilities and modifications at each of these thresholds. A summary of these results is shown in table VIII-1. The results shown in table VIII-1 are based on estimates of potential to emit, measured in short tons of CO_2e, from affected facilities at each threshold level. It should be noted that the use of short tons here, while consistent with the units used for existing major source thresholds for other pollutants identified in the CAA and permitting program rulemakings, differs from the units of metric tons used in EPA's GHG Mandatory Reporting Rule proposal. For consistency within the permitting programs, all data and discussion in this rule are based on short tons.

We believe that the number of new permits that would be subject to PSD at the 10,000-tpy-and-below CO_2e major source thresholds would not be administratively feasible for permitting authorities. For example, we estimate that the 10,000-tpy CO_2e threshold would cause an approximately three-fold increase in the number of PSD permits annually (830 compared to 280), resulting in an additional workload for permitting authorities of approximately 187,000 hours, or an increase of about 2.2 times over their current PSD workload. We believe that this increase in the number of PSD permits and workload would create insurmountable resource demands for permitting agencies in the near term, which would jeopardize the functioning of the PSD program. These time demands are due to not only the increase in number of permits but also the need to implement BACT determinations, GHG emissions evaluations, and other evaluations required under the PSD program for a wide variety of formerly unpermitted sources, including significant numbers and varieties of small manufacturing and commercial establishments. Permitting authorities would confront substantial challenges because the authorities have little experience with these sources and their GHG emissions.

We request comment on our assessment of the impact of major source GHG thresholds lower than

25,000 tpy CO_2e on PSD program administration, including any additional information on the number of sources and modification projects that might be affected at these lower thresholds for different GHG source categories. We also request comment on our conclusion that the 10,000-tpy threshold (or a lower threshold) would be too low to sufficiently address the administrative concerns.

Table VIII-1—Estimated Number of Existing Facilities and Annual Number of Newly Constructed Facilities and Modifications Potentially Subject to PSD Review at Different GHG Major Source Thresholds

Major stationary source threshold level (tpy CO_2e)	Number of existing facilities exceeding threshold	Number of new facilities that would exceed threshold (facilities/yr)	Number of modifications at existing facilities that would exceed threshold (modifications/yr)
1,000	278,340	4,330	5,567
5,000	52,888	532	1,058
10,000	26,898	289	538
25,000	13,661	128	273
50,000	7,245	77	145
100,000	4,850	66	97

At the 50,000-tpy CO_2e threshold, we estimate approximately 220 PSD permit actions due to GHG emissions. We do not believe that this level of permit activity would challenge the capacity of permitting authorities to properly administer the PSD program to the extent we described above for the 25,000-tpy CO_2e threshold. As noted elsewhere in the legal discussion of the absurd results and administrative necessity doctrines, we are foreclosed from adopting higher thresholds when we believe a lower threshold would be possible to implement. We request comment on our assessment of the impact of major source GHG thresholds higher than 25,000 tpy CO_2e on PSD program administration, including any additional information on the number of sources and modification projects that might be affected at these higher thresholds for different GHG source categories. We also request comment on our determination that this assessment supports a conclusion that the 25,000-tpy threshold is administrable and thus we do not need to adopt a threshold of 50,000 tpy. We note that the 50,000-tpy level does involve about 6,400 fewer major sources than the 25,000-tpy level, including about 1,600 sources that would have been newly defined as major (*e.g.*, landfills, hospitals, offices, hotels). In light of this, we specifically ask for comment on whether a 50,000-tpy level, which would exclude these sources, is administratively necessary.

c. Emissions Impacts

We also evaluated the amount of GHG emissions emitted by facilities that would be subject to PSD requirements at the proposed thresholds, although, strictly speaking, this information is not relevant to the administrative-necessity basis for selecting the proposed major source threshold level for CO_2e. The objective of the emissions evaluation was to generally assess the extent to which, on a national basis, GHG emissions sources would be covered at the proposed thresholds. The basis for this evaluation, with a detailed summary of the results, is provided in the docket for this rulemaking.[30]

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[30] "Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation; Air Quality Policy Division, Office of Air Quality Policy and Standards; U.S. Environmental Protection Agency"; July 7, 2009.

We estimate that a 25,000-tpy CO_2e threshold captures approximately 68 ***55333** percent of national CO_2e stationary source GHG emissions (including approximately 87 percent of CO_2). This emissions coverage is comparable to national stationary source NO_X emissions coverage of 72 percent at the existing PSD major source permitting threshold of 250 tpy NO_X. Lowering the CO_2e threshold to 10,000 tpy increases the amount of emissions covered by only 2 percent compared to the 25,000-tpy threshold but almost doubles the number of facilities covered. We estimate that a 10,000-tpy CO_2e threshold would also affect approximately 7,000 commercial and multi-family residential sources. A 50,000-tpy CO_2e threshold would virtually eliminate all of the commercial/residential sector from being affected for GHG but would fail to capture some high emitters within key GHG categories (for example, iron/steel, refineries, electric generation, pulp and paper, petrochemical) and would reduce emissions coverage by about 2 percent compared to 25,000 tpy CO_2e. A summary of the percentage of national stationary source GHG emissions associated with the affected facilities at different GHG emission thresholds is shown in Table VIII-2.

Table VIII-2—Percentage of National Stationary Source GHG Emissions From Affected Facilities at Different GHG Emission Thresholds

Major stationary source threshold level (tpy CO_2e)	Number of existing facilities exceeding threshold	Percent of national stationary source GHG emissions (percent)
1,000	278,340	73
5,000	52,888	71
10,000	26,898	70
25,000	13,661	68
50,000	7,245	65
100,000	4,850	64

Estimates of emissions coverage at different thresholds are not the same as estimates of the actual quantities of emissions that would be reduced through the PSD permitting program at these permitting thresholds; however, they do illustrate that at the proposed 25,000-tpy CO_2e source threshold, the most significant contributors to stationary source GHG emissions would still be covered by the PSD program as major sources, and therefore any modifications or new additions at these source categories would potentially be subject to PSD requirements, including BACT.

2. Significance Levels

With this action, we are also proposing a temporary, first phase GHG PSD significance level threshold based on administrative necessity. As noted previously, there are no existing PSD significance levels set for any of the GHG pollutants.

Until we establish significance levels for these pollutants, those levels in effect remain at zero tpy, so that any physical or operational change that increases GHG emissions by any amount would constitute a modification and therefore would be subject to PSD. Thus, for any major source, any minor change that increases fuel combustion even slightly would increase GHG emissions and, as a result, potentially trigger PSD review. As with administrative burdens associated with the statutory major source PSD applicability threshold, the burdens associated with the hundreds of thousands of modification projects that would have to comply with the PSD program under these circumstances would be enormous, at least in the short term. They would overwhelm the permitting authorities as well as the regulated community, and would interfere with the issuance of PSD permits to sources of all types, whether emitting GHGs or not.

As a result, we believe that the same legal doctrines of absurd results and administrative necessity apply for establishing the significance level. We need to phase in a significance level for GHGs by establishing, in the first phase, a reasonable significance level based on administrative necessity, and then by conducting a study and promulgating further rulemaking to establish the requirements for the second phase.

To do so, we need information concerning the number of modification projects occurring at a facility level for different source categories that would exceed various possible significance levels for GHGs in any given year. However, it is very difficult to acquire or develop this information—and therefore there is great uncertainty in calculating specific administrative burdens associated with modifications—for several reasons. First, information is not available across sectors and source categories on the types and numbers of specific physical and operational changes that would result in emissions increases in amounts that can be estimated and that therefore can be compared to various GHG emissions significance levels. Second, there is general uncertainty in how many project modifications will occur within any given year because decisions on these projects are driven by facility- and sector-based growth patterns and business planning decisions. Lastly, some source categories and units that emit GHGs have not previously been subject to any type of permitting or reporting requirements; as a result, for these sources, there is very little historical record for use in estimating the number and types of projects that would occur at these sources and, in turn, establish an appropriate significance level for GHGs.

Absent comprehensive information on the types and numbers of modification projects nationally that result in increases in GHG emissions, we are proposing and soliciting comment on a range of possible significance levels for CO_2e. Our proposed range starts at 10,000 tpy CO_2e, which reflects, subject to the uncertainty noted above, our current estimate of what would constitute a GHG significance level below which permitting authorities would be unable to adequately administer PSD, and goes up to 25,000 tpy CO_2e, which is our proposed major source applicability threshold for GHGs under PSD. We believe that a 25,000-tpy CO_2e significance level for GHGs would be the highest level we could consider because it is not reasonable to propose a significance level that is higher than the proposed major source threshold.

We selected the GHG significance level at the lower end of the proposed range by analyzing inventory ***55334** information for key source categories that would have a substantial number of modification projects potentially subject to PSD permitting requirements for GHGs. Most importantly, depending on the significance level for CO_2e, small fossil fuel-fired combustion units, which are numerous and ubiquitous, could have a substantial number of modifications that would be subject to PSD. Our threshold data analysis shows that almost 80 percent of the facilities that exceed the 25,000-tpy CO_2e major source threshold do so because of fossil fuel combustion units that emit CO_2. Also, the U.S. national GHG inventory shows that approximately 80 percent of all GHG emissions result from fossil fuel combustion sources. The prevalence of combustion units across all affected sectors, and the dominant contribution of CO_2 fuel combustion-related emissions to their GHG emissions total, leads us to conclude that an administrative necessity-based significance level for CO_2e should be based on modifications that involve these combustion units.

Thus, we analyzed sales data for two of the most affected categories of units: Boilers and stationary engines. Our analysis indicates that, on a yearly basis, almost 2,000 of these new combustion units would emit more than 10,000 tpy CO_2e. The exact number of PSD permits that would result from modifications involving these new emissions units would likely be less than 2,000, depending on whether these units are located at a major source facility, whether multiple units are aggregated at one facility or the units are placed at different facilities, and whether they are considered new additions/new capacity or one-for-one replacements. However, we believe these data on combustion unit sales suggest that the significance level should be at least 10,000 tpy CO_2e because, while the estimated population of new units with the potential to trigger PSD is something below 2,000 per year, that is still likely well above the current number of modifications (fewer than 300) that are currently subject to PSD each year. Any lower level would risk enormous numbers of permit applications that would be administratively impossible to process, and therefore we do not propose a GHG significance level lower than 10,000 tpy CO_2e. Further support for the 10,000-tpy CO_2e level is the fact that the combustion units in the industrial sector that emit GHGs at this rate tend to be larger units: boiler-type units with an approximate heat input rating of 15-20 MMBtu/hr (depending on fuel type); and stationary internal combustion (IC) or compression ignition (CI) engines with a rating of greater than 2,000 horsepower. Units of this size provide a good representation of combustion units utilized in the industrial sector that should be subject to PSD. At the same time it does not capture an enormous number of very small combustion units that would overwhelm permitting authorities from an administrative standpoint. For example, using the same sales information referenced above on combustion units, we estimate that approximately 29,000 new boilers and stationary engines would exceed a 250-tpy CO_2e level. A summary of our significance level analysis for CO_2e is provided in the docket for this rulemaking.[31]

Although our significance level range is driven by our analysis of CO_2 combustion units, we believe that the level of 10,000 tpy CO_2e should be administratively feasible for other sources of GHG emissions. Our threshold data analysis shows approximately 3,000 facilities that would have the potential to emit amounts of non-CO_2 GHGs exceeding a 25,000-tpy CO_2e major source threshold based on their non-CO_2 emissions alone. Although this estimate is not directly related to the number of possible modification projects that may exceed a 10,000-tpy CO_2e significance level for non-CO_2 emissions alone, this estimate provides a relative sense of the number of facilities emitting non-CO_2 emissions at rates that approximate the 10,000-tpy CO_2e level, only a portion of which may actually undergo modifications that would potentially be subject to PSD review. For example, if the 3,000 facilities are assumed to have a modification rate of 2 percent, as described above, and each modification results in emissions increases of at least 10,000 tpy CO_2e (in, again, non-CO_2 GHG emissions), then approximately 60 modification projects would come under PSD review just for principally non-CO_2 sources. This alone would be an approximate 20- to 25-percent increase above the current level of 280 annual permits. We believe that an additional PSD permit increase of this magnitude, on top of the modifications resulting from CO_2 emissions from combustion-related projects, may stretch the capacity of, but may not necessarily create an unadministrable burden for, permitting authorities.

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[31] "Summary of Administrative Necessity Basis for a CO_2-e Significance Level"; Prepared by EPA Staff; August 2009.

Although we believe 10,000 tpy CO_2e represents a reasonable lower bound for the range we are proposing for the GHG significance level, we specifically request comments on whether: (1) A level lower than 10,000 tpy CO_2e would still be administratively feasible; (2) a level higher than 25,000 CO_2e is necessary to avoid an administratively overwhelming number of modification projects becoming subject to PSD permitting due solely to their GHG emissions; and (3) there are data suggesting an appropriate number we should select within the 10,000- to 25,000-tpy range. In suggesting alternative thresholds, we request that commenters submit any available information and data that would allow us to better characterize the number and types of modification projects that would become subject to the PSD program at different GHG significance levels and for different types of source categories.

We note that this basis contrasts with that of our prior significance levels determinations, which were based on *de minimis* emissions levels.

D. What is the rationale for selecting the proposed first phase GHG permitting threshold for title V?

With this action, we are proposing a temporary, first phase GHG title V major source threshold of 25,000 tpy CO_2e, based on the administrative imperatives that underly both the absurd results and administrative necessity legal doctrines.

As noted earlier, if we do not establish a different "major source" level under title V for GHG sources, those sources would become subject to the statutory 100-tpy threshold. Under these circumstances, we estimate that 6.1 million sources would have to comply with the title V permitting program. The resulting administrative burdens would be enormous in the short term and would overwhelm the permitting authorities, as well as posing severe burdens on the regulated community. Accordingly, we need to phase in title V applicability by establishing, in the first phase, an administrable permitting threshold, and then by conducting a study and promulgating further rulemaking to establish the requirements for the second phase.

The criterion for establishing the title V major source threshold is to reduce administrative burdens to the point at which the title V program can be implemented. Our analyses, discussed in detail later in this preamble, establish this threshold at 25,000 tpy CO_2e. Although this level would likely see an increase in the volume of title V permitting, compared to current permitting levels, and although this increase would pose some challenges to ***55335** permitting authorities, EPA believes that this increase would not exceed the capacity of permitting authorities to implement the program.

The title V permitting program requires all existing major sources to obtain operating permits, as compared to the PSD program, which requires permits only for newly constructed major source facilities and major modifications at existing major sources. Therefore, to evaluate permitting thresholds for title V, we analyzed the number of existing facilities that would exceed a given GHG threshold. We considered alternative major source thresholds ranging from 1,000 to 100,000 tpy CO_2e.

Our estimates for the existing number of facilities whose emissions would exceed different GHG thresholds are summarized in table VIII-1 and discussed in more detail in the Technical Support Document in the docket for this rulemaking.[32] For comparison purposes, note that currently there are approximately 14,700 title V operating permits nationwide. We estimate that at a 25,000-tpy CO_2e permitting threshold, about 13,600 existing facilities would be classified as "major sources" for their PTE-based CO_2e emissions. As discussed later in this preamble, these 13,600 facilities present additional workload demands on permitting authorities, either because they are not currently required to obtain a title V permit (because their non-GHG emissions fall below the "major source" threshold) or because, although they already are required to obtain a title V permit (due to their non-GHG emissions), their permits would need to be revised to cover their GHG emissions. In contrast, at a 10,000-tpy CO_2e threshold the number of existing facilities exceeding the threshold jumps to almost 27,000. At a 50,000-tpy CO_2e threshold, the number of existing facilities exceeding the threshold falls to about 7,200. We believe, based on these estimates, that a 25,000-tpy CO_2e major source threshold is appropriate because it renders the title V program administrable, albeit with additional workload requirements. As discussed later in this preamble, as we move below the 25,000-tpy CO_2e threshold, we believe the administrative burdens related to the increasing number of facilities covered, as well as to the variation in the type of facilities covered, become insuperable. At both the 50,000- and 100,000-tpy CO_2e thresholds, however, we do not believe that the potential level of permit activity would fill the capacity of permitting authorities to properly administer the title V program, and similar to PSD considerations, we believe it would potentially exclude some high-emitting facilities within key GHG source categories.

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[32] "Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation; Air Quality Policy Division, Office of Air Quality Policy and Standards; U.S. Environmental Protection Agency"; July 7, 2009.

Although we believe a 25,000-tpy CO_2e threshold would add an additional permitting burden to permitting authorities, we believe that this additional burden could be adequately administered. We expect that many of the 13,600 existing facilities that would exceed the proposed 25,000-tpy CO_2e threshold—the majority of which consist of electric generating units and industrial facilities—already have a title V operating permit for other regulated pollutants, and thus would potentially require only a permit revision or modification to address GHGs. We believe that these permit revisions or modifications under title V would initially be limited due to the lack of new applicable GHG requirements to include in the permits, but would increase in complexity and content as facilities move through PSD permitting processes and as other possible stationary source requirements emerge.

In addition, with a 25,000-tpy CO_2e threshold, some of the 13,600 existing facilities are not currently subject to title V requirements and therefore would require new title V permits. These facilities constitute primarily additional landfills (we estimate approximately 1,700 landfills may be added to the title V program) and some large commercial facilities, primarily large hospitals. These facilities number approximately 800, but the number of new permits they would need would be less than this because approximately 180 are currently subject to permitting under title V for pollutants currently subject to regulation under the Act. Permitting the newly subject sources would not solely involve GHG requirements but may also involve other pollutants emitted by the source.

We estimate that the combination of title V permit revisions, modifications, and new permits that would result from a 25,000-tpy CO_2e applicability threshold would require an estimated additional 492 FTEs by permitting authorities nationwide, or an estimated 50-percent increase over current title V staffing levels, to meet the initial permitting requirements that would apply at the time title V applicability is triggered for GHG sources. We do not believe this 50-percent increase in resources would be administratively impossible to achieve, given that title V is self-funded, and that there are efficiencies gained in revisiting existing title V permits and sources with which the permitting staff are familiar.

In contrast, at a 10,000-tpy CO_2e threshold, we estimate that an additional 1,357 FTEs (an estimated 135-percent increase over current title V staffing levels) would be required by permitting agencies nationwide (again, based on initial permitting requirements). In addition, there would be substantial influx of new title V permits—greater than 13,000—that would need to be processed and issued. This would include over 7,000 newly permitted commercial and residential sources covering a wide variety of source types, including office buildings, retail malls, hotels, apartment buildings and educational facilities. The new variety of sources included at the lower threshold also would require additional training for permitting staff to become familiar with the configuration and emissions from those sources. For these reasons, we believe that at threshold levels below 25,000 tpy CO_2e, even considering the capability of permitting authorities to eventually add additional staff funded through permitting fees, permitting authorities would not be capable of ensuring reasonable processing times for both new permits and revisions resulting from the additions of GHG emitters to the program.

We request specific comment on our estimated burden at the 25,000-tpy CO_2e major source threshold for title V and on whether the additional workload would be manageable to permitting authorities. We also request specific comment on our assessments of the impact of title V major source GHG thresholds higher and lower than 25,000 tpy CO_2e on title V program administration, including any additional information on the number of sources affected and the permitting burdens created at these thresholds. We further request comment on our conclusion that the 10,000-tpy threshold (or a lower threshold) would be too low to address the administrative necessity concerns, that the 25,000-tpy threshold is administrable, and that there is therefore no need to adopt a threshold of 50,000 tpy.

There are additional policy and programmatic considerations that, while not part of the administrative-necessity basis, also support establishing the major source GHG threshold for title V at 25,000 tpy CO_2e. Most importantly, this level would result in consistency between the PSD and title V permitting threshold for GHG sources. Historically, there has been a strong measure of ***55336** consistency in the PSD and title V permitting levels since there is a generally applicable 100-tpy "major source" applicability threshold in title V and there is a 100-tpy "major emitting facility" applicability threshold applied in PSD for sources in 28 key industrial source classifications. In addition, there is a strong programmatic incentive for the programs to share a common permitting threshold. Because at least initially GHG requirements from the PSD permitting process would constitute the only applicable requirements to be included in the title V permits for many sources, a title V permitting threshold lower than the PSD threshold would create numerous "empty" or "hollow" permits, that is, permits that do not include any applicable requirements, and many previously unpermitted commercial sources would be required to obtain these hollow permits. Permits hollow in this respect may be viewed as unnecessary and wasteful by the permitting authorities and regulated community. Further, requiring such permits may be at tension with a primary purpose of title V to promote compliance and facilitate enforcement by gathering into one document the requirements that apply to a particular source. *See* CAA Section 504(a) (each title V permit must contain terms "necessary to assure compliance with applicable requirements" of the CAA), H.R. Rep. No. 101-490, at 351 (1990) ("It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable to the source.").

E. How will EPA assess the GHG permitting thresholds in the first phase of the tailoring program, and how will EPA develop the second phase?

1. Assessment To Be Performed Within 5 Years Following Promulgation of the First Phase

We consider the actions proposed in this rulemaking to set higher GHG major source applicability thresholds for PSD and title V, and to establish a GHG PSD significance level, as interim measures that will need to be reassessed in terms of their administrative necessity. Therefore, as part of this proposed action, we are committing to evaluate the effectiveness of the first phase of the tailoring program, which consists of the proposed GHG thresholds, to enable PSD and title V permitting authorities to adequately administer their programs with the inclusion of GHG emissions sources. We are proposing to complete this evaluation within 5 years from the effective date of this final rulemaking. The results of this study will form the basis for further regulatory action that will constitute the second phase, which may include continuing or lowering the GHG applicability thresholds for PSD and/or title V set in the first phase, adoption of other streamlining techniques that more accurately reflect the administrative capabilities of permitting authorities to address GHG sources during the second phase, and/or taking other actions consistent with the goal of expeditiously meeting CAA requirements in light of the administrative burden that remains at that time.

We believe a 5-year period is necessary for the evaluation of the first phase of the tailoring program to provide an adequate period of time for permitting authorities to implement the proposed GHG permitting thresholds and for a sufficient record of implementation experience to be compiled. We also believe a number of important activities undertaken by EPA and the States over the 5-year evaluation period could potentially impact permitting authorities' administrative capabilities to address GHG emissions sources, and we need sufficient time to implement those activities and assess that impact. These activities will include the following:

- The first activity is the development of streamlining tools to specifically address GHG sources. As discussed in section VII.A of this preamble, several permit streamlining techniques may have applications for GHG emissions sources. However, EPA needs an estimated 3 to 4 years to fully develop some of these techniques. Because many of these techniques are source-specific, or at least source category-specific—*e.g.*, presumptive BACT determinations—EPA may not be able to develop them for all affected sources within the evaluation period. However, we anticipate that EPA may make sufficient progress on enough streamlining techniques to impact the administrative capabilities of permitting authorities to address GHG emissions sources.
- The second activity during the 5-year period involves the ability of permitting authorities to add more staff to their permitting programs, especially the title V program for which additional fees for GHG emissions may support the addition of new staff. Based on the summary of State data on impacts of GHG emissions permitting, it is likely that even under the best-case scenarios, at least a 3- to 4-year period is necessary for most permitting authorities to add and adequately train staff for permitting duties involving GHG emitters. Therefore, we expect that the impact of increased staffing on the administrative capabilities of permitting authorities will be better known by the fifth year of the threshold evaluation period.
- The third activity is the collection of more detailed emissions information resulting from implementation of the proposed GHG mandatory reporting rule. Many permitting authorities have not had any experience to date with quantifying or evaluating emissions and controls of GHG source categories. EPA's proposed

GHG mandatory reporting rule will produce significant information about key GHG emissions source categories that will help permitting authorities and EPA better understand the characteristics and quantities of GHG emissions, particularly at the facility level. Reporting facilities will begin to submit data in the year 2011, and we expect a substantial record of emissions data to be collected during the evaluation period. We believe that these facility-level GHG data will be an important component to increasing permitting staff knowledge of GHG emissions sources and will have a positive impact on the permitting staff's ability to address GHG emissions in their programs. We also believe this information will provide additional insight into the level and types of GHG emissions occurring at different facility types that should support EPA's reevaluation of the first phase GHG permitting thresholds.

- The fourth activity during the 5-year assessment period is the development of background information on control technologies and costs for GHG emissions source categories. As discussed in more detail in section X of this preamble, one of the administrative constraints is the fact that permitting authorities must apply BACT to GHG sources subject to PSD, but that endeavor would be highly resource-intensive. The 5-year assessment period will allow EPA and the States to develop information to evaluate GHG control techniques and costs, which, in turn, will be the basis for BACT determinations involving GHG emissions sources.

The 5-year period will serve other purposes, too, including allowing EPA to analyze the impacts of permitting smaller GHG sources to develop methods to mitigate those impacts. To date, EPA has collected very little information on the site-specific configuration and GHG emissions characteristics of many of the smaller industrial and commercial source categories. As a result, it is difficult to fully assess the impact of GHG ***55337** emissions permitting on these sources. We believe the 5-year evaluation period will provide EPA the opportunity to develop a more comprehensive profile of these smaller GHG source categories, which will allow a better assessment of the impacts on the small business community and, in turn, ways to mitigate those impacts.

Although we believe there are sufficient reasons to justify a 5-year evaluation period, we ask for comment on whether the activities described above—or at least some portion of them sufficient to begin administering permit programs for significant numbers of sources below the proposed 25,000-tpy CO_2e threshold—could be accomplished in a shorter time frame than our initial estimates. For example, we ask for comment on whether 3 years would be a sufficient evaluation period. We are especially interested in understanding the basis for such an alternative time period and what activities would need to occur during the period.

We further note that, for the proposed applicability thresholds as described above, we did consider a step-down approach for phasing in GHG permitting thresholds for PSD and title V programs. Under a step-down approach, applicability thresholds for GHGs would be lowered to predetermined step-down levels at specified intervals, such as every 2 years or more. However, we rejected the step-down approach on the basis that, without having established sufficient information on source-specific emissions and absent a record of experience with permitting GHG emissions sources on the part of permitting authorities, we were not in position to establish and support specific step-down thresholds. We believe that establishing further specific step-downs prior to evaluating the impact of the proposed GHG thresholds included in this rulemaking, as well as the impact of the proposed streamlining techniques, would prematurely determine what is administratively feasible for permitting authorities to undertake in terms of permitting GHG sources. Nonetheless, in light of the necessity of ultimately achieving compliance with the statute, we solicit comment on whether such an approach, coupled with regular examination of whether the administrative situation is improving, is an appropriate way to achieve compliance while taking into account the administrative imperatives. If so, we ask for suggestions on how we could structure such an approach (*e.g.*, when future phases should begin, how we should determine the appropriate thresholds for each phase, etc.)

2. Rulemaking Based on Threshold Evaluation for Second Phase of Tailoring Program

We propose to commit, by rule, that by 6 years after promulgation of the first phase of the tailoring program, and following completion of the threshold evaluation study, we will promulgate a follow-up rulemaking that will establish the second phase of the program. This rulemaking will either confirm the continued use of the GHG permitting thresholds implemented for the first phase, or promulgate alternative GHG permitting thresholds or other streamlining techniques. The results of the 5-year threshold evaluation study will form the basis for determining what thresholds or other techniques will be promulgated in the second phase rulemaking.

At this time, we cannot anticipate specifically what the second phase of this tailoring program will consist of. The situation that we confront is unprecedented. However, we believe the process of establishing the first phase and then assessing it, combined with the development of other streamlining techniques to the extent possible, will provide a sufficient basis for EPA to propose a rulemaking to establish the second phase. Of course, that rulemaking will provide ample opportunity for affected parties to comment on their experiences with the administrative burden at current GHG permitting thresholds and to make recommendations for any changes in the thresholds, for adoption of other streamlining techniques, and/or for actions consistent with the goal of expeditiously meeting CAA requirements in light of the administrative burden that remains at that time.

IX. What would be the economic impacts of the proposed rule?

This section of the preamble examines the economic impacts of the proposed rule including the expected benefits and costs of the proposed rule on affected entities. This proposed rule lifts, for a period of 6 years, the burden to obtain a title V operating permit required by the CAA for smaller sources of GHGs and the burden of PSD requirements for smaller new or modifying sources of GHGs. Thus, this rule provides regulatory relief rather than regulatory requirements for these smaller GHG sources for a period of 6 years. For larger sources of GHGs, there are no direct economic burdens or costs as a result of this proposed rule, because requirements to obtain a title V operating permit or to adhere to PSD requirements of the CAA are already mandated by the Act and by existing rules and are not imposed as a result of this proposed rulemaking.

The regulatory impact analysis (RIA) conducted for this proposed rule provides details of the benefits or regulatory relief that smaller GHG sources will experience in terms of costs avoided as a result of this proposed rule and the potential for social costs in terms of foregone environment benefits during this 6-year period. Complete details of the regulatory impact analysis conducted for this proposed rule may be found in the document "Regulatory Impact Analysis for the Proposed Greenhouse Gas Tailoring Rule," in the docket for this rulemaking.

This rulemaking provides permitting thresholds for sources of GHGs that exceed levels contained in the CAA. Specifically, sources with the potential to emit less than 25,000 tpy CO_2e are not required to obtain an operating permit or PSD permit for a period of at least 5 years at which time a study will be conducted and the decision revisited after 6 years. In the 6 years following promulgation of this rule, the EPA estimates that, compared to baseline estimates that do not include the effects of this rule, over six million sources of GHG emissions will be allowed to operate without a title V operating permit and tens of thousands of new sources or modifying sources per year will not be subject to PSD requirements for GHGs. For this large number of smaller sources, this rule alleviates the regulatory burden associated with obtaining an operating or PSD permit or complying with NSR BACT requirements. Therefore, this proposed action may be considered beneficial to these small entities as it provides relief from regulation that would otherwise be required.

This decision does potentially have environmental consequences in the form of lesser emission reductions during the 6-year period of time. Given that sources between 250 and 25,000 tons per year account for an estimated 7 percent of the six directly emitted GHGs nationally from industrial, commercial, and residential source categories, while representing over 95 percent of the total number of sources potentially requiring an operating or PSD permit for GHGs under current permitting thresholds in the CAA, the EPA believes this is a prudent decision. Requiring such a large number of small sources to obtain permits for the first time would overtax the permitting authorities' abilities to process new permits without commensurate benefits. Moreover, as described in section VII.C ***55338** of this preamble, reductions from these small sources will still be occurring, notwithstanding the fact that permitting requirements would not apply to them. These smaller sources of GHG will be the focus of voluntary emission reduction programs and energy efficiency measures that lead to reductions in GHGs. The EPA will also reevaluate this decision after a 6-year period and complete a study of the implications of permitting smaller GHG sources for those sources and permitting authorities.

A. What entities are affected by this rule?

As previously stated, this proposed rule is essentially providing regulatory relief and does not include direct regulatory provisions for any industrial, commercial, or residential entities. An analysis is presented for smaller sources expected to experience regulatory relief from this rule. This proposal increases the threshold to obtain a title V operating permit to PTE levels of 25,000 tpy CO_2e or greater annual emissions. New sources of GHG emissions with the potential to emit less than 25,000 tpy CO_2e that would otherwise be subject to PSD are not required to obtain a PSD permit or to comply with BACT regulatory requirements as a result of this proposed rule. The significance levels for major modifications at sources of GHG emissions are also increased in this proposal allowing small sources to forego obtaining a PSD permit and to avoid BACT regulatory requirements, when the projected emissions increase from such modification is less than the PSD significant level (with the promulgated level to be selected from a proposed range of values between 10,000 and 25,000 tpy CO_2e). The industry, agricultural, residential and commercial categories anticipated to experience regulatory relief are shown in table IX-1. As table IX-1 shows, this proposal lifts permitting requirements for over six million potential title V sources and tens of thousands of potential PSD new sources that would be otherwise required by the CAA to obtain permits.

Table IX-1—Estimated Number of Affected Sources Experiencing Regulatory Relief*

Sector	Number of sources experiencing regulatory relief	
	Title V	New PSD (annually)
Electricity	161	20
Industrial	156,545	303
Energy	3,644	35
Waste Treatment	1,431	0
Agriculture	37,351	299
Commercial	1,354,760	12,034
Residential—Multifamily	610,340	6,397
Residential—Single Family	3,925,000	515
Totals	6,089,232	19,603

* Number of sources is determined on a potential to emit basis for small sources below 25,000 tpy CO_2e threshold. Estimates for PSD sources are for newly constructed facilities and do not include modifications at existing facilities that may also be subject to PSD requirements.

B. What are the estimated benefits to small sources due to regulatory relief?

EPA estimated the benefits or avoided costs for sources that are likely to experience regulatory relief from this proposal. This analysis focuses upon the burdens that are being lifted for smaller sources as a result of this proposed rule. In addition, an accounting of the benefits from this proposal as measured by avoided costs for State, local, and tribal permitting authorities is provided. These avoided costs relate specifically to information collection costs or burden costs postponed for smaller sources of GHG emissions otherwise required to obtain an operating permit under title V or required to modify an existing permit to address GHG emissions. Avoided costs shown also include information collection requirements for additional PSD permits postponed for new or modifying smaller sources of GHGs, as well as the avoided costs to State, local and tribal permitting authorities.

1. What are estimated benefits or avoided burden costs for title V permits?

Table IX-2 shows that the estimated first-year information collection cost avoided as a result of this proposal by an industrial source required to obtain a title V operating permit is approximately $46.4 thousand (2007$) per permit. The EPA estimates that over 195 thousand sources will avoid incurring these permitting costs for a period of at least 6 years as a result of this proposal. The avoided burden cost to obtain a new commercial or multi-family residential operating permit is estimated to be approximately $5.0 thousand (2007$) per permit with over 5.9 million sources benefitting by not incurring these costs due to this proposed rule. In total, EPA estimates that more than $38 billion (2007$) in expenditures relating to title V permitting will be avoided by small sources of GHG for a period of 6 years as a result of this proposal. Much of this burden would have been incurred during the first year following the light-duty vehicle rule because sources have 1 year from the date of becoming subject to title V. However, some ongoing burden for new sources coming into the program would be incurred each subsequent year. State, local, and tribal permitting authorities will also benefit in terms of avoided permitting administrative costs by over $15 billion (2007$) as a result of the decisions proposed in this action. This burden would not all have been incurred during the first year following the light-duty vehicle rule, but much of it would generally have been incurred within the first 2 to 3 years. This is because under the part 70 regulations, permitting authorities are required to act on applications within 18 months of receipt. There would also be some ongoing burden in each subsequent year due to new sources coming into the program.

TABLE IX-2—REGULATORY RELIEF PROVIDED FOR SMALL GHG SOURCES AND PERMITTING AUTHORITIES

Program/affected entities	Small GHG sources not covered during first phase < 25,000 tpy		
	Per-permit cost (2007$)	Number of permits	Total cost (millions 2007$)
Source			
Title V:			
New Industrial	46,350	195,885	9,079.7
New Commercial/Residential	4,908	6,050,613	29,699.2
Subtotal Title V Permits			38,778.9
PSD Permits:			
New Industrial	84,530	3,299	278.9
New Commercial/Residential	16,887	37,197	628.1
Subtotal PSD Permits			907.0
Total Source Costs			39,685.9
Permitting Authority			
Title V			
New Industrial	10,500	195,885	2,056.8
New Commercial/Residential	2,278	6,050,613	13,781.9
Subtotal Title V Permits			15,838.7
PSD Permits:			
New Industrial	23,243	3,299	76.7
New Commercial/Residential	4,633	37,197	172.3
Subtotal PSD permits			249.0
Total Permitting Authority Costs			16,087.7
Total Source and Permitting Authority Costs	184.3		55,773.6

Notes: (1) Costs shown in "Sources Not Covered During First Phase" represent estimates of the regulatory burden relief proposed by this rule. Title V operating permit costs represent one time costs, but these permits are subject to renewals every 5 years. New and modified PSD permits reflect the estimated annual number of new and modifying sources requiring permits and the associated costs.

(2) Sums may not add due to rounding.

(3) All costs are shown in 2007 dollars.

***55339** 2. What are avoided burden costs associated with regulatory relief for small PSD sources?

Table IX-2 summarizes the estimated burden costs avoided by sources and permitting authorities with this tailoring rule. The estimated avoided burden or reporting and recordkeeping cost associated with requiring new industrial sources to obtain permits is estimated to be $84.5 thousand for new or modified industrial sources and $16.9 thousand for new or modified commercial or multi-family residential sources (2007$). This represents avoided annual costs of over $900 million (2007$) for new and modifying small sources of GHG. State, local, and tribal permitting authorities are expected to avoid $249 million (2007$) annually in administrative expenditures associated with postponing PSD program requirements for small GHG sources.

C. What are the economic impacts of this rulemaking?

This proposed rulemaking does not impose economic burdens or costs on any sources or permitting authorities, but should be viewed as regulatory relief for smaller GHG emission sources and for permitting authorities. Although sources above the thresholds proposed in this rule will become subject to permitting when the light-duty vehicle rule is promulgated, those impacts are not attributable to the present rulemaking. Rather they are mandated by the CAA and existing regulations and automatically take effect independent of this proposal.

In addition to considering the regulatory relief expected for affected entities as a result of this proposed rule, the EPA considered the impact of this rulemaking to small entities (small businesses, governments and non-profit organizations) as required by RFA and SBREFA. For informational purposes, the RIA includes the Small Business Administration (SBA) definition of small entities by industry categories for stationary sources of GHGs and potential regulatory relief from title V and NSR permitting programs for small sources of GHG. Since this rule does not impose regulatory requirements but rather lessens the regulatory burden of the CAA requirements to smaller sources of GHGs, no economic costs are imposed upon small sources of GHGs as a result of this proposed rule. Rather this proposal provides regulatory relief for small sources. These avoided costs or benefits accrue because small sources of GHGs are not required to obtain a title V permit and new or modifying small sources of GHGs are not required to meet PSD requirements for a period of 6 years. Some portion of the small sources may be small entities, and these entities will benefit from the regulatory relief proposed in this rule.[33]

D. What are the costs of the proposed rule for society?

EPA examined the social costs of this proposed rule. These social costs ***55340** represent the foregone environmental benefits that would occur if regulatory relief were offered to small sources of GHG emissions as proposed. This proposal is one such regulatory relief since it increases the emissions thresholds for the title V and PSD programs, as they apply to sources of GHG emissions, to levels above those in the CAA. In this preamble section, the benefits or avoided regulatory costs of such relief are discussed, but there is also a social cost imposed by such relief because this rule may forego some of the possible benefits associated with title V and PSD programs for sources of GHG emissions below 25,000 tpy CO_2e but above the statutory 100/250 tpy levels. These benefits are those attributed to title V and PSD permitting programs in general. These benefits are based upon the relevance of these programs to policymaking, transparency issues, and market efficiency, and therefore are very difficult to quantify and monetize. For title V, they include the benefits of improved compliance with CAA requirements that stem from (1) improved clarity regarding applicability of requirements, (2) discovery and required correction of noncompliance prior to receiving a permit, (3) improving monitoring, recordkeeping, and reporting concerning compliance status, (4) self-certification of compliance with applicable requirements initially and annually, and prompt reporting of deviations from permit requirements, (5) enhanced opportunity for the public to understand and monitor sources' compliance obligations, and (6) improved ability of EPA, permitting authorities, and the public to enforce CAA requirements. However, it is important to remember that a title V permit does not add new requirements for pollution control itself, but rather collects all of a facility's applicable requirements under the CAA in one permit. Therefore, the compliance benefits above are less when title V permits contains few or no CAA applicable requirements. During the first phase under this proposal, when the title V threshold is 25,000 tpy, we expect that the vast majority of sources excluded from title V would be sources that have no CAA applicable requirements for GHG emissions and few or no requirements for other pollutants because their emissions of those pollutants are so small. For this reason while it is extremely difficult to measure the degree of improved compliance, if any, that would be foregone, or to quantify the social costs that would be imposed, we expect that they would be negligible.

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[33] We note that some of the sources that remain subject to permitting above the proposed threshold in this rule may nonetheless be small businesses. Elsewhere in this preamble, we discuss our intent to convene a discretionary panel to examine the smallbusiness impacts of GHG regulation through PSD, although such impacts are not imposed as a result of this proposed action. The RIA pro vides a discussion of these impacts for informational purposes.

For PSD, the primary social cost imposed by the tailoring rule stems from the foregone benefit of applying BACT to the tens of thousands of small new sources and modifications that will be below our proposed thresholds during the first phase. This social cost potentially weighs against the cost savings described above that stem (in part) from avoiding the administrative and control costs of applying BACT to these sources. The BACT requirement assures that new and modified sources, when they increase their emissions are using state-of-the-art emission controls and affords the public an opportunity to comment on the control decision. It does not prohibit increases but it assures that such controls are applied. Delaying the BACT requirement for numerous small sources during the first phase of this proposed rule could allow increases from these smaller sources that are greater than they would be if BACT were applied. A detailed analysis of this difference is beyond the scope of this rule because we do not have detailed information on the universe of these tens of thousands of small PSD actions, the candidate BACT technologies for each of them, how permitting authorities would make the

BACT decisions, and how the BACT limit would compare to what would otherwise be installed absent BACT.

It is not possible at this time to quantify the social costs of avoided BACT. However we note that the universe of possible emissions that would be regulated by sources excluded under the tailoring rule is small compared to those that would remain subject to PSD. The sources excluded in the first phase of this proposal comprise only 7 percent of total stationary source GHG emissions, while 68 percent remain subject to regulation. Furthermore, we expect the emissions differences due to BACT controls for such sources to be relatively small due to the lack of available capture and control technologies for GHG at such sources that are akin to those that exist for conventional pollutants and sources, as well as the likelihood that even in the absence of BACT such sources would already be installing relatively efficient GHG technologies to save on fuel costs. Thus, while potential benefits would be foregone by excluding smaller sources from the permitting programs, these benefits are likely to be small. Under the tailoring rule, we will be working during the 6-year period to greatly improve our understanding of both the administrative costs of regulating and the social costs of not regulating smaller sources under PSD and title V, and we will be relying on that information to support our future threshold analyses called for under the proposal.

In reaching the decisions for this GHG tailoring rule, the EPA recognizes that GHG emissions can remain in the atmosphere for decades to centuries, meaning that their concentrations become well-mixed throughout the global atmosphere regardless of emission origin, and their effects on climate are long lasting and significant. A detailed explanation of climate change and its impact on health, society, and the environment is included in EPA's technical support document for the endangerment finding proposal (Docket ID No. EPA-HQ-OAR-2009-0171). The EPA recognizes the importance of reducing climate change emissions for all sources of GHG emissions including those sources afforded regulatory relief in this rule and plans to address potential emission reductions from these small sources using voluntary and energy efficiency approaches. Elsewhere, we have discussed EPA's interest in continuing to use regulatory and/or non-regulatory tools for reducing emissions from smaller GHG sources because we believe that these tools will likely result in more efficient and cost-effective regulation than would case-by-case permitting.

X. What implementation issues are related to this proposal?

In this action, EPA is proposing certain steps to ensure that smaller sources (meaning sources emitting GHGs at lower rates) will not become subject to PSD or title V upon EPA's completion of a rulemaking that regulates GHG emissions. Absent those steps, such a rule would trigger PSD and title V for many of these smaller sources. This is because both the CAA PSD provisions and the title V provisions are self-effectuating, that is, they each apply by their terms to require sources to undergo permitting requirements. In addition, federally approved State law provisions implement both the CAA PSD provisions and title V provisions. Those State law provisions consist of the various SIPs and State operating permit programs, respectively. In order to limit PSD and title V applicability to sources that emit at or above the thresholds proposed in this action, and to ensure that these limits apply at the time a rulemaking regulating GHG emissions is promulgated—which will trigger PSD and title V applicability—EPA is proposing to establish threshold levels on the basis that the administrative necessity doctrine overlays the CAA PSD and title V requirements, so that it ***55341** is the proposed threshold levels, and not the statutory threshold levels, that apply to sources of GHG emissions. Moreover, EPA is proposing a process, consisting of several components, for conforming the EPA-approved SIPs and title V programs to reflect those threshold levels. This section of the preamble provides a detailed description of this process, first for the SIP PSD provisions, and then for the title V State operating permit program provisions.

A. CAA Provisions Concerning SIP Requirements for PSD Programs, State Submittal Requirements, and EPA Action

Before describing EPA's proposed action for PSD SIP implementation, it is useful to review the relevant background concerning the CAA requirements for what SIPs must include, the process for State submittals of SIPs, and requirements for EPA action on SIPs and SIP revisions.

1. SIP Requirements for State PSD Programs and Adequate Resources

CAA section 110(a)(1) requires that States adopt and submit to EPA for approval SIPs that implement the national ambient air quality standards. CAA section 110(a)(2) contains a detailed list of requirements that all SIPs must include to be approvable by EPA. Of particular relevance for this action, subparagraph (J) of section 110(a)(2) of the CAA imposes the requirement that the SIP must "meet the applicable requirements of * * * part C * * * (relating to prevention of significant deterioration of air quality * * *)." Under this provision, States must submit SIPs or SIP revisions that meet the federally mandated requirements for PSD programs.

In addition, and also of particular relevance for this action, subparagraph (E)(i) of section 110(a)(2) of the CAA provides that SIPs must "provide * * * necessary assurances that the State * * * will have adequate personnel * * * [and] funding * * * to carry out such implementation plan * * *." As applicable to PSD programs, this provision means that EPA may approve the SIP PSD provisions only if EPA is satisfied that the State will have adequate personnel and funding to administer the PSD program, including conducting the appropriate analyses for new and existing sources, issuing the permits, conducting enforcement, and taking other necessary administrative action.

2. SIP Requirements for State Submittals, EPA Action, and FIPs

As noted above, under CAA section 110(a)(1)-(2), States must submit for EPA approval SIPs that meet the requirements of section 110(a). If a State does not submit a SIP or SIP revision as required, EPA is authorized to make a finding that the State has failed to make a required SIP submittal, under CAA section 179(a), and if EPA makes such a finding, then, under

CAA section 110(a)(2)(C), "[t]he Administrator shall promulgate a Federal implementation plan [(FIP)] at any time within 2 years after" the date of the finding, unless the State corrects the deficiency, and the Administrator approves the plan or plan revision.

After a SIP or SIP revision has been submitted, EPA is authorized to act on it under CAA section 110(k)(3)-(4). Those provisions authorize a full approval or, if the SIP or SIP revision meets some but not all of the applicable requirements, a conditional approval, a partial approval and disapproval, or a full disapproval. If EPA disapproves a SIP or SIP revision, then EPA must promulgate a FIP at any time within 2 years after the disapproval, unless the State corrects the deficiency within that period of time by submitting an approvable SIP revision.[34]

Once EPA has approved a SIP, if EPA determines that its action in doing so was in error, then, under CAA section 110(k)(6), EPA may conduct a rulemaking to correct the error without requiring any further action, such as submission of a request or a SIP revision, from the State. Specifically, section 110(k)(6) provides:

> Whenever the Administrator determines that the Administrator's action approving, disapproving, or promulgating any plan or plan revision (or part thereof), area designation, redesignation, classification, or reclassifica-

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[34] States are subject to sanctions for failure to submit, or for EPA disapproval of, SIPs for nonattainment areas, under CAA section 179. These sanctions provisions are not relevant for this proposal because they do not apply to PSD SIPs.

> tion was in error, the Administrator may in the same manner as the approval, disapproval, or promulgation revise such action as appropriate without requiring any further submission from the State. Such determination and the basis thereof shall be provided to the State and public.

EPA also has authority to revise its previous action on a SIP through EPA's inherent authority, under CAA section 301(a), to reconsider prior rulemaking actions, as well as under Administrative Procedure Act (APA) section 553(e), which requires EPA to give interested persons "the right to petition for the issuance, amendment, or repeal of a rule."

In addition, CAA section 110(k)(5) gives EPA authority to issue what is commonly called a "SIP Call" when EPA determines that the SIP is inadequate to meet CAA requirements. The SIP Call notifies a State of the inadequacies in its current SIP and requires that the State submit a revised SIP for EPA approval. Specifically, section 110(k)(5) provides:

> Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to [meet certain section 110 requirements] or to otherwise comply with any requirement of this Act, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies. The Administrator shall notify the State of the inadequacies, and may establish reasonable deadlines (not to exceed 18 months after the date of such notice) for the submission of such plan revisions.

B. What PSD-specific implementation considerations are there?

Three different requirements of the CAA PSD provisions and the PSD SIPs are at issue for this action. The SIPs vary in certain ways with respect to these requirements, so that EPA must take different actions for different SIPs.

These three requirements concern the threshold level for applicability, the significance level, and the pollutants subject to PSD. The first two—threshold and significance levels—may be treated similarly and are discussed immediately below. The third is discussed after that.

1. Requirements for Thresholds and Significance Levels in PSD Provisions and PSD SIPs

a. *EPA's proposed action*: Revision of Federal regulations and limitation of approval of SIPs.

As discussed elsewhere in this action, the CAA PSD provisions apply to new sources at or above 100/250-tpy thresholds. CAA sections 165(a), 169(1). These requirements are included in EPA regulations in 40 CFR 52.21, which indicate what States should include in their SIPs. The CAA PSD provisions apply to existing sources that modify when those modifications increase emissions by any amount, CAA section 165(a), 169(2)(C), 111(a)(4), unless EPA promulgates higher levels—which we term "significance levels"—based on reasons of *de minimis* emissions or administrative necessity. *Alabama Power* v. *Costle*, 636 F.2d 323 (D.C. Cir. 1980). This requirement is included in EPA regulations in 40 CFR 52.21. Until EPA acts to establish a significance level for GHG emissions, the level in effect remains at zero for any newly regulated pollutants.

***55342** Most jurisdictions are covered by EPA-approved PSD SIPs. Based on a review of these EPA-approved PSD SIPs, virtually all of them establish the PSD permitting threshold at the 100/250-tpy level, although a few States have adopted lower permitting threshold levels. In addition, virtually all EPA-approved SIPs establish the significance level for any new pollutants that it covers—including GHG emissions, if covered—at zero. Only a few EPA approved SIPs take a slightly different approach by adopting significance levels at values other than zero and up to the permitting thresholds. Some jurisdictions are not covered by EPA-approved SIPs, and instead are covered by EPA regulations at 40 CFR 52.21 that EPA implements (in which case, the EPA regulations act as a FIP) or that the State implements through authority delegated to it by EPA. For these States, the PSD threshold level is 100/250 tpy and the significance level for new pollutants, including GHG emissions, is, in effect, zero.

As discussed elsewhere, this action proposes to establish the PSD thresholds for GHG emissions at 25,000 tpy CO_2e, and proposes to establish the PSD significance levels at [10,000-25,000] tpy CO_2e. EPA plans the following process to revise its regulations and to conform the EPA-approved SIPs to reflect these levels.

First, with respect to EPA regulations, EPA proposes to revise its regulations to establish the permitting threshold at 25,000 tpy CO_2e, at 40 CFR 52.21, and to establish the significance level at [10,000 to 25,000] tpy CO_2e, at 40 CFR 52.21, based on the administrative necessity doctrine discussed in section VI.C of this preamble.

Second, with respect to the EPA-approved SIPs, although EPA previously fully approved the permitting threshold level provisions and the significance level provisions in those SIPs, EPA proposes to limit its approval of those provisions in part. Specifically, EPA proposes to limit its approval of (i) the permitting threshold level provisions to the extent those provisions require permits for sources whose GHG emissions equal or exceed the 100/250-tpy CO_2e levels but are less than 25,000 tpy CO_2e for PSD thresholds; and (ii) of the significance level provisions to the extent those provisions apply to GHG emissions less than [10,000 to 25,000] tpy CO_2e. As discussed below, EPA's authority for these limitations of approval is based on its authority under CAA section 301(a), which incorporates the inherent authority of an agency to reconsider its actions, as well as under APA section 553. Even so, EPA is also proposing, in the alternative, to limit its approval through the error correction provisions of CAA section 110(k)(6).

EPA does not propose to take any further action on the permitting threshold or significance level provisions for which EPA is limiting its approval; that is, EPA is not proposing to disapprove those provisions. Thus, the limitation of approval for those provisions does not trigger an obligation on the part of the State to revise and resubmit for approval the affected PSD SIP provisions and does not trigger a FIP obligation.

The permitting threshold PSD SIP provisions that apply to sources with GHG emissions at 25,000 tpy CO_2e or higher, and the significance level provisions that apply to sources with GHG emissions at [10,000 to 25,000] tpy CO_2e or higher, remain fully approved.

As a drafting matter, EPA proposes to accomplish the limitations of approval by adding to the record of its action on each SIP, as found in the subparts to 40 CFR 51.21, the boilerplate statements that (i) EPA limits its approval of the PSD permitting threshold provisions to the extent those provisions require permits for sources of GHG emissions that equal or exceed 100 tpy CO_2e for sources in the 28 categories identified in CAA section 169(1), and 250 tpy CO_2e for all other sources, but that are less than 25,000 tpy CO_2e; and (ii) EPA limits its approval of the PSD significance level provisions to the extent those provisions treat as significant GHG emissions increases that are less than [10,000 to 25,000] tpy CO_2e.

b. Authority for limitation of approval.

EPA is limiting its approval through its authority under CAA section 301(a) "to prescribe such regulations as are necessary to carry out [EPA's] functions" under the CAA. This provision confers general regulatory authority upon the Administrator, and incorporates the Agency's inherent authority to reconsider prior rulemaking actions. Additional authority for EPA to limit its approval is found in APA section 553(e), which requires EPA to give interested persons "the right to petition for the issuance, amendment, or repeal of a rule."

An administrative agency has the inherent authority to reconsider its decisions, unless Congress specifically proscribes the agency's discretion to do so. The D.C. Circuit recently affirmed this authority in *New Jersey* v. *EPA*, 517 F.3d 574 (D.C. Cir. 2008), where it explained that an agency normally can change its position and reverse a prior decision but that in the case before it, Congress limited EPA's ability to remove sources from the list of HAP source categories, once listed, by requiring EPA to follow the specific delisting process at CAA section 112(c)(9). See, *e.g.*, *Gun South, Inc.* v. *Brady*, 877 F.2d 858, 862 (11th Cir. 1989) (holding that agencies have implied authority to reconsider and rectify errors even though the applicable statute and regulations do not provide expressly for such reconsideration); *Trujillo* v. *General Electric Co.*, 621 F.2d 1084, 1086 (10th Cir. 1980) ("Administrative agencies have an inherent authority to reconsider their own decisions, since the power to decide in the first instance carries with it the power to reconsider"). CAA section 307(b)(1), a judicial review provision that applies to all SIP actions, provides some confirmation because it expressly contemplates the "filing of a petition of reconsideration by the Administrator of any otherwise final rule or action."

EPA recently applied this approach in connection with California conformity SIPs. EPA had approved the SIPs based on a mobile source model that was current at the time of EPA's approval. EPA proceeded to update the mobile source model, but under the previous SIP approvals, conformity decisions would continue to be made on the basis of those previous SIP approvals, and would not take into account the updates to the mobile source model. To rectify this problem, EPA conducted a rulemaking that revised the previous SIP approvals so that they were limited to the period before States submitted, and EPA found adequate, the mobile source budgets in new SIPs based upon the update of the mobile source model.

Similarly, in this action, EPA is proposing to limit its previous approval to, in effect, a portion of the State PSD program, which is the permitting requirements that apply to sources of GHG emissions at or above 25,000 tpy CO_2e (for permitting thresholds) and [10,000 to 25,000] tpy CO_2e (for significance levels), respectively. The reason is that in light of the requirement under CAA section 110(a)(2)(E) that SIPs provide necessary assurances of adequate personnel and funding, the previous approvals of the PSD programs were overly broad. Specifically, EPA approved PSD programs that applied to all sources of regulated NSR pollutants above the 100/250-tpy statutory levels. At the time of the EPA approvals, the sources emitting the pollutants covered by the PSD programs, so approved, may have been in sufficiently limited numbers so that State resources were adequate to fully administer the PSD ***55343** program. However, the breadth of the applicability requirements that EPA approved meant that if new pollutants were regulated in the future, and if those new pollutants were emitted at the levels of 100/250 tpy or higher by large numbers of sources, then the States' PSD programs would become much larger and State resources accordingly will not be adequate to administer the program. The SIP failed to provide necessary assurances that the State would have sufficient personnel and funding to cover this possible expansion of the PSD program. In fact, those events are unfolding now: EPA is in the process of regulating GHG emissions and thereby triggering PSD applicability for GHG sources, and, at the applicability levels in the SIPs, State PSD programs will become too large for States to administer with their current levels of personnel and funding. For these reasons, EPA is limiting its previous approvals, as described above.

c. Proposed alternative action: Error correction.

EPA is also proposing in the alternative to revise its approval of the SIP threshold and significance level provisions through a CAA section 110(k)(6) error correction. As noted above, CAA section 110(k)(6) authorizes EPA to correct its actions concerning SIPs and certain other actions through a simplified procedure. For the reasons described immediately above, EPA believes that the SIPs did not provide the necessary assurances, as required under CAA section 110(a)(2)(E), that the permitting authorities would have personnel and funding adequate to implement the extensive SIP PSD programs that could result from the broadly applicable PSD threshold provisions and significance level provisions as approved. Therefore, under this alternative proposal, EPA erred in approving those provisions. Rather, EPA should have approved those provisions only in part, and not taken action on the rest of the provisions.

As a result, EPA proposes to correct those errors, under the authority of CAA section 110(k)(6), by limiting its approval of the PSD threshold provisions to the extent they apply PSD requirements to sources of GHG emissions between 100/250 tpy CO_2e and 25,000 tpy CO_2e, and the PSD significance level provisions to the extent they apply to sources that emit GHGs at a rate below [10,000 to 25,000] tpy CO_2e. In accordance with CAA section 110(k)(6), EPA is proposing to conduct its limitation of approval through notice-and-comment rulemaking under APA section 553, which is "the same manner as [EPA conducted] the approval," and EPA is not requiring any further submission from the State.

d. State response.

For purposes of the federally approved SIP, this proposed action does not require States to submit any SIP revision. That is, if EPA finalizes this proposal, each federally approved PSD program will have a PSD threshold level for GHG emissions of 25,000 tpy CO_2e and a significance levels for GHG emissions of [10,000 to 25,000] tpy CO_2e; and although each State PSD program—as established by the State law provisions that comprise the SIP—will have a lower threshold and significance level, those lower levels will not be federally approved and therefore not federally enforceable. To reiterate, EPA is not proposing to disapprove those provisions; rather, EPA will take no further action with respect to them. As a result, no further action by the State, including no SIP revision, is necessary for Federal purposes.

Even so, it should be noted that the lower thresholds remain on the books under State law, and sources therefore remain subject to them as a matter of State law. As a result, States may wish to consider revising those State law provisions. In addition, the fact that these provisions remain on the books under State law may create some confusion as to whether they are part of the federally approved SIP (again, with this proposed action, they would not be), and for this purpose too of avoiding this confusion, States may wish to consider revising those State law provisions.

On the other hand, if a State wants to implement PSD permitting requirements at a threshold level lower than 25,000 tpy CO_2e, or implement a significance level lower than [10,000 to 25,000] tpy CO_2e, for GHG emitters, the State may submit a SIP revision that identifies the lower thresholds and provides the necessary assurances, under CAA section 110(a)(2)(E), that it has adequate personnel and funding to permit at this level. If the SIP revision meets the CAA section 110(a)(2)(E) requirement, EPA will proceed to approve it. Permitting for this State would then cover such smaller sources. For reasons described elsewhere in this notice, the EPA has determined based on its national analysis that, absent additional streamlining measures, the PSD program will initially be impossible to implement at such lower levels. A State seeking to adopt lower levels should therefore be prepared to describe in its submittal the administrative burden that will be added at the proposed lower levels, and the measures it will take to make the program implementable at those levels.

It should be noted that EPA considered, but is not proposing or soliciting comment on, issuing a SIP call under CAA section 110(k)(5) to require States to either demonstrate that they have adequate personnel and funding to administer their PSD programs at the 100/250-tpy CO_2e threshold level for GHG emitters, or to submit a SIP revision that raises the threshold to 25,000 tpy CO_2e or some other level commensurate with their personnel and funding. EPA decided against this approach for several reasons. First, a SIP call under section 110(k)(5) takes significantly more time than actions taken under EPA's other authorities. For a SIP call, EPA first undertakes a notice-and-comment process in order to make the finding that a SIP is inadequate and to set a schedule for a new SIP submission by a State (which can be up to 18 months after EPA's determination). Then, EPA must provide notice and opportunity for comment regarding whether or not the Agency should approve the SIP revision submitted by a State in response to the SIP call. By contrast, the reconsideration of a SIP approval can be undertaken in much less time. Reconsideration of a SIP approval may lead to a more speedy and efficient resolution in a situation (such as the present) where there is no need for a further SIP submission to be developed and submitted to EPA by the State.

2. PSD SIP Provisions Identifying the Pollutants

A handful of EPA-approved SIPs fail to include provisions that would subject GHG emissions to their PSD requirements when EPA promulgates regulations that regulate GHGs and thereby trigger the applicability of PSD. For these SIPs, EPA intends to take separate regulatory action, as discussed in this section of this preamble.

a. Regulatory background.

By way of background, in 1978, after Congress enacted the PSD program in the 1977 CAA Amendments, EPA promulgated a rulemaking to implement the program. 43 FR 26380 (June 19, 1978). This rulemaking required that the PSD program apply to "each pollutant subject to regulation" under the CAA. *Id.* at 26403, 26406 (promulgating 40 CFR 51.21(b)(1)(i)).[35] In 2002, EPA ***55344** promulgated a rulemaking that revised parts of the PSD and nonattainment NSR programs, which is generally known as the "NSR Reform" rulemaking, and there, EPA revised this terminology so that PSD requirements apply to "regulated NSR pollutants." 67 FR 80186 (Dec. 31, 2002); see 40 CFR 52.21(b)(50).

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[35] After challenges by industry and environmental organizations, parts of this rulemaking were remanded by the D.C. Circuit in

After the 1978 rulemaking, most States submitted SIPs with provisions that incorporated the requirement to apply PSD requirements to "each pollutant subject to regulation," or used comparable terminology, and EPA approved those provisions. Following the 2002 NSR Reform rule, many, although not all, of these States submitted SIPs that EPA has approved and that have replaced that terminology with the requirement that PSD requirements apply to "NSR regulated pollutants."

However, a few SIPs do not have provisions that apply the PSD requirements to "regulated NSR pollutants" or "pollutants subject to regulation" under the CAA, or use comparable terminology. Rather, these SIPs specifically list the pollutants to which the PSD programs apply, and do not include GHGs.

b. EPA's plan of separate regulatory action.

It is EPA's understanding that each of the SIPs that cover either "NSR regulated pollutants" or "pollutants

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Alabama Power v. *Costle*, 636 F.2d 323 (D.C. Cir. 1980), and EPA promulgated revised requirements in 1980. 45 FR 52676 (August 7, 1980). The requirement that the PSD program apply to "each pollutant subject to regulation" under the Act was not at issue in *Alabama Power* and was not revised in the rule revisions that followed that decision.

subject to regulation" under the CAA, or that use comparable terminology, will apply the PSD requirements to sources that emit GHGs, at the appropriate threshold levels, when EPA promulgates rules regulating GHGs and thereby triggering PSD requirements. This is because these SIP provisions employ broad enough terminology to encompass newly regulated pollutants, such as GHGs.[36] As a result, for these SIPs, no further action by EPA in this proposal is necessary.[37]

However, the story is different for the few SIPs that do not have provisions that apply the PSD requirements to "regulated NSR pollutants" or "pollutants subject to regulation" under the CAA, and that instead specifically list the pollutants to which the PSD programs apply, and do not include GHGs. Although EPA approved them, these SIPs were, and remain, deficient because by subjecting to the PSD requirements only the pollutants specifically listed, they fail to reflect the EPA's longstanding requirements that PSD requirements apply to all pollutants subject to regulation under the CAA, which necessarily includes any newly regulated pollutants beyond those specifically listed.

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[36] It should be noted that if any State with these SIP provisions interprets their provisions to cover only pollutants regulated (or subject to regulation) at the time of SIP submission or approval, so that the provisions would not cover GHG emissions, then the State should so indicate during the comment period. EPA will take steps to resolve the proper interpretation of the provision. EPA proposes in this action that if EPA agrees that the SIP provision cannot be interpreted to cover sources of GHG emissions, then EPA will treat the State in the same manner as States that specifically list pollutants as subject to PSD requirements and do not include GHGs, as discussed below.

[37] It should be noted that in this action, EPA is not addressing in any way any other issue that may arise concerning any of these States that do not have approved PSD programs incorporating all of the requirements of the NSR Reform rule.

Importantly, for present purposes, these SIPs do not require that GHG emitters obtain PSD permits. However, CAA section 165(a), by its terms, prohibits a source that is subject to PSD from constructing or modifying without a permit. As noted elsewhere, as a result of the proposed light-duty vehicle rule, expected to be promulgated at the end of March 2010, sources of GHG emissions in those States will be subject to the requirement of CAA section 165(a) to obtain a preconstruction PSD permit.

EPA recognizes the problems that arise from this situation. Accordingly, EPA intends a separate regulatory action in the very near future that will identify the SIPs in question and address them. EPA expects this regulatory action to be completed and to take effect by the time EPA promulgates the light-duty vehicle rule at the end of March 2010.

C. What title V-specific implementation issues are there?

Some of the title V-specific implementation issues parallel the PSD SIP implementation issues. Thus, the process EPA is proposing, described below, to conform the EPA-approved title V programs to reflect the title V applicability threshold level for GHG emissions of 25,000 tpy CO_2e parallels in certain respects the process described above for conforming the EPA-approved SIP PSD programs.

1. CAA Provisions Concerning Title V Requirements for State Programs, State Submittal Requirements, and EPA Action

Before describing EPA's proposed action for title V implementation, it is useful to review the relevant background concerning the CAA requirements for title V State operating permit programs, State submittals of those programs, and EPA action on State title V programs.

a. CAA requirements under title V for State permitting programs.

CAA section 502(d)(1) requires that each State adopt and submit to EPA for approval an operating permit program under State or local law that meets the requirements of title V. CAA section 502(b) contains a detailed list of requirements that all State permit programs must include to be approvable by EPA. Of particular relevance for this action, paragraph (4) of section 502(b) provides that the permit program must include "[r]equirements for adequate personnel and funding to administer the program."This provision means that EPA may approve the State permit program only if EPA is satisfied that the State will have adequate personnel and funding to administer the program, including issuing the permits, conducting enforcement, and taking other necessary administrative action.

b. State permit program submittal requirements and Federal plans.

As noted above, under CAA section 502(d), States must submit for EPA approval State permit programs that meet the requirements of CAA section 502(b). If a State does not submit a permit program as required, or if EPA disapproves a program submitted, in whole or in part, then the Administrator "shall, 2 years after the date required for submission of such a program * * *, promulgate, administer, and enforce a [title V] program * * * for that State," under CAA section 502(d)(3).[38]

c. EPA action on, and revision of action for, State permit programs.

After a State permit program has been submitted, EPA must approve or disapprove it in whole or in part. CAA section 502(d)(1). Those provisions authorize EPA to approve the program to the extent that it meets the requirements of title V.

***55345** Once EPA has approved a permit program, EPA retains the authority to revise its action through its inherent authority to reconsider prior rulemaking actions, as well as under APA section 553(e), which requires EPA to give interested persons "the right to petition for the issuance, amendment, or repeal of a rule."[39]

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[38] In addition, if EPA disapproves a title V program due to failures by the State concerning an area in the State and air pollutants for which that area is in nonattainment, then mandatory sanctions apply, under CAA section 502(d)(2)(B)-(C). Sanctions regarding offsets would not be relevant for purposes of this action because GHGs are not criteria air pollutants under CAA section 108(a) and no areas are designated nonattainment for them.

[39] Title V does not include a provision for an error correction that is comparable to CAA section 110(k)(6), which concerns SIPs.

In addition, CAA section 502(i)(1) gives EPA authority to issue what is commonly called a "notice of deficiency" (NOD) when EPA determines that the permitting authority "is not adequately administering and enforcing a program, or portion thereof."The NOD notifies a State of the inadequacies in its current permit program and requires that EPA promulgate, administer, and enforce a permit program under title V within 2 years after issuing the notice unless the State has corrected the deficiency, under section 502(i)(4). *See also* CAA sections 502(i)(2)-(3) regarding sanctions.

2. What title V-specific implementation considerations are there?

Two different requirements of the CAA title V permit programs are at issue for this action. The permit programs are similar with respect to these requirements, so that EPA's action is the same for each of the permit programs. These two requirements concern the threshold level for applicability and the pollutants subject to title V permitting requirements.

a. Requirements for threshold level in title V Federal regulatory provisions and title V State plans.

(i) *EPA's proposed action*: Revision of Federal regulations and limitation of approval of SIPs.

As discussed elsewhere in this action, the CAA title V requirements, as interpreted by EPA, generally apply to existing sources that emit 100 tpy or more of any air pollutant.[40] CAA sections 502(a), 501(2)(B). These requirements are included in EPA regulations in 40 CFR 70.3.

Most jurisdictions are covered by EPA-approved State title V permit programs. It appears that each EPA-approved title V permit program establishes the permitting threshold at, in general, 100 tpy. Some jurisdictions are not covered by EPA-approved State programs, and instead are covered by regulations at 40 CFR 71 that EPA implements. For these jurisdictions, the PSD threshold level is 100 tpy.

As discussed elsewhere, in this action, EPA proposes to establish the title V permitting threshold for GHG emissions at 25,000 tpy CO_2e. EPA plans the following process to revise its regulations and to conform the EPA-approved State title V programs to reflect these levels. This action parallels EPA's action to revise its PSD regulations and conform the EPA-approved State PSD programs to the revised PSD regulations, discussed above. First, with respect to its EPA regulations, EPA proposes to revise its regulations to establish the permitting threshold for GHGs at 25,000 tpy CO_2e, at 40 CFR 70.2. Second, with respect to the EPA-approved State permitting programs, although EPA previously fully approved the permitting threshold level provisions in those programs, EPA proposes to limit its approval of the permitting threshold level provisions to the extent those provisions require permits for sources whose emissions of GHGs equal or exceed 100 tpy CO_2e but are less than 25,000 tpy CO_2e. EPA's authority for this limitation of approval is based on CAA section 301(a), which incorporates the inherent authority of an agency to reconsider its actions, as well as on APA section 553.

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[40] Title V requirements also apply to sources defined as major sources under CAA section 112 on the basis of their emissions of HAP, and these sources may be covered by title V even though they emit less than the 100-tpy threshold that generally applies.

EPA does not propose to take any further action on the permitting threshold provisions for which EPA is limiting its approval; that is, EPA is not proposing to disapprove those provisions. Thus, the limitation of approval for those provisions does not trigger an obligation on the part of the State to revise and resubmit for approval the affected permitting program provisions and does not trigger any Federal plan obligation.

The State permitting threshold provisions that apply to sources with GHG emissions at 25,000 tpy CO_2e or higher remain fully approved.

As a drafting matter, EPA proposes to accomplish the limitations of approval by adding to the record of its action on each State permit program the boilerplate statement that EPA limits its approval of the State permitting threshold provisions to the extent those provisions require permits for sources of GHG emissions that equal or exceed 100 tpy CO_2e but that are less than 25,000 tpy CO_2e.

(ii) Authority for limitation of approval.

As with its action concerning the PSD program, discussed above, EPA is limiting its approval under CAA section 301(a), which reflects its inherent authority to reconsider prior rulemaking actions, as well as under APA section 553(e). This authority is described in detail above in connection with EPA's proposed parallel action concerning PSD SIP provisions.

(iii) State response.

For purposes of the federally approved State permit program, this proposed action does not require States to submit any revision or take any further action. That is, if EPA finalizes this proposal, each federally approved title V program will have an applicability threshold level of 25,000 tpy CO_2e. Although the State permitting program—as established by the State law provisions—may have a lower threshold, that lower level will not be federally approved and will therefore not be federally enforceable. To reiterate, EPA is not proposing to disapprove those provisions; rather, EPA will take no further action with respect to them. As a result, no further action by the State, including no program revision, is necessary for Federal purposes.

Even so, the lower thresholds remain on the books under State law, and sources therefore remain subject to them as a matter of State law. As a result, States may wish to consider revising those state law provisions. In addition, the fact that these provisions remain on the books under State law may create some confusion as to whether they are part of the federally approved title V program (again, with this proposed action, they would not be), and for this purpose too of avoiding this confusion, States may wish to consider revising those state law provisions.

On the other hand, if a state wants to implement its operating permit requirements at a threshold level lower than 25,000 tpy CO_2e for GHG emitters, the state may submit an operating permit program revision that identifies the lower thresholds and provides the necessary assurances, under CAA section 502(b)(4), that it has adequate personnel and funding. If the program revision meets the CAA section 502(b)(4) requirement, EPA will proceed to approve it.

It should be noted that EPA considered, but is not proposing or soliciting comment on, issuing a NOD under CAA section 502(i)(1) to require States to either demonstrate that they have adequate personnel and funding to administer their operating permit programs at the 100-tpy CO_2e threshold level for GHG emitters, or to submit a permit program revision that raises the threshold to 25,000 tpy CO_2e or some other level commensurate with state personnel and funding. EPA decided ***55346** against this approach for several reasons. First, a NOD under section 502(i)(1) takes significantly more time than actions taken under EPA's other authorities. The first step in this process is publication of a NOD in the **Federal Register** that sets forth EPA's findings as to the deficiencies in the state program. This notice requires the state to take significant action within 90 days, and identifies several actions, such as program withdrawal and implementation of a Federal permitting program, that EPA may take if significant action is not taken by the state. If the state has not corrected the deficiency within 18 months after the finding described above, EPA will promulgate, administer and enforce a Federal program within 2 years of the finding. In contrast, the reconsideration of a permit program approval can be undertaken in much less time.

Reconsideration of a permit program approval may lead to a more speedy and efficient resolution in a situation (such as the present) where there is no need for a further permit program submission to be developed and submitted to EPA by the state.

b. Requirement that title V permit programs apply to any air pollutant.

It appears that most title V-approved state permit programs apply to 100-tpy-or-more sources of any pollutant. As discussed elsewhere, EPA interprets these provisions to cover only pollutants that are actually regulated under other CAA provisions. These title V programs will include sources of GHG emissions when EPA promulgates regulations for GHG emissions, which EPA expects at the end of March 2010. For those title V programs, no further action concerning these provisions is needed.

However, EPA believes that some title V programs may apply to 100-tpy-or-more sources of only pollutants specifically identified in the program provisions and that these title V programs do not include a provision that automatically updates title V applicability to include any new pollutant for which EPA promulgates controls. Thus, these title V programs would not include GHG emitters. These programs are similar, for title V purposes, to the SIPs described above that specifically list pollutants subject to PSD that do not include a provision that automatically updates PSD applicability to include any new pollutant for which EPA promulgates controls. Thus, these title V programs carry the same deficiency that the SIPs do. As with the SIPs, EPA intends to undertake separate regulatory action in the near future to address these title V programs, which EPA intends to be completed and take effect by the end of March 2010, when EPA promulgates the light-duty vehicle rule that triggers title V applicability for sources of GHG emissions.

D. GHGs and Title V Permit Fees

Under title V, section 502(b)(3) of the Act, permitting authorities (including State and local agencies, tribes, and EPA) are required to collect fees "sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements."The final part 70 rule grants States wide discretion in collecting fees from individual sources through establishment of fee schedules in their permit programs, provided the total fees collected from all sources are sufficient to cover the title V costs. See § 70.9(a), and § 70.9(b)(1) and (b)(3). The initial permit program submittal to EPA is required to include a demonstration that the fee schedule will be sufficient to cover the program costs and an estimate of the program cost during the early years of implementation. See § 70.4(b)(7) and (8). Also, at any time, EPA may require States to provide a detailed accounting of fee schedule adequacy, including when serious questions are raised about adequacy. See § 70.9(b)(5) and § 70.9(c). Thus, title V and part 70 place primary responsibility on the permitting authorities to raise adequate fees and on EPA to perform oversight of this responsibility.

The activities related to regulation of GHGs that would increase permitting authority workloads can be grouped into the following two categories: (1) Changing existing permits to add any necessary provisions to address GHGs, and (2) issuing new permits to sources newly subject to permitting solely because their regulated GHGs exceed the major source threshold.

Thus, we need to consider the impact of this proposal and any future regulation of GHGs on the fee requirements of the permit programs, and if any revisions are needed to parts 70 and 71 in response to ensure collection of adequate fees to fund the permit programs.

1. How are the fee rates set in the permit programs?

The part 70 rule provided a shortcut to ease the level of detail otherwise required in States' fee adequacy demonstrations by providing a "presumptive minimum fee," which was specified in section 502(b)(3)(B) of the Act. The final part 70 rule provides a rebuttable presumption that the fees charged by a state are sufficient to cover program costs if they collect an amount equal to or greater than the presumptive minimum fee multiplied by the actual tons of "regulated pollutants (for presumptive fee calculation)," as defined in § 70.2. The part 70 presumptive fee was initially set at $25/ton. This amount is adjusted for inflation, annually. *See* § 70.9(b)(2). The current presumptive minimum fee, effective through September 2009, is $43.75. EPA calculates the inflation-adjusted part 70 presumptive minimum fee in October of each year and places a memorandum announcing the fee on a Web site it maintains for this purpose. *See http://www.epa.gov/air/oaqps/permits/fees.html.* Also, EPA notes that it believes there are currently a minority of States that base their fees on the presumptive minimum, perhaps at most 17 out of 112 State and local part 70 permits programs.

Since the use of the presumptive minimum fee is not mandatory for States, States were free to set either lower or higher fees rates, based on a more detailed fee adequacy demonstration. *See* § 70.9(b)(5). States were not required to set emissions-based fees though most did in combination with other approaches. Emissions-based fees on state fee schedules range from less than $10 per ton in a rural State to over $100 ton in a large urban area. Examples of other fee schedule approaches include processing fees, such as fees for applications, renewals and modifications, charges for time and material, and fees that vary depending on source category, equipment types, regulated air pollutant, business size, and many other factors. *See* § 71.9(b)(3).

The part 71 permit program, administered by EPA and delegate agencies, charges a "part 71 annual fee," for every actual ton of "regulated air pollutant (for fee calculation)," as defined in § 71.2. Also see fee schedule at § 71.9(c). The final rule for part 71 set this rate at $32/ton. Adjusted for inflation, the part 71 annual fee through calendar year 2009 is $45.25 per ton. The final rule based the $32/ton fee on a detailed fee demonstration performed by EPA, placed in the docket prior to promulgation of the final rule, showing slightly higher costs for EPA versus state implementation of a title V program. The annual inflation adjustment is performed in October of each year and is announced on the same Web site as the part 70 presumptive minimum.

2. Which pollutants are subject to permit fees?

The terms "regulated pollutant (for presumptive fee calculation)" under part 70 and "regulated pollutant (for fee ***55347** calculation)" under part 71 are defined essentially the same in both programs. These terms are both currently defined to mean any "regulated air pollutant" except: (1) Carbon monoxide, (2) any pollutant that is a regulated air pollutant solely because it is a Class I or II substance subject to a standard promulgated or established under title VI of the Act, or (3) any pollutant that is a regulated air pollutant solely because it is subject to a standard or regulation under section 112(r) of the Act. The part 70 fee pollutant definition specifies which regulated air pollutants must be considered in presumptive minimum analyses, while the part 71 fee pollutant definition specifies which regulated air pollutants are the basis for fees for part 71 sources. The term "regulated air pollutant" in parts 70 and 71 means the following:

(1) Nitrogen oxides or any volatile organic compounds;

(2) Any pollutant for which a NAAQS has been promulgated;

(3) Any pollutant that is subject to any standard promulgated under section 111 of the Act;

(4) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or

(5) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Act, including sections 112(g), (j), and (r) of the Act, including the following: (i) Any pollutant subject to requirements under section 112(j) of the Act. If the Administrator fails to promulgate a standard by the date established in section 112(e), any pollutant for which a subject source would be major shall be considered regulated 18 months after the section 112(e) date; and (ii) Any pollutant for which the requirements of section 112(g)(2) of the Act have been met, but only with respect to the individual

source subject to the requirement.

Note that GHGs are not currently included in either definition for fee purposes because they are not "regulated air pollutants," but GHGs may be covered in the future.

Also note that section 502(b)(3) of the Act, upon which these fee regulations are based, does not specifically require fees for GHGs, and it does not specifically require fees for every regulated air pollutant, even those that may cause the source to be defined as a major source; it just requires adequate fees to cover costs. Thus, we believe the Act provides us with some discretion in how we treat GHGs for permit fee purposes. This discretion also would potentially include revising the part 70 and 71 rules to address workload associated with GHGs.

3. Proposal for Fees in State Part 70 Programs

The permitting of GHGs has the potential to create overwhelming resource burdens on State part 70 programs. These burdens would be significantly reduced under this proposal, through raising the title V major source thresholds for GHGs, which will reduce the number of sources subject to permitting. Nonetheless, as noted above, there will be some remaining additional activity associated with GHG permitting that will likely require States to increase revenue to cover the expected increase in level of activity. At this time, we believe that the best approach to address this situation is for States to assess their increased workload and determine whether their current fee regulations need to be amended to cover any expected revenue shortfall. If so, States have a wide variety of possible options regarding what pollutants and sources to cover, and what fee structure to adopt.

The EPA is not proposing at this time to amend its regulations to establish a presumptive fee approach that would involve specifically charging fees for GHGs. We are also not proposing at this time to calculate a new presumptive minimum fee under the existing presumptive fee approach to take GHGs into account, or to mandate revisions to fee regulations for GHGs in States that did not adopt the presumptive fee approach. We believe that the best approach at this time is to allow each State to determine how best to satisfy the fee adequacy requirement under the existing process, for EPA to monitor the situation, and be prepared to exercise oversight authority if necessary.

Due to the large quantity of GHGs emitted relative to criteria pollutants, for example at a combustion source where GHGs may be from several hundred times to over one thousand times the emissions of other combustion pollutants, EPA has decided not to propose to amend its regulations to establish a presumptive fee approach that would treat GHGs similarly to current fee pollutants. Such an approach would result in greatly excessive revenues because agency workloads are not necessarily proportional to emissions for sources and GHG emissions are orders of magnitude larger than other emissions for many source categories. Thus we have rejected that approach as an option. Similarly, we considered and rejected proposing to require a different, significantly reduced presumptive minimum fee for GHG [*e.g.*, by revising § 70.9(b)(2)]. This is not required by the Act, provided States can raise revenues in the aggregate that are adequate to cover program costs. We also believe we would need better data to establish the appropriate basis for the GHG presumptive minimum. We expect our data will improve over time as EPA and permitting authorities gain experience with GHG permitting programs, but at present there are large uncertainties in our estimates of the additional GHG workload at the 25,000 ton CO_2 level, the level of effort needed to incorporate future regulations for GHGs into permits, and the additional revenue that would come in from fees paid for emissions other than GHG from newly covered sources under existing fee schedules. Also, for similar reasons, we have decided not to issue NODs under § 70.10(b) for State failure to adequate implement and enforce their part 70 programs on the basis of failure to date to revise their fee schedules to cover any existing or anticipated workload for GHGs (for example, the workload associated with planning for future regulation, conducting emissions inventories of GHGs, and similar activities directly or indirectly related to part 70 permitting).

Although we do not believe it is necessary to revise our part 70 regulations to implement the fee requirements for GHGs, EPA intends to closely monitor State programs to ensure that incorporating GHGs into permits do not result in fee shortfalls serious enough to imperil the implementation and enforcement of the part 70 program. EPA has adequate authority under § 70.9(b)(5) to perform audits of State fees at any time, at our own initiative or whenever any serious questions are raised about fee adequacy, and we have done so in the past. During any such audit, EPA would focus its review on the program support test of § 70.9(b)(1) in order to assure that fees are adequate to support the program. There is also authority in § 70.4(i)(3) for EPA or the State to initiate a program revision when relevant Federal or State regulations are modified or supplemented, such as when EPA takes a future action to regulate GHGs or when EPA has reason to believe that a State is not adequately administering its program, which could occur if a fee audit uncovers a need to increase a State's fees. This provision specifically authorizes EPA to request additional documents or information, such as a revised fee demonstration. We also have authority to take action for a State's ***55348** failure to adequately administer and enforce a part 70 permits program under § 70.10(b). This process includes the issuance of a NOD and could result ultimately in withdrawal of the part 70 program and imposition of a Federal part 71 program in its place, if appropriate and timely part 70 program revisions are not made (*e.g.*, NODs on questions of fee adequacy: (1) 69 FR 10167, March 4, 2004, *http://edocket.access.gpo.gov/2004/04-4822.htm*; and (2) 71 FR 67061, November 20, 2006, *http://www.epa.gov/EPA-AIR/2006/November/Day-20/a19555.htm*). There are other examples where EPA has performed oversight of fee adequacy over State or local part 70 programs that did not ultimately result in the issuance of an NOD (*i.e.*, see a December 13, 2001, letter from EPA Region 10 to a concerned citizen, *http://www.epa.gov/region7/programs/artd/air/title5/t5memos/aktrust.pdf*; and a September 23, 2002, letter from EPA Region 3 to a concerned citizen, *http:// www.epa.gov/air/oaqps/ permits/response/maryland.pdf*.

For these reasons we are proposing a recommendation that each State, local, or tribal part 70 program review its expected resource needs for implementing

GHGs and its fee schedule with the aim of determining if its fee revenues will be adequate to cover the direct and indirect costs of implementing its program once GHGs are brought into the program. If they would not be adequate, States using the presumptive fee approach should be proactive in raising fees on current "regulated pollutants (for presumptive fee calculation)" or developing other alternative approaches to meet the shortfall. We may officially require submittal of fee analyses for GHGs at any time in the future, but we do not believe we need to do so at this time.

This approach is consistent with how we have treated past Federal regulations that could have potentially affected title V program resources and fees, including final rules that resulted in new applicable requirements in permits and that changed the number of sources required to get permits (*e.g.*, we did not require new fee demonstrations in response to promulgation of a large number of part 63 emissions standards, nor in response to part 63 standards that required title V permits for minor sources). In those situations, we did not alter the Federal fee regulations or require changes to the fee regulations in State programs, but the requirement for adequate revenues still applied.

4. GHGs and Part 71 Fees

Similar to the explanation for part 70 above, after GHGs become regulated for CAA purposes, we note that increased burdens will likely fall on part 71 permitting authorities (EPA and delegate agencies), resulting in the need for EPA to review the part 71 fee schedule to ensure there are adequate fees to cover program costs. We are also not proposing at this time to establish a presumptive fee approach that would treat GHGs similarly to current fee pollutants nor to adjust the fee schedule of § 71.9(c) with respect to these expected burdens for similar reasons we explained above for part 70. EPA has not determined that existing part 71 fee structure will be inadequate to fund the part 71 program costs in the next few years with GHG permitting included.

We will examine the increases in part 71 burden due to GHG-related permitting activity and in fees collected from part 71 sources to assess whether part 71 fees remain adequate. Section 71.9(c)(7) requires EPA to revise the fee schedule by rule if it does not reflect the costs of program administration, while § 71.9(n)(2) requires the Administrator to review the fees schedule every 2 years and to revise it if necessary.

E. Implementation Assistance and Support

In addition to the development of permit streamlining techniques during the threshold evaluation period to address administrative capacity issues, EPA also plans to compile and make available technical and background information on GHG emission factors, control technologies, strategies and measurement and monitoring methodologies for key GHG source categories. This information will be particularly helpful to permitting authorities in making BACT determinations for GHG for sources that trigger PSD during the phase-in period. We plan to make the information available at such time as necessary to support permitting agencies in their BACT determinations (*e.g.*, on or before EPA completes an action that triggers PSD for GHGs). In addition, we will pursue using this information to develop presumptive BACT levels for selected source categories.

We intend to focus our support effort on the largest emitting GHG source categories, those that would likely exceed the temporary major source GHG threshold adopted as part of this action. At this time, we believe that power plants, petroleum refineries, pulp and paper mills, iron and steel facilities and portland cement plants are some of the source categories for which such information would initially prove most useful to permitting agencies. A key objective of this support effort will be to help permitting authorities find cost effective ways to achieve GHG controls under the BACT requirement. In addition, the information may be useful to permit applicants in preparing BACT analyses as well as providing other stakeholders with an understanding of how GHG emissions may be mitigated.

As an example, the information would include EPA's industrial energy management resources for energy intensive industries available through its ENERGY STAR program (see *http://www.energystar.gov/index.cfm?c=in—focus.bus—industries—focus*). We intend to work closely with stakeholders in developing the support effort and information. This will help assure that, to the extent possible, the information developed supports consistency and certainty in BACT determinations. In planning this effort, EPA seeks comment on the following: (1) Given time and resource constraints, which specific source categories or sectors, including emission units, should EPA prioritize, (2) what specific information (*e.g.*, emission factors, control technologies, collateral impacts, cost information, etc.) and what format would be most helpful to permitting agencies in carrying out the provisions of the PSD and title V programs as they would apply to GHGs, and (3) what other types of support or assistance can EPA provide to initially help air pollution control agencies with the permitting of GHGs?

XI. Statutory and Executive Order Reviews

A. Executive Order 12866—Regulatory Planning and Review

Under Executive Order (EO) 12866 (58 FR 51735, October 4, 1993), this action is a "significant regulatory action" because it raises novel legal or policy issues. Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under EO 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

In addition, EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is provided in the docket for this action and the analysis is briefly summarized in section IX of this preamble.

***55349** *B. Paperwork Reduction Act*

This action does not impose any new information collection burden. Instead, this proposed action would significantly reduce costs incurred by sources and permitting authorities relative to the costs that would be incurred if EPA did not revise the rule. Based on our GHG threshold data analysis, we estimated that over 40,000 new and modified facilities per year would be subject to PSD review based on applying a GHG emissions threshold of 250 tpy using a CO_2e metric. This is compared to 280 PSD permits currently issued per year, which is an increase of more than 140-fold. Similarly, for title V, we estimated that over six million new sources would be affected at the 100-tpy threshold for GHGs using the CO_2e metric. By increasing the volume of permits by over 400 times, the administrative burden would be unmanageable without this rule. Despite this reduction of burden, the OMB has previously approved the information collection requirements contained in the existing regulations for PSD (see, *e.g.*, 40 CFR 52.21) and title V (see 40 CFR parts 70 and 71) under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2060-0003 and OMB control number 2060-0336 respectively. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the APA or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this proposed action on small entities, small entity is defined as: (1) A small business that is a small industrial entity as defined in the U.S. Small Business Administration (SBA) size standards (*see* 13 CFR 121.201);

(2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed action on small entities, I certify that this proposed action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant adverse economic impact on small entities, since the primary purpose of the regulatory flexibility analysis is to identify and address regulatory alternatives "which minimize any significant economic impact of the rule on small entities." 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect, on all of the small entities subject to the rule.

We believe that this proposed action will relieve the regulatory burden associated with the major PSD and title V operating permits programs for new or modified major sources that emit GHGs, including small businesses. This is because the proposed action would raise major source applicability thresholds for these programs for sources that emit GHGs at rates below 25,000 tpy CO_2e. As a result, the program changes provided in the proposed rule are not expected to result in any increases in expenditure by any small entity.

We have therefore concluded that this proposed rule would relieve regulatory burden for a substantial number of small entities, and thus I certify that it will not have a significant economic impact on a substantial number of small entities. However, EPA recognizes that some small entities continue to be concerned about the potential impacts of the statutory imposition of PSD requirements that may occur given the various EPA rulemakings currently under consideration concerning GHG emissions. Accordingly, EPA will use the discretion afforded to it under the RFA to consult with OMB and SBA, with input from outreach to small entities, regarding the potential impacts of PSD regulatory requirements that might occur as EPA considers regulations of GHGs. EPA is not required to consult in this manner when it has certified that a rule will not have a significant economic impact on a substantial number of small entities, but we believe that engaging in such consultation before finalization of this rule will help us to better understand and address the potential PSD regulatory concerns of small entities that might experience such impacts.

D. Unfunded Mandates Reform Act

This proposed action does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Although this proposed action would result in a small increase in the burden imposed upon permitting authorities by requiring States to revise their SIPs to incorporate the changes, the revisions would ultimately reduce the PSD and title V program administrative burden that would otherwise occur in the absence of this rulemaking. Thus, this proposed action is not subject to the requirements of sections 202 or 205 of UMRA.

This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. EPA has determined that this proposed action contains no regulatory requirements that may significantly or uniquely affect small governments, including tribal governments. However, in developing this proposed action, EPA consulted with small governments pursuant to a plan established under section 203 of UMRA to address impacts of regulatory requirements in the rule that might significantly or uniquely affect small governments. As stated in sections XI.E and F of this preamble, EPA consulted with State, local, and tribal officials early in the process of developing the proposed regulation to permit them to have timely and meaningful input into its development by publishing an ANPR (73 FR 44354, July 30, 2008) that included PSD GHG tailoring options for regulating GHGs under the CAA. As a result, EPA received comments from these entities and took them into consideration when developing this proposal.

E. Executive Order 13132—Federalism

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. These proposed amendments would ultimately simplify and reduce the burden on State and local agencies associated with implementing the PSD and title V operating permits programs, by providing that a source whose GHG emissions are below the proposed levels will not have to obtain a PSD permit or ***55350** title V permit. Thus, Executive Order 13132 does not apply to this action.

Consistent with EPA policy, EPA nonetheless consulted with State and local officials early in the process of developing the proposed regulation to permit them to have meaningful and timely input into its development by publishing an advance notice of proposed rulemaking (ANPR) [73 FR 44354, July 30, 2008] that included PSD GHG tailoring options for regulating GHGs under the CAA. As a result of the ANPR, EPA received several comments from State and local government agencies on differing PSD GHG tailoring options presented in the ANPR which were considered in this proposal.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comment on this proposed rule from State and local officials.

F. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

Subject to the Executive Order 13175, entitled "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 9, 2000), EPA may not issue a regulation that has tribal implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by tribal governments, or EPA consults with tribal officials early in the process of developing the proposed regulation and develops a tribal summary impact statement.

EPA has concluded that this action may have tribal implications. However, it will neither impose substantial direct compliance costs on tribal governments nor preempt tribal law. There are no tribal authorities currently issuing major NSR permits; however, this may change in the future.

EPA consulted with tribal officials early in the process of developing this regulation to permit them to have meaningful and timely input into its development by publishing an ANPR that included PSD GHG tailoring options for regulating GHGs under the CAA. [73 FR 44354, July 30, 2008]. As a result of the ANPR, EPA received several comments from tribal officials on differing PSD GHG tailoring options presented in the ANPR which were considered in this proposal.

Although Executive Order 13175 does not apply to this proposed rule, EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045—Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to EO 13045 (62 FR 19885, April 23, 1997) because the Agency does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children.

We do not believe this action creates any environmental health or safety risks.

The public is invited to submit comments or identify peer-reviewed studies and data that assess effects of early life exposure to GHGs.

H. Executive Order 13211—Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This rule is not a "significant energy action" as defined in Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action will not create any new requirements for sources in the energy supply, distribution, or use sectors.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law 104-113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898—Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the U.S.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because any impacts that it will have will be global in nature and will not affect local communities or populations in a manner that adversely affects the level of protection provided to human health or the environment.

K. Determination Under Section 307(d)

Pursuant to sections 307(d)(1)(E) and 307(d)(1)(V) of the CAA, the Administrator determines that this action is subject to the provisions of section 307(d). Section 307(d)(1)(V) provides that the provisions of section 307(d) apply to "such other actions as the Administrator may determine."

XII. Statutory Authority

The statutory authority for this action is provided by sections 307(d)(7)(B), 101, 111, 114, 116, and 301 of the CAA as amended (42 U.S.C. 7401, 7411, 7414, 7416, and 7601). This action is also subject to section 307(d) of the CAA (42 U.S.C. 7407(d)).

List of Subjects

40 CFR Part 51

Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Environmental protection, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 52

Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Environmental protection, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 70

Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Environmental protection, Greenhouse gases, Hydrofluorocarbons, ***55351** Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Environmental protection, Greenhouse gases, Hydrofluorocarbons, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

Dated: September 30, 2009.

Lisa P. Jackson,

Administrator.

For reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is proposed to be amended as set forth below.

PART 51—[AMENDED]

1. The authority citation for part 51 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart I—[Amended]

2. Section 51.166 is amended:

a. By revising paragraphs (b)(1)(i)(*a*), and (b)(1)(i)(*b*);

b. By adding paragraph (b)(1)(i)(*d*);
c. By revising paragraph (b)(23)(i); and
d. By adding paragraphs (b)(57) and (b)(58).

The revisions and additions read as follows:

§ 51.166 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(1)(i) * * *

(*a*) Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant (except for greenhouse gases (as defined under paragraph (b)(57) of this section), except as provided under paragraph (b)(1)(i)(*d*) of this section): Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants;

(*b*) Notwithstanding the stationary source size specified in paragraph (b)(1)(i)(a) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated pollutant (except for greenhouse gases (as defined under paragraph (b)(57) of this section), except as provided under paragraph (b)(1)(i)(d) of this section); or

* * * * *

(*d*) Notwithstanding any provision to the contrary in this section, any stationary source which emits, or has the potential to emit, at least 25,000 tpy CO_2e of greenhouse gases, as defined under paragraph (b)(58) of this section.

* * * * *

(23)(i) *Significant* means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

Pollutant and Emissions Rate

Carbon monoxide: 100 tons per year (tpy)
Nitrogen oxides: 40 tpy

Sulfur dioxide: 40 tpy

Particulate matter: 25 tpy of particulate matter emissions. 15 tpy of PM_{10} emissions.

$PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions unless demonstrated not to be a $PM_{2.5}$ precursor under paragraph (b)(49) of this section

Ozone: 40 tpy of volatile organic compounds or nitrogen oxides

Lead: 0.6 tpy

Fluorides: 3 tpy

Sulfuric acid mist: 7 tpy

Hydrogen sulfide (H_2 S): 10 tpy

Total reduced sulfur (including H_2 S): 10 tpy

Reduced sulfur compounds (including H_2 S): 10 tpy

Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2 x 10^{-6} megagrams per year (3.5 x 10^{-6} tpy)

Municipal waste combustor metals (measured as particulate matter): 14 megagrams per year (15 tpy)

Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tpy)

Municipal solid waste landfill emissions (measured as nonmethane organic compounds): 45 megagrams per year (50 tpy)

Greenhouse gases: [10,000 to 25,000] CO_2e

* * * * *

(57) *Greenhouse gas*, or *GHG*, means carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

(58) *Carbon dioxide equivalent*, or *CO2e*, means a metric used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). The CO_2e for a gas is determined by multiplying the mass of the gas by the associated GWP. The applicable GWPs and guidance on how to calculate a source's GHG emissions in tpy CO_2e can be found in EPA's"Inventory of U.S. Greenhouse Gas Emissions and Sinks," which is updated annually under existing commitment under the United Nations Framework Convention on Climate Change (UNFCCC).

* * * * *

PART 52—[AMENDED]

3. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

4. Section 52.21 is amended:

a. By revising paragraphs (b)(1)(i)(*a*) and (b)(1)(i)(*b*);
b. By adding paragraph (b)(1)(i)(*d*);
c. By revising paragraph (b)(23)(i); and
d. By adding paragraphs (b)(59) and (b)(60).

The revisions and additions read as follows:

§ 52.21 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(1)(i) * * *

(*a*) Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant (except for greenhouse gases (as defined under paragraph (b)(59) of this section), except as provided under paragraph (b)(1)(i)(*d*) of this section): Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning ***55352** plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants;

(*b*) Notwithstanding the stationary source size specified in paragraph (b)(1)(i) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant (except for greenhouse gases (as defined under paragraph (b)(59) of this section), except as provided under paragraph (b)(1)(i)(*d*) of this section); or

* * * * *

(*d*) Notwithstanding any provision to the contrary in this section, any stationary source of air pollutants which emits, or has the potential to emit, 25,000 tpy CO_2e of greenhouse gases, as defined under paragraph (b)(60) of this section.

* * * * *

(23)(i) *Significant means*, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

Pollutant and Emissions Rate

Carbon monoxide: 100 tons per year (tpy)

Nitrogen oxides: 40 tpy

Sulfur dioxide: 40 tpy

Particulate matter: 25 tpy of particulate matter emissions

PM_{10} : 15 tpy

$PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions unless demonstrated not to be a $PM_{2.5}$ precursor under paragraph (b)(50) of this section

Ozone: 40 tpy of volatile organic compounds or nitrogen oxides

Lead: 0.6 tpy

Fluorides: 3 tpy

Sulfuric acid mist: 7 tpy

Hydrogen sulfide ($H_2 S$): 10 tpy

Total reduced sulfur (including $H_2 S$): 10 tpy

Reduced sulfur compounds (including $H_2 S$): 10 tpy

Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2×10^{-6} megagrams per year (3.5×10^{-6} tpy)

Municipal waste combustor metals (measured as particulate matter): 14 megagrams per year (15 tpy)

Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tpy)

Municipal solid waste landfill emissions (measured as nonmethane organic compounds): 45 megagrams per year (50 tpy)

Greenhouse gases: [10,000 to 25,000] CO_2e

* * * * *

(59) *Greenhouse gas*, or *GHG*, means carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

(60) *Carbon dioxide equivalent*, or *CO2e*, means a metric used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). The CO_2e for a gas is determined by multiplying the mass of the gas by the associated GWP. The applicable GWPs and guidance on how to calculate a source's GHG emissions in tpy CO_2e can be found in EPA's“Inventory of U.S. Greenhouse Gas Emissions and Sinks,” which is updated annually under existing commitment under the United Nations

Framework Convention on Climate Change (UNFCCC).

* * * * *

5. Section 52.53 is revised to read as follows:

§ 52.53 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Alabama's plans for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plans satisfy all requirements of Part D, Title I, of the Clean Air Act as amended in 1977. In addition, continued satisfaction of the requirements of Part D for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by July 1, 1980 for the sources covered by CTGs issued between January 1978 and January 1979 and adoption and submittal by each subsequent January of additional RACT requirements for sources covered by CTGs issued by the previous January.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern

sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

6. Section 52.72 is revised to read as follows:

§ 52.72 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Alaska's plan for the attainment and maintenance of the national standards. The State included in the plan a regulation prohibiting idling of unattended motor vehicles. However, the plan stated that this regulation was included for informational purposes only, and was not to be considered part of the control strategy to implement the national standards for carbon monoxide. Accordingly, this regulation is not considered a part of the applicable plan.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of

such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

***55353** 7. Section 52.123 is amended by adding paragraph (l) to read as follows:

§ 52.123 Approval status.

* * * * *

(l)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

8. Section 52.172 is revised to read as follows:

§ 52.172 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Arkansas' plan for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Further, the Administrator finds that the plan satisfies all requirements of Part D of the Clean Air Act, as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

9. Section 52.223 is amended by adding paragraph (f) to read as follows:

§ 52.223 Approval status.

* * * * *

(f)(1) Insofar as the PSD permitting threshold pro-

visions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

10. Section 52.323 is revised to read as follows:

§ 52.323 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Colorado's plan for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds that the plan satisfies all requirements of Part D, Title 1, of the Clean Air Act as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions

to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

11. Section 52.373 is amended by adding paragraph (c) to read as follows:

§ 52.373 Approval status.

* * * * *

(c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the

extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

12. Section 52.422 is amended by adding paragraph (c) to read as follows:

§ 52.422 Approval status.

* * * * *

(c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

13. Section 52.472 is amended by adding paragraph (g) to read as follows:

§ 52.472 Approval status.

* * * * *

(g)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

***55354** 14. Section 52.522 is revised to read as follows:

§ 52.522 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Florida's plans for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plans satisfy all requirements of Part D, Title I, of the Clean Air Act as amended in 1977, except as noted below. In addition, continued satisfaction of the requirements of Part D, for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by July 1, 1980 for those sources covered by CTGs issued between January 1978 and January 1979 and adoption and submittal by each subsequent January of additional RACT requirements for sources covered by CTGs issued by the previous January.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

15. Section 52.572 is revised to read as follows:

§ 52.572 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Georgia's plans for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plans satisfy all requirements of Part D, Title I, of the Clean Air Act as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold pro-

visions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

16. Section 52.623 is revised to read as follows:

§ 52.623 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Hawaii's plan for attainment and maintenance of the national standards. The State included various provisions in its plan to provide for the attainment of State ambient air quality standards. As described in the Governor's letters of January 28, May 8, and May 22, 1972, these provisions were included for information purposes only and were not to be considered a part of the plan to implement national standards. Accordingly, these additional provisions are not considered a part of the applicable plan.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits

its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

17. Section 52.673 is revised to read as follows:

§ 52.673 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Idaho's plan for the attainment and maintenance of the national standards.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern

sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

18. Section 52.722 is amended by adding paragraph (d) to read as follows:

§ 52.722 Approval status.

* * * * *

(d)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

19. Section 52.773 is amended by adding paragraph (k) to read as follows:

§ 52.773 Approval status.

* * * * *

(k)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as ***55355** significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

20. Section 52.822 is amended by adding paragraph (b) to read as follows:

§ 52.822 Approval status.

* * * * *

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes

no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

21. Section 52.873 is amended by adding paragraph (d) to read as follows:

§ 52.873 Approval status.

* * * * *

(d)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no ac-

tion on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

22. Section 52.923 is amended by adding paragraph (c) to read as follows:

§ 52.923 Approval status.

* * * * *

(c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

23. Section 52.986 is amended by adding paragraph (c) to read as follows:

§ 52.986 Significant deterioration of air quality.

* * * * *

(c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

24. Section 52.1022 is revised to read as follows:

§ 52.1022 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Maine's plan, as identified in § 52.1020, for the attainment and maintenance of the national standards under section 110 of the Clean Air Act.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes

no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

25. Section 52.1073 is amended by adding paragraph (h) to read as follows:

§ 52.1073 Approval status.

* * * * *

(h)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no ac-

tion on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

26. Section 52.1123 is amended by adding paragraph (c) to read as follows:

§ 52.1123 Approval status.

* * * * *

(c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

27. Section 52.1172 is revised to read as follows:

§ 52.1172 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Michigan's plan for the attainment and maintenance of the National Ambient Air Quality Standards under section 110 of the Clean Air Act. Furthermore, the ***55356** Administrator finds the plan satisfies all requirements of Part D, Title I of the Clean Air Act as amended in 1977, except as noted below. In addition, continued satisfaction of the requirements of Part D for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by July 1, 1980 for the sources covered by CTGs between January 1978 and January 1979 and adoption and submittal by each subsequent January of additional RACT requirements for sources covered by CTGs issued by the previous January.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

28. Section 52.1223 is revised to read as follows:

§ 52.1223 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Minnesota's plans for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plan satisfies all requirements of Part D, Title 1, of the Clean Air Act as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

29. Section 52.1272 is revised to read as follows:

§ 52.1272 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Mississippi's plan for the attainment and maintenance of national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plans satisfy all requirements of Part D, Title I, of the Clean Air Act as amended in 1977.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

30. Section 52.1323 is amended by adding paragraph (n) to read as follows:

§ 52.1323 Approval status.

* * * * *

(n)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions

to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

31. Section 52.1372 is revised to read as follows:

§ 52.1372 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Montana's plans for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plans satisfy all requirements of Part D, Title I, of the Clean Air Act as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern

sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

32. Section 52.1422 is revised to read as follows:

§ 52.1422 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Nebraska's plan for the attainment and maintenance of the national standards. No action is taken on the new source review regulations to comply with section 172(b)(6) and section 173 of the Clean Air Act as amended in 1977, and 40 CFR 51.18(j).

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the

extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

***55357** 33. Section 52.1472 is amended by adding paragraph (d) to read as follows:

§ 52.1472 Approval status.

* * * * *

(d)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

34. Section 52.1522 is amended by adding paragraph (c) to read as follows:

§ 52.1522 Approval status.

* * * * *

(c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

35. Section 52.1573 is revised to read as follows:

§ 52.1573 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves New Jersey's plans for attainment and maintenance of the national ambient air quality standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds that the plan satisfies all requirements of Part D, Title I, of the Clean Air Act, as amended in 1977, except as noted below in § 52.1581. In addition, continued satisfaction of the requirements of Part D for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by July 1, 1980 for the sources covered by CTGs issued between January 1978 and January 1979 and adoption and submittal by each subsequent January of additional RACT requirements for sources covered by CTGs issued by the previous January.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

36. Section 52.1622 is revised to read as follows:

§ 52.1622 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves New Mexico's plan for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Further, the Administrator finds that the plan satisfies all requirements of Part D of the Clean Air Act, as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold pro-

visions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

37. Section 52.1673 is amended by adding paragraph (b) to read as follows:

§ 52.1673 Approval status.

* * * * *

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern

sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

38. Section 52.1772 is amended by adding paragraph (c) to read as follows:

§ 52.1772 Approval status.

* * * * *

(c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

39. Section 52.1822 is revised to read as follows:

§ 52.1822 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves the North Dakota plan for the attainment and maintenance of the national standards.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed ***55358** 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

40. Section 52.1873 is revised to read as follows:

§ 52.1873 Approval status.

(a) With the exceptions set forth in this subpart the Administrator approves Ohio's plan for the attainment and maintenance of the National Ambient Air Quality Standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plan satisfies all the requirements of Part D, Title 1 of the

Clean Air Act as amended in 1977, except as noted below. In addition, continued satisfaction of the requirements of Part D for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by January 1, 1981 for the sources covered by CTGs between January 1978 and January 1979 and adoption and submittal by each subsequent January of additional RACT requirements for sources covered by CTGs issued by the previous January.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

41. Section 52.1922 is revised to read as follows:

§ 52.1922 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Oklahoma's plan for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds that the plan satisfies all requirements of Part D, Title 1, of the Clean Air Act as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

42. Section 52.1972 is revised to read as follows:

§ 52.1972 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Oregon's plan for the attainment and maintenance of the national standards under section 110 of the Clean Air Act.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

43. Section 52.2023 is amended by adding paragraph (l) to read as follows:

§ 52.2023 Approval status.

* * * * *

(l)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as

significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

44. Section 52.2072 is revised to read as follows:

§ 52.2072 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Rhode Island's plan, as identified in § 52.2070 of this subpart, for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plan satisfies all requirements of Part D, Title I, of the Clean Air Act, as amended in 1977, except as noted below. In addition, continued satisfaction of the requirements of Part D for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by January 1, 1981 for the sources covered by CTGs issued between January 1978 and January 1979 and adoption and submittal by each subsequent January as additional RACT requirements for sources covered by CTGs issued by the previous January.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

45. Section 52.2122 is amended by adding paragraph (c) to read as follows:

§ 52.2122 Approval status.

* * * * *

***55359** (c)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

46. Section 52.2172 is revised to read as follows:

§ 52.2172 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves South Dakota's plan as meeting the requirements of section 110 of the Clean Air Act, as amended in 1977. Furthermore, the Administrator finds that the plan satisfies all requirements of Part D of the Clean Air Act, as amended in 1977.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

47. Section 52.2222 is amended by adding paragraph (d) to read as follows:

§ 52.2222 Approval status.

* * * * *

(d)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

48. Section 52.2273 is revised to read as follows:

§ 52.2273 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Texas' plan for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds that the plan satisfies all requirements of Part D, Title 1, of the Clean Air Act as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

49. Section 52.2323 is revised to read as follows:

§ 52.2323 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Utah's plan as meeting the requirements of section 110 of the Clean Air Act as amended in 1977. Furthermore, the Administrator finds that the plan satisfies all requirements of Part D, Title 1, of the Clean Air Act as amended in 1977, except as noted below.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

50. Section 52.2372 is revised to read as follows:

§ 52.2372 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Vermont's plan as identified in § 52.2370 for the attainment and maintenance of the national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plans satisfy all requirements of Part D, Title I, of the Clean Air Act, as amended in 1977, except as noted below. In addition, continued satisfaction of the requirements of Part D for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by July 1, 1980 for the sources covered by CTGs issued between January, 1978 and January, 1979 and adoption and submittal by each subsequent January of additional RACT requirements for sources covered by CTGs issued by the previous January.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes

no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

51. Section 52.2423 is amended by adding paragraph (t) to read as follows:

§ 52.2423 Approval status.

* * * * *

***55360** (t)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no ac-

tion on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

52. Section 52.2473 is revised to read as follows:

§ 52.2473 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Washington's plan for the attainment and maintenance of National Standards under section 110 of the Clean Air Act. The regulations included in the SIP (see Table 52.2479) are applicable statewide unless otherwise noted in the regulation itself. Furthermore, the Administrator finds that the plan as identified in § 52.2470 satisfies requirements of Part D, Title 1, of the Clean Air act as amended in 1977, except as noted in the following sections. Continued satisfaction of the requirements of Part D for the ozone portion of the SIP depends on the adoption and submittal of RACT requirements by July 1, 1980 for the sources covered by CTGs issued between January 1978 and January 1979 and adoption and submittal by each subsequent January of additional RACT requirements for sources covered by CTGs issued by the previous January. New source review permits pursuant to section 173 of CAA will not be deemed valid by EPA unless the provisions of section V of the emission offset interpretive rule published on January 16, 1979 (44 FR 3274) are met.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes

no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

53. Section 52.2522 is amended by adding paragraph (j) to read as follows:

§ 52.2522 Approval status.

* * * * *

(j)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no ac-

tion on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

54. Section 52.2572 is revised to read as follows:

§ 52.2572 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Wisconsin's plans for the attainment and maintenance of the National Ambient Air Quality Standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds the plans satisfy all requirements of Part D, Title I, of the Clean Air Act as amended in 1977, except as noted below. In addition, continued satisfaction of the requirements of Part D for the Ozone portion of the State Implementation Plan depends on the adoption and submittal of RACT requirements on:

(1) Group III Control Techniques Guideline sources within 1 year after January 1st following the issuance of each Group III control technique guideline; and

(2) Major (actual emissions equal or greater than 100 tons VOC per year) non-control technique guideline sources in accordance with the State's schedule contained in the 1982 Ozone SIP revision for Southeastern Wisconsin.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions

to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

55. Section 52.2622 is revised to read as follows:

§ 52.2622 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Wyoming's plans as meeting the requirements of section 110 of the Clean Air Act, as amended in 1977. Furthermore, the Administrator finds that the plans satisfy the requirements of Part D, Title I, of the Clean Air Act.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of

such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

56. Section 52.2672 is revised to read as follows:

§ 52.2672 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Guam's plan for the attainment and maintenance of the National Standards.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of ***55361** GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

57. Section 52.2722 is revised to read as follows:

§ 52.2722 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves Puerto Rico's plans for the attainment and maintenance of national standards under section 110 of the Clean Air Act. Furthermore, the Administrator finds that the plan satisfies all requirements of Part D, Title I, of the Clean Air Act, as amended in 1977.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

58. Section 52.2772 is revised to read as follows:

§ 52.2772 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves the U.S. Virgin Islands plan for attainment and maintenance of the national standards.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

59. Section 52.2822 is revised to read as follows:

§ 52.2822 Approval status.

(a) With the exceptions set forth in this subpart, the Administrator approves American Samoa's plan for the attainment and maintenance of the national standards.

(b)(1) Insofar as the PSD permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they subject to PSD requirements sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes

no action on the PSD permitting threshold provisions to the extent they subject to PSD requirements sources of GHG emissions that are less than 25,000 tpy CO_2e.

(2) Insofar as the PSD significance levels concern sources of GHG emissions, EPA limits its approval of such provisions to the extent those provisions treat as significant GHG emissions increases that equal or exceed [10,000 to 25,000] tpy CO_2e. EPA takes no action on the PSD significance level provisions to the extent they treat as significant GHG emissions increases less than [10,000 to 25,000] tpy CO_2e.

PART 70—[AMENDED]

60. The authority citation for part 70 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq*.

61. Section 70.2 is amended to read as follows:

a. By adding definitions in alphabetical order for *carbon dioxide equivalent* and *greenhouse gas*;
b. By revising paragraph (2) of the definition for *major source*; and
c. By adding paragraph (4) to the definition for *major source*.

§ 70.2 Definitions.

* * * * *

Carbon dioxide equivalent, or *CO_2e*, means a metric used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). The CO_2e for a gas is determined by multiplying the mass of the gas by the associated GWP. The applicable GWPs and guidance on how to calculate a source's GHG emissions in tpy CO_2e can be found in EPA's"Inventory of U.S. Greenhouse Gas Emissions and Sinks," which is updated annually under existing commitment under the United Nations Framework Convention on Climate Change (UNFCCC).

* * * * *

Greenhouse gas, or *GHG*, means carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

* * * * *

Major source * * *

(2) A major stationary source of air pollutants (except for greenhouse gases, except as otherwise provided in this section) as defined in section 302 of the Act, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

* * * * *

(4) A stationary source that directly emits, or has the potential to emit, 25,000 tpy CO_2e or more of greenhouse gases that are subject to regulation under the Act.

* * * * *

62. Appendix A to Part 70 is amended as follows:

a. By revising the introductory text;
b. By adding paragraph (d) under Alabama;
c. By adding paragraph (c) under Alaska;
d. By adding paragraph (e) under Arizona;
e. By adding paragraph (d) under Arkansas;
f. By adding paragraph (jj) under California;
g. By adding paragraph (c) under Colorado;
h. By adding paragraph (c) under Connecticut;
i. By adding paragraph (d) under Delaware;
j. By adding paragraph (d) under District of Columbia;
k. By adding paragraph (c) under Florida;
l. By adding paragraph (c) under Georgia;
m. By adding paragraph (d) under Hawaii;
***55362** n. By adding paragraph (c) under Idaho;
o. By adding paragraph (c) under Illinois;
p. By adding paragraph (d) under Indiana;
q. By adding paragraph (k) under Iowa;
r. By adding paragraph (e) under Kansas;
s. By adding paragraph (c) under Kentucky;
t. By adding paragraph (c) under Louisiana;
u. By adding paragraph (c) under Maine;
v. By adding paragraph (d) under Maryland;
w. By adding paragraph (c) under Massachusetts;
x. By adding paragraph (c) under Michigan;
y. By adding paragraph (d) under Minnesota;
z. By adding paragraph (c) under Mississippi;

aa. By adding paragraph (x) under Missouri;

bb. By adding paragraph (c) under Montana;

cc. By adding paragraph (j) under Nebraska, City of Omaha, Lincoln-Lancaster County Health Department;

dd. By adding paragraph (d) under Nevada;

ee. By adding paragraph (c) under New Hampshire;

ff. By adding paragraph (e) under New Jersey;

gg. By adding paragraph (g) under New Mexico;

hh. By adding paragraph (e) under New York;

ii. By adding paragraph (e) under North Carolina;

jj. By adding paragraph (d) under North Dakota;

kk. By adding paragraph (d) under Ohio;

ll. By adding paragraph (c) under Oklahoma;

mm. By adding paragraph (c) under Oregon;

nn. By adding paragraph (c) under Pennsylvania;

oo. By adding paragraph (c) under Puerto Rico;

pp. By adding paragraph (c) under South Carolina;

qq. By adding paragraph (c) under Rhode Island;

rr. By adding paragraph (c) under South Dakota;

ss. By adding paragraph (f) under Tennessee;

tt. By adding paragraph (d) under Texas;

uu. By adding paragraph (c) under Utah;

vv. By adding paragraph (c) under Vermont;

ww. By adding paragraph (c) under the Virgin Islands;

xx. By adding paragraph (c) under Virginia;

yy. By adding paragraph (j) under Washington;

zz. By adding paragraph (f) under West Virginia;

aaa. By adding paragraph (c) under Wisconsin; and

bbb. By adding paragraph (c) under Wyoming.

Appendix A to Part 70—Approval of State and Local Operating Permits

This appendix provides information on the approval status of State and Local operating Permit Programs. An approved State part 70 program applies to all part 70 sources, as defined in that approved program, within such State, except for any source of air pollution over which a federally recognized Indian Tribe has jurisdiction. EPA limits its approval of the State permitting threshold provisions to the extent those provisions require permits for sources of GHG emissions that equal or exceed 100 tpy CO_2e.

Alabama

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Alaska

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Arizona

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(e) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Arkansas

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

California

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(jj) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Colorado

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Connecticut

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Delaware

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

District of Columbia

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Florida

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Georgia

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits ***55363** for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Hawaii

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Idaho

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Illinois

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Indiana

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Iowa

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(k) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Kansas

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(e) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Kentucky

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Louisiana

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Maine

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Maryland

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Massachusetts

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Michigan

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Minnesota

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Mississippi

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Missouri

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(x) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Montana

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Nebraska; City of Omaha; Lincoln-Lancaster County Health Department

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(j) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Nevada

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

New Hampshire

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

***55364** New Jersey

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(e) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

New Mexico

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(g) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

New York

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(e) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

North Carolina

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(e) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

North Dakota

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Ohio

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Oklahoma

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Oregon

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Pennsylvania

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy $CO_{2}e$. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy $CO_{2}e$.

Puerto Rico

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy $CO_{2}e$. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy $CO_{2}e$.

Rhode Island

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy $CO_{2}e$. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

South Carolina

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

South Dakota

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Tennessee

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(f) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits

its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Texas

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(d) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Utah

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Vermont

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Virgin Islands

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Virginia

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Washington

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(j) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits ***55365** for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

West Virginia

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(f) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Wisconsin

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

Wyoming

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(c) Insofar as the State permitting threshold provisions concern sources of GHG emissions, EPA limits its approval of such provisions to the extent they require permits for sources of GHG emissions that equal or exceed 25,000 tpy CO_2e. EPA takes no action on such provisions to the extent they require permits for sources of GHG emissions that are less than 25,000 tpy CO_2e.

PART 71—[AMENDED]

63. The authority citation for part 71 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

64. Section 71.2 is amended to follows:

a. By adding definitions in alphabetical order for *carbon dioxide equivalent* and *greenhouse gas*;
b. By revising paragraph (2) of the definition for *major source*; and
c. By adding paragraph (4) to the definition for *major source*.

§ 71.2 Definitions.

* * * * *

Carbon dioxide equivalent, or *CO_2e*, means a metric used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). The CO_2e for a gas is determined by multiplying the mass of the gas by the associated GWP. The applicable GWPs and guidance on how to calculate a source's GHG emissions in tpy CO_2e can be found in EPA's"Inventory of U.S. Greenhouse Gas Emissions and Sinks," which is updated annually under existing commitment under the United Nations Framework Convention on Climate Change (UNFCCC).

* * * * *

Greenhouse gas, or *GHG*, means carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

* * * * *

Major source * * *

(2) A major stationary source of air pollutants (except for greenhouse gases, except as otherwise provided in this section), as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

* * * * *

(4) A stationary source that directly emits, or has the potential to emit, 25,000 tpy CO_2e or more of greenhouse gases that are subject to regulation under the Act.

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[FR Doc. E9-24163 Filed 10-23-09; 8:45 am]

BILLING CODE 6560-50-P

42 U.S.C. § 7407: Air quality control regions

(a) Responsibility of each State for air quality; submission of implementation plan

Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State.

(b) Designated regions

For purposes of developing and carrying out implementation plans under section 7410 of this title-

(1) an air quality control region designated under this section before December 31, 1970, or a region designated after such date under subsection (c) of this section, shall be an air quality control region; and

(2) the portion of such State which is not part of any such designated region shall be an air quality control region, but such portion may be subdivided by the State into two or more air quality control regions with the approval of the Administrator.

(c) Authority of Administrator to designate regions; notification of Governors of affected States

The Administrator shall, within 90 days after December 31, 1970, after consultation with appropriate State and local authorities, designate as an air quality control region any interstate area or major intrastate area which he deems necessary or appropriate for the attainment and maintenance of ambient air quality standards. The Administrator shall immediately notify the Governors of the affected States of any designation made under this subsection.

(d) Designations

(1) Designations generally

(A) Submission by Governors of initial designations following promulgation of new or revised standards

By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under section 7409 of this title, the Governor of each State shall (and at any other time the Governor of a State deems appropriate the Governor may) submit to the Administrator a list of all areas (or portions thereof) in the State, designating as--

(i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,

(ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or

(iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

The Administrator may not require the Governor to submit the required list sooner than 120 days after promulgating a new or revised national ambient air quality standard.

(B) Promulgation by EPA of designations

(i) Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) submitted under subparagraph (A) as expeditiously as practicable, but in no case later than 2 years from the date of promulgation of the new or revised national ambient air quality standard. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.

(ii) In making the promulgations required under clause (i), the Administrator may make such modifications as the Administrator deems necessary to the designations of the areas (or portions thereof) submitted under subparagraph (A) (including to the boundaries of such areas or portions thereof). Whenever the Administrator intends to make a modification, the Administrator shall notify the State and provide such State with an opportunity to demonstrate why any proposed modification is inappropriate. The Administrator shall give such notification no later than 120 days before the date the Administrator promulgates the designation, including any modification thereto. If the Governor fails to submit the list in whole or in part, as required under subparagraph (A), the Administrator shall promulgate the designation that the Administrator deems appropriate for any area (or portion thereof) not designated by the State.

(iii) If the Governor of any State, on the Governor's own motion, under subparagraph (A), submits a list of areas (or portions thereof) in the State designated as nonattainment, attainment, or unclassifiable, the Administrator shall act on such designations in accordance with the procedures under paragraph (3) (relating to redesignation).

(iv) A designation for an area (or portion thereof) made pursuant to this subsection shall remain in effect until the area (or portion thereof) is redesignated pursuant to paragraph (3) or (4).

(C) Designations by operation of law

(i) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(A), (B), or (C) of this subsection (as in effect immediately before November 15, 1990) is designated, by operation of law, as a nonattainment area for such pollutant within the meaning of subparagraph (A)(i).

(ii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(E) (as in effect immediately before November 15, 1990) is designated by operation of law, as an attainment area for such pollutant within the meaning of subparagraph (A)(ii).

(iii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(D) (as in effect immediately before November 15, 1990) is designated, by operation of law, as an unclassifiable area for such pollutant within the meaning of subparagraph (A)(iii).

(2) Publication of designations and redesignations

(A) The Administrator shall publish a notice in the Federal Register promulgating any designation under paragraph (1) or (5), or announcing any designation under paragraph (4), or promulgating any redesignation under paragraph (3).

(B) Promulgation or announcement of a designation under paragraph (1), (4) or (5) shall not be subject to the provisions of sections 553 through 557 of Title 5 (relating to notice and comment), except nothing herein shall be construed as precluding such public notice and comment whenever possible.

(3) Redesignation

(A) Subject to the requirements of subparagraph (E), and on the basis of air quality data, planning and control considerations, or any other air quality-related considerations the Administrator deems appropriate, the Administrator may at any time notify the Governor of any State that available information indicates that the designation of any area or portion of an area within the State or interstate area should be revised. In issuing such notification, which shall be public, to the Governor, the Administrator shall provide such information as the Administrator may have available explaining the basis for the notice.

(B) No later than 120 days after receiving a notification under subparagraph (A), the Governor shall submit to the Administrator such redesignation, if any, of the appropriate area (or areas) or portion thereof within the State or interstate area, as the Governor considers appropriate.

(C) No later than 120 days after the date described in subparagraph (B) (or paragraph (1)(B)(iii)), the Administrator shall promulgate the redesignation, if any, of the area or portion thereof, submitted by the Governor in accordance with subparagraph (B), making such modifications as the Administrator may deem necessary, in the same manner and under the same procedure as is applicable under clause (ii) of paragraph (1)(B), except that the phrase "60 days" shall be substituted for the phrase "120 days" in that clause. If the Governor does not submit, in accordance with subparagraph (B), a redesignation for an area (or portion thereof) identified by the Administrator under subparagraph (A), the Administrator shall promulgate such redesignation, if any, that the Administrator deems appropriate.

(D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation. The submission of a redesignation by a Governor shall not affect the effectiveness or enforceability of the applicable implementation plan for the State.

(E) The Administrator may not promulgate a redesignation of a nonattainment area (or portion thereof) to attainment unless--

(i) the Administrator determines that the area has attained the national ambient air quality standard;

(ii) the Administrator has fully approved the applicable implementation plan for the area under section 7410(k) of this title;

(iii) the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;

(iv) the Administrator has fully approved a maintenance plan for the area as meeting the requirements of section 7505a of this title; and

(v) the State containing such area has met all requirements applicable to the area under section 7410 of this title and part D of this subchapter.

(F) The Administrator shall not promulgate any redesignation of any area (or portion thereof) from nonattainment to unclassifiable.

(4) Nonattainment designations for ozone, carbon monoxide and particulate matter (PM-10)

(A) Ozone and carbon monoxide

(i) Within 120 days after November 15, 1990, each Governor of each State shall submit to the Administrator a list that designates, affirms or reaffirms the designation of, or redesignates (as the case may be), all areas (or portions thereof) of the Governor's State as attainment, nonattainment, or unclassifiable with respect to the national ambient air quality standards for ozone and carbon monoxide.

(ii) No later than 120 days after the date the Governor is required to submit the list of areas (or portions thereof) required under clause (i) of this subparagraph, the Administrator shall promulgate such designations, making such modifications as the Administrator may deem necessary, in the same manner, and under the same procedure, as is applicable under clause (ii) of paragraph (1)(B), except that the phrase "60 days" shall be substituted for the phrase "120 days" in that clause. If the Governor does not submit, in accordance with clause (i) of this subparagraph, a designation for an area (or portion thereof), the Administrator shall promulgate the designation that the Administrator deems appropriate.

(iii) No nonattainment area may be redesignated as an attainment area under this subparagraph.

(iv) Notwithstanding paragraph (1)(C)(ii) of this subsection, if an ozone or carbon monoxide nonattainment area located within a metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census) is classified under part D of this subchapter as a Serious, Severe, or Extreme Area, the boundaries of such area are hereby revised (on the date 45 days after such classification) by operation of law to include the entire metropolitan statistical area or consolidated metropolitan statistical area, as the case may be, unless within such 45-day period the Governor (in consultation with State and local air pollution control agencies) notifies the Administrator that additional time is necessary to evaluate the application of clause (v). Whenever a Governor has submitted such a notice to the Administrator, such boundary revision shall occur on the later of the date 8 months after such classification or 14 months after November 15, 1990, unless the Governor makes the finding referred to in clause (v), and the Administrator concurs in such finding, within such period. Except as otherwise provided in this paragraph, a boundary revision under this clause or clause (v) shall apply for purposes of any State implementation plan revision required to be submitted after November 15, 1990.

(v) Whenever the Governor of a State has submitted a notice under clause (iv), the Governor, in consultation with State and local air pollution control agencies, shall undertake a study to evaluate whether the entire metropolitan statistical area or consolidated metropolitan statistical area should be included within the nonattainment area. Whenever a Governor finds and demonstrates to the satisfaction of the Administrator, and the Administrator concurs in such finding, that with respect to a portion of a metropolitan statistical area or consolidated metropolitan statistical area, sources in the portion do not contribute significantly to violation of the national ambient air quality standard, the Administrator shall approve the Governor's request to exclude such portion from the nonattainment area. In making such finding, the Governor and the Administrator shall consider factors such as population density, traffic congestion, commercial development, industrial development, meteorological conditions, and pollution transport.

(B) PM-10 designations

By operation of law, until redesignation by the Administrator pursuant to paragraph (3)--

(i) each area identified in 52 Federal Register 29383 (Aug. 7, 1987) as a Group I area (except to the extent that such identification was modified by the Administrator before November 15, 1990) is designated nonattainment for PM-10;

(ii) any area containing a site for which air quality monitoring data show a violation of the national ambient air quality standard for PM-10 before January 1, 1989 (as determined under part 50, appendix K of title 40 of the Code of Federal Regulations) is hereby designated nonattainment for PM-10; and

(iii) each area not described in clause (i) or (ii) is hereby designated unclassifiable for PM-10.

Any designation for particulate matter (measured in terms of total suspended particulates) that the Administrator promulgated pursuant to this subsection (as in effect immediately before November 15, 1990) shall remain in effect for purposes of implementing the maximum allowable increases in concentrations of particulate matter (measured in terms of total suspended particulates) pursuant to section 7473(b) of this title, until the Administrator determines that such designation is no longer necessary for that purpose.

(5) Designations for lead

The Administrator may, in the Administrator's discretion at any time the Administrator deems appropriate, require a State to designate areas (or portions thereof) with respect to the national ambient air quality standard for lead in effect as of November 15, 1990, in accordance with the procedures under subparagraphs (A) and (B) of paragraph (1), except that in applying subparagraph (B)(i) of paragraph (1) the phrase "2 years from the date of promulgation of the new or revised national ambient air quality standard" shall be replaced by the phrase "1 year from the date the Administrator notifies the State of the requirement to designate areas with respect to the standard for lead".

(6) Designations

(A) Submission

Notwithstanding any other provision of law, not later than February 15, 2004, the Governor of each State shall submit designations referred to in paragraph (1) for the July 1997 PM national ambient air quality standards for each area within the State, based on air quality monitoring data collected in accordance with any applicable Federal reference methods for the relevant areas.

(B) Promulgation

Notwithstanding any other provision of law, not later than December 31, 2004, the Administrator shall, consistent with paragraph (1), promulgate the designations referred to in subparagraph (A) for each area of each State for the July 1997 PM national ambient air quality standards.

(7) Implementation plan for regional haze

(A) In general

Notwithstanding any other provision of law, not later than 3 years after the date on which the

Administrator promulgates the designations referred to in paragraph (6)(B) for a State, the State shall submit, for the entire State, the State implementation plan revisions to meet the requirements promulgated by the Administrator under section 7492(e)(1) of this title (referred to in this paragraph as "regional haze requirements").

(B) No preclusion of other provisions

Nothing in this paragraph precludes the implementation of the agreements and recommendations stemming from the Grand Canyon Visibility Transport Commission Report dated June 1996, including the submission of State implementation plan revisions by the States of Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, or Wyoming by December 31, 2003, for implementation of regional haze requirements applicable to those States.

(e) Redesignation of air quality control regions

(1) Except as otherwise provided in paragraph (2), the Governor of each State is authorized, with the approval of the Administrator, to redesignate from time to time the air quality control regions within such State for purposes of efficient and effective air quality management. Upon such redesignation, the list under subsection (d) of this section shall be modified accordingly.

(2) In the case of an air quality control region in a State, or part of such region, which the Administrator finds may significantly affect air pollution concentrations in another State, the Governor of the

State in which such region, or part of a region, is located may redesignate from time to time the boundaries of so much of such air quality control region as is located within such State only with the approval of the Administrator and with the consent of all Governors of all States which the Administrator determines may be significantly affected.

(3) No compliance date extension granted under section 7413(d)(5) of this title (relating to coal conversion) shall cease to be effective by reason of the regional limitation provided in section 7413(d)(5) of this title if the violation of such limitation is due solely to a redesignation of a region under this subsection.

42 U.S.C. § 7470: Congressional declaration of purpose

The purposes of this part are as follows:

(1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air), notwithstanding attainment and maintenance of all national ambient air quality standards;

(2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;

(3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;

(4) to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other State; and

(5) to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process.

42 U.S.C. § 7473: Increments and Ceilings

(a) Sulfur oxide and particulate matter; requirement that maximum allowable increases and maximum allowable concentrations not be exceeded

In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of any maximum allowable increase (except an allowable increase specified under section 7475(d)(2)(C)(iv) of this title) for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.

(b) Maximum allowable increases in concentrations over baseline concentrations

(1) For any class I area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

[redacted]	
Particulate matter:	
[redacted]	
Twenty-four-hour maximum	10
[redacted]	
Annual arithmetic mean	2
[redacted]	
Three-hour maximum	25

(2) For any class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

[redacted]	
Particulate matter:	
[redacted]	
Twenty-four-hour maximum	37
[redacted]	
Annual arithmetic mean	20
[redacted]	
Three-hour maximum	512

(3) For any class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

[redacted]	
Particulate matter:	
[redacted]	
Twenty-four-hour maximum	75
[redacted]	
Annual arithmetic mean	40
[redacted]	
Three-hour maximum	700

(4) The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to--

(A) the concentration permitted under the national secondary ambient air quality standard, or

(B) the concentration permitted under the national primary ambient air quality standard,

whichever concentration is lowest for such pollutant for such period of exposure.

(c) Orders or rules for determining compliance with maximum allowable increases in ambient concentrations of air pollutants

(1) In the case of any State which has a plan approved by the Administrator for purposes of carrying out this part, the Governor of such State may, after notice and opportunity for public hearing, issue orders or promulgate rules providing that for purposes of determining compliance with the maximum allowable increases in ambient concentrations of an air pollutant, the following concentrations of such pollutant shall not be taken into account:

(A) concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of sections 792(a) and (b) of Title 15 (or any subsequent legislation which supersedes such provisions) over the emissions from such sources before the effective date of such order.

(B) the concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from using natural gas by reason of a natural gas curtailment pursuant to a natural gas curtailment plan in effect pursuant to the Federal Power Act [16 U.S.C.A. § 791a et seq.] over the emissions from such sources before the effective date of such plan,

(C) concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities, and

(D) the increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration determined in accordance with section 7479(4) of this title.

(2) No action taken with respect to a source under paragraph (1)(A) or (1)(B) shall apply more than five years after the effective date of the order referred to in paragraph (1)(A) or the plan referred to in paragraph (1)(B), whichever is applicable. If both such order and plan are applicable, no such action shall apply more than five years after the later of such effective dates.

(3) No action under this subsection shall take effect unless the Governor submits the order or rule providing for such exclusion to the Administrator and the Administrator determines that such order or rule is in compliance with the provisions of this subsection.

* * *

42 U.S.C. § 7475(a): Preconstruction requirements

(a) Major emitting facilities on which construction is commenced

No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless--

(1) a permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;

(2) the proposed permit has been subject to a review in accordance with this section, the required analysis has been conducted in accordance with regulations promulgated by the Administrator, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;

(3) the owner or operator of such facility demonstrates, as required pursuant to section 7410(j) of this title, that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter;

(4) the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility;

(5) the provisions of subsection (d) of this section with respect to protection of class I areas have been complied with for such facility;

(6) there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility;

(7) the person who owns or operates, or proposes to own or operate, a major emitting facility for which a permit is required under this part agrees to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such source; and

(8) in the case of a source which proposes to construct in a class III area, emissions from which would cause or contribute to exceeding the maximum allowable increments applicable in a class II area and where no standard under section 7411 of this title has been promulgated subsequent to August 7, 1977, for such source category, the Administrator has approved the determination of best available technology as set forth in the permit.

42 U.S.C. § 7479(1): Definitions

For purposes of this part--

(1) The term "major emitting facility" means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

42 U.S.C. § 7501: Definitions

For the purpose of this part--

(1) Reasonable further progress

The term "reasonable further progress" means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.

(2) Nonattainment area

The term "nonattainment area" means, for any air pollutant, an area which is designated "nonattainment" with respect to that pollutant within the meaning of section 7407(d) of this title.

(3) The term "lowest achievable emission rate" means for any source, that rate of emissions which reflects--

(A) the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or

(B) the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent.

In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance.

(4) The terms "modifications" and "modified" mean the same as the term "modification" as used in section 7411(a)(4) of this title.

42 U.S.C. §§ 7521(a)(1)-(3): Emission standards for new motor vehicles or new motor vehicle engines

(a) Authority of Administrator to prescribe by regulation
Except as otherwise provided in subsection (b) of this section--
(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d) of this section, relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

(2) Any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

(3)(A) In general

(i) Unless the standard is changed as provided in subparagraph (B), regulations under paragraph (1) of this subsection applicable to emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, and particulate matter from classes or categories of heavy-duty vehicles or engines manufactured during or after model year 1983 shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.

(ii) In establishing classes or categories of vehicles or engines for purposes of regulations under this paragraph, the Administrator may base such classes or categories on gross vehicle weight, horsepower, type of fuel used, or other appropriate factors.

(B) Revised standards for heavy duty trucks

(i) On the basis of information available to the Administrator concerning the effects of air pollutants emitted from heavy-duty vehicles or engines and from other sources of mobile source related pollutants on the public health and welfare, and taking costs into account, the Administrator may promulgate regulations under paragraph (1) of this subsection revising any standard promulgated under, or before the date of, the enactment of the Clean Air Act Amendments of 1990 (or previously revised under this subparagraph) and applicable to classes or categories of heavy-duty vehicles or engines.

(ii) Effective for the model year 1998 and thereafter, the regulations under paragraph (1) of this subsection applicable to emissions of oxides of nitrogen (NO_x) from gasoline and diesel-fueled heavy duty trucks shall contain standards which provide that such emissions may not exceed 4.0 grams per brake horsepower hour (gbh).

(C) Lead time and stability

Any standard promulgated or revised under this paragraph and applicable to classes or categories of heavy-duty vehicles or engines shall apply for a period of no less than 3 model years beginning no earlier than the model year commencing 4 years after such revised standard is promulgated.

(D) Rebuilding practices

The Administrator shall study the practice of rebuilding heavy-duty engines and the impact rebuilding has on engine emissions. On the basis of that study and other information available to the Administrator, the Administrator may prescribe requirements to control rebuilding practices, including standards applicable to emissions from any rebuilt heavy-duty engines (whether or not the engine is past its statutory useful life), which in the Administrator's judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare taking costs into account. Any regulation shall take effect after a period the Administrator finds necessary to permit the development and application of the requisite control measures, giving appropriate consideration to the cost of compliance within the period and energy and safety factors.

(E) Motorcycles

For purposes of this paragraph, motorcycles and motorcycle engines shall be treated in the same manner as heavy-duty vehicles and engines (except as otherwise permitted under section 7525(f)(1) of this title) unless the Administrator promulgates a rule reclassifying motorcycles as light-duty vehicles within the meaning of this section or unless the Administrator promulgates regulations under subsection (a) of this section applying standards applicable to the emission of air pollutants from motorcycles as a separate class or category. In any case in which such standards are promulgated for such emissions from motorcycles as a separate class or category, the Administrator, in promulgating such standards, shall consider the need to achieve equivalency of emission reductions between motorcycles and other motor vehicles to the maximum extent practicable.

* * *

42 U.S.C. §§ 7602(g), (h), (j): Definitions

When used in this chapter--

(g) The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

(h) All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

* * *

(j) Except as otherwise expressly provided, the terms "major stationary source" and "major emitting facility" mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator).

42 U.S.C. §§ 7607(d)(7)-(9): Administrative proceedings and judicial review

* * *

(d) Rulemaking

* * *

(7)(A) The record for judicial review shall consist exclusively of the material referred to in paragraph (3), clause (i) of paragraph (4)(B), and subparagraphs (A) and (B) of paragraph (6).

(B) Only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section). Such reconsideration shall not postpone the effectiveness of the rule. The effectiveness of the rule may be stayed during such reconsideration, however, by the

Administrator or the court for a period not to exceed three months.

(8) The sole forum for challenging procedural determinations made by the Administrator under this subsection shall be in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section) at the time of the substantive review of the rule. No interlocutory appeals shall be permitted with respect to such procedural determinations. In reviewing alleged procedural errors, the court may invalidate the rule only if the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made.

(9) In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be--

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

(D) without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

42 U.S.C. § 7661(2): Definitions

As used in this subchapter--

* * *

(2) Major source

The term "major source" means any stationary source (or any group of stationary sources located within a contiguous area and under common control) that is either of the following:

(A) A major source as defined in section 7412 of this title.

(B) A major stationary source as defined in section 7602 of this title or part D of subchapter I of this chapter.

ORAL ARGUMENT NOT YET SCHEDULED

IN THE
UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL. Petitioners, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Respondent.	No. 09-1322 (consolidated with Nos. 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10- 1046, and 10-1049)
COALITION FOR RESPONSIBLE REGULATION, INC., ET AL. Petitioners, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Respondent.	No. 10-1073
SOUTHEASTERN LEGAL FOUNDATION, INC., ET AL. Petitioners,	No. 10-1083 (consolidated with No. 10-1099)

v.

UNITED STATES
ENVIRONMENTAL
PROTECTION AGENCY

Respondent.

AMERICAN IRON & STEEL
INSTITUTE, ET AL.

Petitioners,

v.

UNITED STATES
ENVIRONMENTAL
PROTECTION AGENCY

Respondent.

No. 10-1109
(consolidated with
Nos. 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, and
10-1129)

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.
Petitioners,
v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respondent.

No. 10-1092
(consolidated with Nos. 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10- 1172, and 10-1182)

SOUTHEASTERN LEGAL FOUNDATION, INC., ET AL.
Petitioners,
v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respondent.

No. 10-1131
(consolidated with Nos. 10-1132, 10-1145, 10- 1147, 10-1148, and 10-1199)

GEORGIA COALITION FOR SOUND ENVIRONMENTAL POLICY, INC.
Petitioners,
v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respondent.

No. 10-1200
(consolidated with Nos. 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, and 10-1222)

COALITION FOR RESPONSIBLE REGULATION, INC., ET AL.

Petitioners,
v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respondent.

No. 10-1234
(consolidated with Nos. 10-1235, 10-1239, and 10- 1245)

MOTION FOR COORDINATION OF RELATED CASES

MOTION FOR COORDINATION OF RELATED CASES

Pursuant to Federal Rules of Appellate Procedure 2 and 27, Circuit Rules 2 and 27, and this Court's inherent authority to issue scheduling and briefing orders as a function of managing its docket, Southeastern Legal Foundation, Inc. *et al.* ("SLF"), the Chamber of Commerce of the United States ("U.S. Chamber"), Competitive Enterprise Institute, FreedomWorks, and SEPP (collectively "CEI"), and the Portland Cement Association ("PCA"), together with the petitioners listed in Attachment A, respectfully request that the cases listed in Attachment B be designated "complex," be assigned to a single three judge panel, and be briefed, argued, and decided in coordinated fashion. On August 3, 2010, a group of petitioners' counsel initiated communications with the Department of Justice seeking EPA's position on this motion for coordination. Those discussions were subsequently broadened to include representatives of respondent-intervenors. On August 25, 2010, respondents and respondent-intervenors indicated that they could not agree to coordinate the cases in this fashion at the present time.

The rules at issue in these cases, perhaps the most significant set of administrative law challenges this Court has ever confronted, achieve a stark result — the imposition of controls on carbon dioxide and other greenhouse gas ("GHG") emissions on the national economy. In contrast, the question of whether the Clean Air Act and the record compiled by the U.S. Environmental Protection Agency ("EPA") authorize EPA to impose such controls is complex, not only because of the legal and factual issues it presents, but also because EPA spread its reasoning across four separate rules, while failing to provide a direct and adequate explanation of its reasons in any single proceeding. The confusion EPA has generated as to which of four separate review proceedings is the appropriate forum for litigating the many legal challenges now pending in this Court threatens to lead to duplicative briefing and risks conflicting decisions as this Court reviews the common questions the cases collectively present. As explained below, coordination of these closely interrelated cases would advance judicial economy by eliminating this confusion and the unnecessary complexity EPA has spawned.

BACKGROUND

Since April 2007 EPA has been tasked with responding to the remand ordered by the Supreme Court in *Massachusetts v. EPA,* 549 U.S. 497 (2007). As this Court is aware, *Massachusetts* narrowly addressed whether EPA had properly supported its decision to deny a rulemaking petition seeking to regulate mobile- source GHG emissions. EPA's post-Massachusetts deliberations thus encompass the specific question of the proper disposition of the 1999 rulemaking petition filed by the International Center for Technology Assessment ("ICTA") under Clean Air Act ("CAA" or "Act") Section 202(a), 42 U.S.C. § 7521(a), which seeks to impose controls on GHG emissions from new motor vehicles.

But EPA's post-*Massachusetts* deliberations and rulings also encompass much broader questions, including EPA's underlying authority to impose GHG emissions controls on stationary and agricultural emissions sources; the necessary prerequisites for invoking that authority; and whether or not EPA's multiple rulemaking records provide the necessary "rational connection between the facts found and the choice made." *Motor Vehicle Mfrs Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). EPA's answers to those questions are spread out over four final rules that collectively constitute the most expensive suite of administrative regulations ever promulgated by any agency or scrutinized on judicial review by any court.[†] Nonetheless, it remains unclear which of these four final rules, or combination of final rules, will be the locus and focus for resolving the central legal issues presented by EPA's initiative to regulate stationary-source GHG emissions.

A. EPA'S POST–MASSACHUSETTS ANPRM

EPA's ultimate decision in favor of a four-rule splintering of its GHG controls proceedings represents something of a departure from the Agency's original intentions. After *Massachusetts*,

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[†] *See* Portia M.E. Mills & Mark P. Mills, *A Regulatory Burden: The Compliance Dimension of Regulating CO2 as a Pollutant* (U.S. Chamber Sept. 2008) (study addressing costs of EPA GHG proposals), *available at http://www.uschamber.com/assets/env/regulatory_burden0809.pdf;* Ben Lieberman, *Small Business Impact of the Endangerment Finding* at 2-3 (Jan. 20, 2010), *available at http://thf_media.s3.amazonaws.com/2010/pdf/wm_2766.pdf;* OMB Memorandum at 2, posted to EPA-HQ-OAR-2009-0171-0124 (posted Apr. 22, 2009) ("Making the decision to regulate CO2 under the CAA for the first time is likely to have serious economic consequences for regulated entities throughout the U.S. economy, including small businesses and small communities."), *available at http://www.regulations.gov/search/Regs/home.html#documentDetail?R=0900006480965abd.*

EPA initially opened a single regulatory docket to deal with GHG emissions regulation, issuing a unified Advance Notice of Proposed Rulemaking ("ANPRM") to deal comprehensively with questions of GHG emissions control. *Regulating Greenhouse Gas Emissions Under the Clean Air Act*, Advance Notice of Proposed Rulemaking, 73 Fed. Reg. 44,354 (July 30, 2008) ("GHG ANPRM"). Ultimately, however, the Agency proceeded in a more piecemeal fashion, issuing a four-rules answer to the questions presented in the *Massachusetts* remand. Consequently, the Agency never fully acknowledged or addressed the contradictions between the Clean Air Act's statutory structure and attempts to regulate stationary-source GHG emissions under the Act.

Shortly after the *Massachusetts* decision, a May 2007 Executive Order that remains effective today recognized the benefits of regulatory coordination, not only across Clean Air Act programs, but also across agencies. See Executive Order No. 13,432, *Cooperation Among Agencies in Protecting the Environment with Respect to Greenhouse Gas Emissions from Motor Vehicles, Nonroad Vehicles, and Nonroad Engines,* 72 Fed. Reg. 13,432 (May 14, 2007). In implementing this Executive Order, EPA stated unequivocally in its July 2008 GHG ANPRM that the 1999 ICTA rulemaking petition, although limited by its terms to seeking new motor vehicle controls, could not be granted without considering the possibility of triggering a cascade of expensive and potentially unintended regulatory consequences:

> The provisions of the CAA are interconnected in multiple ways such that a decision to

> regulate one source category of GHGs could [potentially] lead to regulation of other source categories of GHGs . . . . In addition, CAA standards applicable to GHGs for one category of sources could trigger PSD requirements for other categories of sources that emit GHGs.

GHG ANPRM, 73 Fed. Reg. at 44,418 (July 30, 2008).

Along similar lines, the Department of Energy ("DOE") admonished EPA that the ICTA petition should be considered in light of its potential to trigger a new and expensive round of stationary-source regulation under the Act's Prevention of Significant Deterioration ("PSD") program. Under the PSD program, certain new and modified stationary sources are required to implement the "best available control technology." CAA § 165(a)(4), 42 U.S.C. § 7475(a)(4). In the context of controls on carbon-dioxide emissions, this effectively means controls on the use of fossil fuels or energy consumption.

According to DOE, EPA staff had up to that point failed to "explain in clear, understandable terms the extraordinary costs, burdens and other adverse consequences, and the potentially limited benefits, of the United States unilaterally using the Clean Air Act to regulate GHG emissions," through a mismatched regulatory scheme "forced into the Clean Air Act's legal and regulatory mold." GHG ANPRM, 73 Fed. Reg. at 44,371.

A January 2009 change in Presidential administrations brought new personnel and new thinking to EPA. But that changeover did not and could not alter the fundamental tension between the nature of controls on GHGs and the legal framework of the Act's stationary source emissions programs — most importantly, the PSD program and extensive stationary source permitting requirements of the Act's Title V. 42 U.S.C. §§ 7470-79; 42 U.S.C. §§ 7661-7661f. Nor could EPA free itself of the obligation to consider whether there were alternatives to triggering the PSD program. As described by the new EPA Administrator in October 2009, "[a]pplying the PSD thresholds to sources of GHG emissions literally results in a PSD program that is so contrary to what Congress had in mind — and that in fact so undermines what Congress attempted to accomplish with the PSD requirements — that it should be avoided under the absurd results' doctrine." *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule,* Proposed Rule, 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009). EPA similarly concluded that the Act's Title V permitting requirements could not apply to GHG emissions without producing a legal absurdity contrary to Congress's intentions. *Id.* at 55,310-11.

B. EPA'S FOUR FINAL RULES

Despite EPA's immediate recognition of the benefits of coordinated regulatory strategies, and its later recognition of the fundamental mismatch between its Clean Air Act legal authority and regulating GHG emissions from stationary sources, the Agency ultimately decided both to seek to control such emissions and to disperse its affirmative decision across four rules (each of which is now under review in this Court). Taken together, these dozens of challenges (those listed in Attachment B) are the subject of this motion for coordination.

As its ***first*** regulatory step, EPA finalized an Endangerment Rule on December 7, 2009 under CAA Section 202(a). EPA's Endangerment Rule finds that six GHGs indirectly endanger the public health and welfare by creating a worldwide risk of higher temperatures, and that new motor vehicles are contributing to that "endangerment." *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,* 74 Fed. Reg. 66,496 (Dec. 15, 2009) ("Endangerment Rule"). A total of seventeen petitions were timely filed in this Court seeking review of the Endangerment Rule. In addition, ten petitions seeking the Rule's reconsideration were filed before EPA. On June 16, 2010, this Court placed the Endangerment Rule review proceedings in abeyance pending the outcome of the EPA's agency reconsideration proceedings. Acting on a recently filed EPA motion, on August 16, 2010, the Court extended the abeyance until at least September 15, 2010, when motions to govern proceedings are due. On August 13, 2010, EPA published its decision denying reconsideration of its Endangerment Rule. *See EPA's Denial of the Petitions to Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act,* 75 Fed. Reg. 49,556 (Aug. 13, 2010). EPA's denial of reconsideration has subsequently been challenged by SLF, the U.S. Chamber, and other parties.

Second, on March 29, 2010, EPA issued its PSD Triggering Rule. *See Reconsideration of*

Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004 (Apr. 2, 2010) ("PSD Triggering Rule"). In this decision, EPA determined that on the initial day of the first model year in which manufacturers would have to meet the new Section 202(a) motor vehicle standards, those standards would, by operation of law as EPA sees it, in turn trigger PSD controls on GHG emissions from stationary sources — the sources which DOE had earlier highlighted as inappropriate for regulation as a matter of both cost-benefit and climate policy analysis. EPA set that trigger date as January 2, 2011. A total of eighteen petitions have been filed in this Court seeking review of EPA's PSD Triggering Rule. Fifteen of those eighteen petitions have been consolidated together, and EPA has moved to consolidate the remaining three petitions and to extend procedural deadlines to August 30, 2010 for docketing statements and statements of issues, September 15 for initial submissions and procedural motions, and September 30 for dispositive motions and the certified index to the administrative record. By orders in Case Nos. 10-1073 and 10-1083, and by operation of the Court's rules in the remaining cases (see D.C. Cir. R. 27(h)(4)), procedural deadlines have been suspended pending the Court's decision on EPA's motion.

Third, on April 1, 2010, EPA finalized a joint rule with NHTSA, in which NHTSA fulfilled its obligations under the Energy Policy and Conservation Act of 1975 to adopt a new round of CAFE standards, and EPA chose to use its Endangerment Finding to convert those CAFE standards to GHG limits on tailpipe emissions under

Section 202(a) of the CAA (applying EPA adjustments). *See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*, 75 Fed. Reg. 25,324, 25,371 (May 7, 2010) ("Tailpipe Rule"). Seventeen petitions for review have been filed in this Court seeking direct review of the Tailpipe Rule (all of which have been consolidated under lead case No. 10-1092) or review of their constructive re-opening of past EPA rulemakings. Initial submissions were filed on August 20, 2010, procedural motions are due on September 15, 2010, and dispositive motions and the certified index are due September 30, 2010.

Fourth, on May 13, 2010, EPA issued its Absurdity/Tailoring Rule. *See Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule,* 75 Fed. Reg. 31,514 (June 3, 2010) ("Absurdity / Tailoring Rule"). This final rule expressly recognizes that applying the Clean Air Act's PSD and Title V permitting programs to GHG emissions will produce an absurd mismatch with the Clean Air Act's plain language. *Id.* at 31,554-62 (PSD program); *id.* at 31,562-66 (Title V program). The Absurdity/Tailoring Rule purports to address this absurdity, not by adopting an alternative construction of the statute that would forgo the regulation of stationary source GHG emissions altogether, as normal rules of statutory construction would suggest, but by administratively rewriting (or "tailoring") the terms of the Clean Air Act. *See, e.g., id.* at 31,554 ("although our revised regulations do not accord with a literal reading of the statutory provisions for PSD applicability ... we have concluded that based on the „absurd results' doctrine, a literal adherence to the terms of these definitions is not required"); *id.* at 31,562 (same with respect to Title V). The Absurdity / Tailoring Rule thus reinforces EPA's determination to set in motion a regulatory cascade leading ineluctably to controls on stationary-source GHG emissions.

A total of twenty-six petitions have been filed in this Court seeking review of EPA's Absurdity / Tailoring Rule. Six of those petitions have been consolidated together under Case No. 10-1131, and the remaining twenty have been consolidated together under Case No. 10-1200. EPA has moved to consolidate all twenty-six petitions, and to adjust procedural deadlines in these cases to August 30, 2010 for docketing statements and statements of issues, September 15, 2010 for initial submissions and procedural motions, and September 30, 2010 for dispositive motions and the certified index to the administrative record.

After issuing what amounts to a single policy approach dispersed across four separate rulemakings, EPA most recently appears to be acknowledging that the four rules are intimately connected and thus must be "taken together":

> In recent months, EPA has taken four related actions that, taken together, trigger PSD applicability for GHG sources on and after January 2, 2011, but limit the scope of PSD. . . . . Taken together, these actions established regulatory requirements for GHGs emitted from new motor vehicles and new motor vehicle engines, determined that such regulations, when they take effect on January 2, 2011, will subject GHGs emitted

> from stationary sources to PSD requirements, and limited the applicability of PSD requirements to GHG sources on a phased-in basis.

Action to Ensure Authority to Issue Permits under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call, Proposed Rule, available at *http://www. epa.gov/airquality/ nsr/documents/20100810FinalGHGSIPCallProposal .pdf* (Aug. 10, 2010) (publication in Federal Register forthcoming) (footnotes omitted).

C. EPA OVERLOOKS THE BIG PICTURE

EPA was under no legal compulsion to paint itself into its present situation. In March of this year, the Agency was asked by two different reconsideration petitions to stay the legal effects of its first rule, the Endangerment Rule, on grounds that EPA improperly failed to grapple with the incompatibility between the Clean Air Act's plain terms and the regulation of stationary-source GHG emissions. One of these petitions was filed by the Southeastern Legal Foundation, Inc. on behalf of numerous members of Congress and private companies and the other was filed by the U.S. Chamber. *See http://www.epa.gov/climatechange/ endangerment /petitions.html* (petitions of the U.S. Chamber and SLF). EPA was thus invited at the very outset of its four-final-rule sequence to remove the legal "absurdity" entailed by embracing its proposed approach. EPA declined that invitation.

While putting an immense economy-wide regulatory machinery into motion, EPA thus far has declined to step back and comprehensively review the overall costs of, benefits of, legal authority for, and explanation for its regulatory program as a whole. On the theory that its legal and policy judgments could be characterized as an empirical question of science, EPA issued the Endangerment Rule without looking in the direction of the "absurd" consequences that could ultimately be entailed by its selected policy or even the costs and benefits of its determination. EPA stated: "To use an analogy, the question of whether the cure is worse than the illness is different than the question of whether there is an illness in the first place." Endangerment Rule, 74 Fed. Reg. at 66,515.

Turning to the Tailpipe Rule, EPA analyzed questions of costs and benefits and legal authority narrowly, as they relate to regulating GHG emissions solely from new motor vehicles, but still identified more than $51 billion in new costs to that limited segment of the economy alone. *See* 75 Fed. Reg. at 25,342-48. EPA's PSD Triggering Rule likewise focused on *when* PSD permitting requirements should take effect, as opposed to *whether* such requirements are authorized by the Act at all. The decision concluded that, although the PSD Triggering Rule would require that thousands of stationary sources be "swept into the PSD program," GHG ANPRM, 73 Fed. Reg. at 44,367, here again EPA contended no review of Clean Air Act legal authority or toting up of costs was appropriate or needed. PSD Triggering Rule, 75 Fed. Reg. at 17,019-23 (omitting any analysis under E.O. 12,866 (Sept. 30, 1993), *as modified* by E.O. 13,497 (January 30, 2009)).

Lastly, EPA's Absurdity / Tailoring Rule purports to change numerical, statutorily codified, thresholds for applying the PSD program to stationary sources of GHG emissions. Nonetheless, this rulemaking failed to take seriously the no-stationary-source-regulation-at-all alternative, or to confront the economic effects of its course of action, remarkably characterizing the decision to regulate stationary sources for the first time under the Clean Air Act as "deregulatory." See Absurdity / Tailoring Rule, 75 Fed. Reg. at 31,599 ("This final rulemaking does not impose economic burdens or costs on any sources or permitting authorities, but should be viewed as regulatory relief for smaller GHG emission sources and for permitting authorities"). As a result of EPA's approach, none of the Agency's four rules contains a discussion of their overall legal basis or a cost-benefit analysis of their non-auto industry impacts, nor has EPA conducted the analysis required under Section 317 of the Clean Air Act.

ARGUMENT

This Court regularly grants coordinated briefing in appropriate cases. *See, e.g., Davis v. DOJ*, No. 09-5189, 2009 WL 3570220 (D.C. Cir. Oct. 14, 2009) (denying motion for summary affirmance and ordering that the case be assigned to the same panel as a different pending case); *Noramco of Del. v. DEA*, No. 03-1060, 2003 WL 21384616 (June 5, 2003) (same). In one notably complex set of recent cases involving the Clean Air Act's new source review ("NSR") program, the Court denied a motion to consolidate the cases, but granted coordinated treatment and assignment to the same panel. *See New York v. EPA*, No. 02-1387, 2003 WL 25706732 (Dec. 24, 2003) (per curiam); *see also In re TMI Litig.*, 193 F.3d 613, 724 (3d Cir. 1999) (purpose of similar device under Federal Rule of Civil Procedure 42(a) is to "avoid duplication of effort" and "prevent conflicting outcomes" in interconnected cases (citation omitted)).

Like those NSR cases, these cases are especially appropriate for coordinated treatment. They are complex and interconnected, yet distinct. SLF, the U.S. Chamber, PCA, and multiple other petitioners have challenged all four final rules to ensure a hearing for the core questions regarding EPA's decision to trigger CAA regulation of GHGs, including under the PSD and Title V stationary-source programs. Indeed, a total of 12 groups of petitioners are similarly four-rule GHG challengers. Most of these groups are four-rule challengers for the same reasons as SLF, the U.S. Chamber, and PCA — they contest EPA's legal authority to regulate stationary-source GHGs on the present record but are uncertain as to which one(s) out of four different sets of review proceedings will decide that question.

As explained in detail below, coordination is essential in order to pull together into one set of proceedings the interconnected strands of the overriding question presented by these related cases: Has or has not EPA met all statutory requirements for regulating GHG emissions in the respective rules, and, if so, has EPA's regulatory authority properly been invoked and explained on this record?

A. COORDINATION WOULD PROMOTE EFFICIENT MERITS BRIEFING.

Under any scenario, to ensure adequate treatment of the vital issues in this case, the briefing would be complex. Absent coordination, however, briefing of merits issues will likely be repetitive and inefficient and lead to potentially conflicting decisions. As this Court has seen in exercising judicial review over "nationally applicable" Clean Air Act regulations plus other regulations EPA finds to have "nationwide scope or effect," 42 U.S.C. § 7607(b)(1), Clean Air Act cases can be exceedingly complex. Here, if one panel is assigned all four sets of interrelated cases, that single, designated panel would be spared having to fit its own deliberations into any larger mesh of deliberations being simultaneously conducted by three other panels. One and only one panel would be asked to master the present dispute over the statutory interactions between Title I and Title II of the Clean Air Act; the particulars of the PSD program; and the bewildering interconnections and feedback effects among and between EPA's four separate rulemakings. *See Lora v. Board of Educ. of City of N.Y.*, 623 F.2d 248, 251 (2d Cir. 1986) (Pollack, D.J., sitting by designation) ("in the interests of judicial husbandry" it becomes necessary to "centralize []"certain cases).

Most importantly, coordinating these cases would make briefing, oral argument, and this Court's decisions at once more streamlined, more efficient, and more consistent. First, case coordination could spare the Court the need to brief the core questions of EPA's legal authority and record support for that authority four separate times. Second, coordination would eliminate the risk of different panels issuing conflicting decisions on those core questions, obviating any need for the otherwise daunting task of reconciling multiple answers to the same underlying question. Given the costs of uncoordinated treatment — leaving four sets of cases on a parallel time track to be litigated in random order by different panels — the balance of considerations tips decidedly in favor of coordination.

B. ABSENT COORDINATION, JUSTICIABILITY DIVERSIONS ARE A REALISTIC POSSIBILITY.

Absent coordination, the intervenors supporting EPA (or perhaps even EPA itself) may well be tempted to challenge one or more petitions for review on one or more spurious and diversionary justiciability grounds. This distinct possibility arises solely from EPA's splintered decisionmaking. An important side benefit of coordinated judicial treatment is therefore that arguments that would otherwise senselessly chew through reams of paper and hours of judicial and party attention would simply go by the wayside at no cost to the proceedings. Because administrative agencies should not "use shell games to elude review," *Tesoro v. FERC*, 234 F.3d 1286, 1293-94 (D.C. Cir. 2000), using coordinated treatment to dissuade parties from raising unmeritorious justiciability arguments is appropriate.

To see how a linked series of seemingly plausible justiciability contentions might be strung together as a "shell game" to support an utterly implausible justiciability conclusion — that the petitioners' core arguments contesting EPA's authority to regulate stationary-source GHG emissions are non justiciable in any particular case — consider the following outline:

> In the Endangerment Case: Justiciability challengers may be tempted to contend that no party has standing because the Endangerment Rule itself purportedly does not set required standards of conduct or prohibitions, but instead is the prerequisite needed for the other rules to do so, and hence should be challenged in the cases involving the other rules.
>
> In the Tailpipe Rule Case: Justiciability challengers may be tempted to contend that because the rule directly regulates automobile manufacturers, stationary sources impacted by its requirements should have to pursue their grievances in the PSD Triggering Rule case, rather than attack the "trigger" of the Auto Standards Rule itself and its prerequisite Endangerment Rule.
>
> In the PSD Triggering Case: Justiciability challengers may be tempted to contend that parties lack standing because the PSD Triggering Rule, if considered in isolation from the Endangerment Rule, purportedly does not regulate anyone, but instead simply sets out the date as of which EPA will deem the Tailpipe Rule to have triggered PSD requirements.
>
> In the Absurdity / Tailoring Case: Justiciability

> challengers may be tempted to contend that parties lack standing because, in the wake of the three other rules, and if considered apart from them, this fourth one purportedly imposes no additional injury on regulated businesses and over-burdened States, even though those businesses and States are left much worse off on net even after EPA's "absurdity tailoring" than they would have been if the other three rules did not exist at all.

As the above outline sketches, in the absence of coordination, disconnected and conflicting contentions may well be invoked in an attempt to artificially truncate the litigating rights of SLF, the U.S. Chamber, CEI, PCA, and other petitioners by persistently contending that legal challenges be brought "somewhere else." On the one hand, it is absurd to contend that EPA and its allies may rewrite numerical thresholds embedded in statute; create the most expensive regulatory imposition in history; and then challenge the ability of States, businesses, policy groups, and others to obtain review of that Agency action. On the other hand, those nonsensical arguments may look tempting when considered in isolation, even though they are readily unmasked when considered in coordinated fashion. Absent coordination, it is likely that one or more parties supporting EPA will find the justiciability temptation irresistible and succumb to arguing that the petitioners' core legal challenges should always be dealt with in some docket other than the one at hand. With coordination, it is likely that this otherwise significant risk of a judicial review shell game will be altogether avoided.

C. COORDINATION IS BETTER THAN FULL CONSOLIDATION.

To be clear, the SLF, the U.S. Chamber, and the other petitioners joining this motion are not requesting that these cases be consolidated, even though under the consolidation procedure, "[e]ach case retains some of its individual identity." United States Court of Appeals for the District of Columbia Circuit, HANDBOOK OF PRACTICE AND INTERNAL PROCEDURES, 23 (as amended through May 10, 2010). Full consolidation would not be appropriate here because, in addition to the core question of EPA's authority to impose GHG controls on stationary sources, each case presents important particularized questions. *Cf. Fafarman v. EPA*, No. 96- 1392, 1997 WL 215951 (D.C. Cir. Apr. 25, 1997) (denying motion for consolidation though ordering coordinated treatment). Under present circumstances, judicial economy is best promoted by one set of briefs addressing at some length the common, cross-cutting questions such as the validity of EPA's imposition of GHG emissions controls on stationary sources, plus *separate* briefing for other issues.

Admittedly, this coordination motion is not a proper vehicle for asserting that the splintering of EPA's decisionmaking itself constitutes reversible error. Nor is this the place for urging that, despite the undoubted importance of EPA's four interconnected rules, EPA has failed to articulate a satisfactory legal basis for its authority to regulate stationary-source GHG emissions. Nor is now the time to explore how EPA's decisional splintering may have obscured the consequences of EPA's epic decisions concerning GHG regulation; or to say that EPA has failed adequately to support those decisions by providing a "rational connection between the facts found and the choice made." *State Farm*, 463 U.S. at 43.

But now surely is the time to take structural action so that EPA's unusual embrace of a four-way decisional split does not impede effective judicial review. Absent coordination, EPA's divided decisionmaking will require duplicative briefing; could well induce conflicting decisions on the core questions of whether and when the Act envisions EPA stationary-source GHG controls; and will hold out a perhaps irresistible temptation for parties supporting EPA to raise extended, unmeritorious justiciability arguments that they would otherwise forgo. All criteria for efficiency and fairness point to coordinated treatment of these cases.

CONCLUSION

For the foregoing reasons, the Court should designate the aforementioned collections of pending cases "complex"; coordinate (but not consolidate) briefing across these complex cases; and assign the management and resolution of the cases to a single, three judge panel for all purposes.

Respectfully submitted,

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August 26, 2010

ATTACHMENT A—Petitioners Requesting Coordination

1. Chamber of Commerce of the United States of America (petitioner in Nos. 10-1030, 10-1123, 10-1160, 10-1199, and 10-1235)

2. Clean Air Implementation Project (petitioner in Nos. 10-1099 and 10-1216)

3. Competitive Enterprise Institute, Freedom Works, and Science and Environmental Policy Project (petitioners in Nos. 10-1045 and 10-1143)

4. Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation (petitioner in Nos. 10-1114, 10-1158, and 10-1206)

5. Mark R. Levin and Landmark Legal Foundation (petitioners in Nos. 10-1152 and 10-1208)

6. Portland Cement Association (petitioners in Nos. 10-1046, 10-1129, 10-1159, and 10-1220)

7. Southeastern Legal Foundation, John Linder (U.S. Representative) (GA-7th); Dana Rohrabacher (U.S. Representative) (CA-46th); John Shimkus (U.S. Representative) (IL-19th); Phil Gingrey (U.S. Representative) (GA-11th); Lynn Westmoreland (U.S. Representative) (GA-3rd); Tom Price (U.S. Representative) (GA-6th); Paul Broun (U.S. Representative) (GA-10th); Steve King (U.S. Representative) (IA-5th); Jack Kingston (U.S. Representative) (GA-1st); Michele Bachmann (U.S. Representative) (MN-6th); Kevin Brady (U.S. Representative) (TX-8th); The Langdale Company; Langdale Forest Products Company; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw

Transportation, Inc.; J&M Tank Lines, Inc.; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc. (petitioners in Nos. 10-1035, 10-1083, 10-1094, 10-1131, and 10-1239); Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc.; Langdale Ford Company; Langboard, Inc.— MDF; Langboard, Inc.— OSB (petitioners in Nos. 10-1035, 10-1083, 10- 1131, and 10-1239); Nathan Deal (U.S. Representative) (GA-5th) (petitioner in Nos. 10-1035, 10-1083, and 10-1094); John Shadegg (U.S. Representative) (AZ3rd) and Dan Burton (U.S. Representative) (IN-5th) (petitioners in Nos. 10-1083, 10-1094, 10-1131, and 10-1239)

ATTACHMENT B—Cases for Which Coordination is Requested

The signatory petitioners identified above respectfully request the following groups of cases, identified by type and docket number below, be coordinated for purposes of briefing, argument, and disposition before the same panel: (1) all petitions challenging the Endangerment Rule; (2) all petitions challenging the Tailpipe Rule, (3) all petitions challenging the PSD Triggering Rule; (4) all petitions challenging the Absurdity / Tailoring Rule; and (5) all current or future petitions challenging Agency decisions on reconsideration regarding these four rules.

1. Petitions Challenging the Endangerment Rule

The following seventeen cases, all of which have been consolidated under lead case No. 09-1322:

a) *Coalition for Responsible Regulation, et al. v. EPA*, No. 09-1322

b) *National Mining Association v. EPA*, No. 10-1024

c) *Peabody Energy Co. v. EPA*, No. 10-1025

d) *American Farm Bureau Federation v. EPA*, No. 10-1026

e) *Chamber of Commerce of the United States of America v. EPA et al.*, No. 10-1030

f) *Southeastern Legal Foundation, Inc., et al. v. EPA*, No. 10-1035

g) *Commonwealth of Virginia v. EPA*, No. 10-1036

h) *Gerdau Ameristeel Corp. v. EPA*, No. 10-1037

i) *American Iron & Steel Institute v. EPA*, No. 10-1038

j) *Ohio Coal Association v. EPA*, No. 10-1040

k) *State of Texas, et al. v. EPA*, No. 10-1041

l) *Utility Air Regulatory Group v. EPA*, No. 10-1042

m) *National Association of Manufacturers, et al. v. EPA et al.*, No. 10-1044

n) *Competitive Enterprise Institute, et al. v. EPA*, No. 10-1045

o) *Portland Cement Association v. EPA*, No. 10-1046

p) *Alliance for Natural Climate Change Science, et al. v. EPA et al.*, No. 10-1049

2. Petitions Challenging the PSD Triggering Rule

a) *Coalition for Responsible Regulation, Inc., et al. v. EPA*, No. 10-1073

b) *Southeastern Legal Foundation, Inc., et al. v. EPA*, No. 10-1083, consolidated with *Clean Air Implementation Project v. EPA*, No. 10-1099

c) The following fifteen cases, which have been consolidated under lead case No. 10-1109:

   i. *American Iron & Steel Institute v. EPA*, No. 10-1109

   ii. *Gerdau Ameristeel US, Inc. v. EPA*, No. 10-1110

   iii. *Energy-Intensive Manufacturers' Working*

Group on Greenhouse Gas Regulation v. EPA, No. 10-1114

iv. *Center for Biological Diversity v. EPA*, No. 10-1115

v. *Peabody Energy Company v. EPA*, No. 10-1118

vi. *American Farm Bureau Federation v. EPA*, No. 10-1119

vii. *National Mining Association v. EPA*, No. 10-1120

viii. *Utility Air Regulatory Group v. EPA*, No. 10-1122

ix. *Chamber of Commerce of the United States of America v. EPA, et al.*, No. 10-1123

x. *Missouri Joint Municipal Electric Utility Commission v. EPA*, No. 10- 1124

xi. *National Environmental Development Association's Clean Air Project v. EPA*, No. 10-1125

xii. *Ohio Coal Association v. EPA*, No. 10-1126

xiii. *National Association of Manufacturers, et al. v. EPA, et al.*, No. 10- 1127

xiv. *State of Texas et al. v. EPA*, No. 10-1128

xv. *Portland Cement Association v. EPA*, No. 10-1129

3. Petitions Challenging the Tailpipe Rule

The following seventeen cases, all of which have been consolidated under lead case No. 10-1092:

a) *Coalition for Responsible Regulation, et al. v.*

EPA, No. 10-1092

b) *Southeastern Legal Foundation, Inc., et al. v. EPA and NHTSA*, No. 10-1094

c) *American Iron & Steel Institute v. EPA*, No. 10-1134

d) *Competitive Enterprise Institute, et al. v. EPA and NHTSA*, No. 10-1143

e) *Ohio Coal Association v. EPA*, No. 10-1144

f) *Mark R. Levin, et al. v. EPA*, No. 10-1152

g) *Gerdau Ameristeel US, Inc. v. EPA*, No. 10-1156

h) *Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation v. EPA*, No. 10-1158

i) *Portland Cement Association v. EPA*, No. 10-1159

j) *Chamber of Commerce of the United States of America v. EPA et al.*, No. 10-1160

k) *Utility Air Regulatory Group v. EPA*, No. 10-1161

l) *National Mining Association v. EPA*, No. 10-1162

m) *Peabody Energy Co. v. EPA*, No. 10-1163

n) *American Farm Bureau Federation v. EPA*, No. 10-1164

o) *National Association of Manufacturers, et al. v. EPA*, et al., No. 10-1166

p) *American Forest & Paper Association, Inc.*, No. 10-1172

q) *State of Texas, et al. v. EPA*, No. 10-1182

4. Petitions Challenging the Absurdity / Tailoring Rule

a) The following six cases, which have been consolidated under lead case No. 10-1131:

  i. *Southeastern Legal Foundation, Inc. et al. v. EPA*, No. 10-1131

  ii. *Coalition for Responsible Regulation, Inc., et al. v. EPA*, No. 10-1132

  iii. *Ohio Coal Association v. EPA*, No. 10-1145

  iv. *American Iron & Steel Institute v. EPA*, No. 10-1147

  v. *Gerdau Ameristeel US, Inc. v. EPA*, No. 10-1148

  vi. *Chamber of Commerce of the United States of America v. EPA, et al.*, No. 10-1199

b) The following twenty cases, which have been consolidated under lead case No. 10-1200:

  i. *Georgia Coalition for Sound Environmental Policy v. EPA*, No. 10- 1200

  ii. *National Mining Association v. EPA*, No. 10-1201

  iii. *American Farm Bureau Federation v. EPA*, No. 10-1202

  iv. *Peabody Energy Company v. EPA, No. 10-1203 v. Center for Biological Diversity v. EPA*, No. 10-1205

  vi. *Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation v. EPA*, No. 10-1206

vii. *South Carolina Public Service Authority v. EPA*, No. 10-1207

viii. *Mark R. Levin, et al. v. EPA*, No. 10-1208

ix. *National Alliance of Forest Owners, et al. v. EPA*, No. 10-1209

x. *National Environmental Development Association's Clean Air Project v. EPA*, No. 10-1210

xi. *State of Alabama, et al. v. EPA*, No. 10-1211

xii. *Utility Air Regulatory Group v. EPA*, No. 10-1212

xiii. *Missouri Joint Municipal Electric Utility Commission v. EPA*, No. 10- 1213

xiv. *Sierra Club v. EPA*, No. 10-1215

xv. *Clean Air Implementation Project v. EPA*, No. 1216

xvi. *National Association of Manufacturers, et al. v. EPA, et al.*, No. 10- 1218

xvii. *National Federation of Independent Business v. EPA, et al.*, No. 10- 1219

xviii. *Portland Cement Association v. EPA*, No. 10-1220

xix. *Louisiana Department of Environmental Quality v. EPA*, No. 10-1221

xx. *State of Texas, et al. v. EPA*, No. 10-1222

5. Current (or Any Future Petitions) Challenging Agency Decisions on Reconsideration Regarding the Four Rules

The following four cases, all of which have been consolidated under lead case No. 10-1234, and also any future cases challenging the Agency decisions on reconsideration regarding the four Rules:

a) *Coalition for Responsible Regulation, et al. v. EPA*, No. 10-1234

b) *Chamber of Commerce of the United States of America v. EPA, et al.*, No. 10-1235

c) *Southeastern Legal Foundation, Inc., et al. v. EPA*, No. 10-1239

d) *Peabody Energy Co. v. EPA*, No. 10-1245

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

COALITION FOR RESPONSIBLE REGULATION, INC., et al.

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Respondent

LEAD CASE NOs.: (i) 09-1322 (Endangerment); (ii) 10-1234 (Endangerment Reconsideration) (consolidated with 09-1322); (iii) 10-1073 (Timing); (iv) 10-1131(Tailoring) (consolidated with 10-1073); (v) 10-1092 (Auto); and (vi) 10-1167 (Grounds Arising After)

****

COMPLEX

(Resolved by Unified Judgment & Opinion, 684 F.3d 102 (June 26, 2012))

CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA'S COMBINED PETITION FOR PANEL REHEARING OR FOR REHEARING EN BANC

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STATEMENT CONCERNING MEMBER CASE PARTICIPATION

The Chamber of Commerce of the United States of America ("Chamber") is the Petitioner in (1) Case Nos. 10-1030 and 10-1235 ("Endangerment" and "Endangerment Reconsideration," respectively, consolidated with lead case No. 09-1322); (2) Case Nos. 10-1123 and 10-1199 ("Timing" and "Tailoring," respectively, consolidated with lead case No. 10-1073); and (3) Case No. 10-1160 ("Auto" consolidated with lead case No. 10-1092); (4) and Petitioner-Intervenor in Case No. 10-1167 ("Grounds Arising After," lead case, consolidated with 11 others). Hence, the Chamber is a Petitioner in all of the cases resolved in the single Panel decision issued on June 26, 2012.

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[TABLE OF AUTHORITIES OMITTED]

TABLE OF ABBREVIATIONS

ANPRM	Advanced Notice of Proposed Rulemaking
CAA	Clean Air Act
EPA	Environmental Protection Agency
GHG	Greenhouse Gas
Op.	Panel Opinion, *Coalition for Responsible Regulation, Inc., et al., v. EPA, et al.* (D.C. Cir. June 26, 2012)
PSD	Prevention of Significant Deterioration

FEDERAL RULE OF APPELLATE PROCEDURE 35(b) STATEMENT

The suite of rules challenged in these coordinated cases embody the most burdensome, costly, far-reaching program ever adopted by a United States regulatory agency — a point the Environmental Protection Agency has never contested. Petitioner Chamber of Commerce of the United States of America (the "Chamber") submits that rehearing en banc is warranted because the panel decision (i) conflicts with several decisions of the United States Supreme Court and this Court, including *Massachusetts v. EPA*, 549 U.S. 497 (2007), *Tesoro Alaska Petroleum Co. v. FERC*, 234 F.3d 1286, 1293-94 (D.C. Cir. 2000), and *Martini v. Federal National Mortgage Ass'n*, 178 F.3d 1336, 1345 (D.C. Cir. 1999); and (ii) involves numerous questions of exceptional importance affecting the entire national economy. Among these important questions is whether the Panel erred by upholding EPA's decision to rewrite statutory requirements to avoid the absurd consequences EPA acknowledged were entailed by its rules, and whether the Panel erred by allowing EPA to shield its unprecedented claim of statutory-rewrite authority from meaningful review through use of an administrative "shell game."

BACKGROUND

In *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court established a limited but significant proposition the Chamber does not challenge here: Greenhouse gases ("GHGs") are defined as "air pollutants" within the meaning of Clean Air Act

("CAA") Section 202(a)(1), which allows EPA to regulate emissions from new motor vehicles. *See* 42 U.S.C. § 7521(a)(1). ***Massachusetts*** recognized that it had no need to "reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding." *Massachusetts*, 549 U.S. at 534-35. Critically, ***Massachusetts*** never held that EPA was *obligated* to regulate GHGs — not from motor vehicles, and certainly not from stationary sources, which were not even at issue in the case. Nor is there anything in *Massachusetts* that purports to authorize EPA to rewrite the Clean Air Act.

In the wake of *Massachusetts*, EPA opened a single regulatory docket to address GHG emissions matters in comprehensive fashion, issuing a unified Advance Notice of Proposed Rulemaking ("ANPRM"). *See* 73 Fed. Reg. 44,354 (July 30, 2008). The seeds for the errors committed by EPA — all left unremedied by the Panel — were sown by EPA's abandoning, without explanation, this entirely natural approach to the *Massachusetts* decision and remand.

The Piecemeal Approach. EPA's ultimate approach to implementing *Massachusetts* involves a series of four closely interconnected rulemakings that the Agency carefully split up and thereby crafted to evade judicial review of the most critical step in its cascade of regulation — the point at which EPA decided to rewrite (and thus violate) the Clean Air Act.

First, EPA issued a freestanding "Endangerment Rule," concluding that greenhouse gases may reasonably be anticipated to endanger public health or welfare. *See* 74 Fed. Reg. 66,496 (Dec. 15, 2009). The Endangerment Rule represented the first time that EPA had ever found "endangerment" without addressing how, whether, or to what extent regulation of the supposedly "endangering" emissions from motor vehicles under *Section 202(a)(1)* would redress the risks EPA purported to identify.

Second, having issued its Endangerment Rule, EPA concluded that it was obligated under the statute to regulate emissions from new cars and light trucks. EPA therefore issued its Auto Rule. *See* 75 Fed. Reg. 25,324 (May 7, 2010).

Third, EPA concluded that having issued the Auto Rule, it was further obligated to regulate stationary sources of greenhouse gases under two separate programs: (i) the Prevention of Significant Deterioration of Air Quality ("PSD") Title I program, which requires state-issued construction permits for certain types of stationary sources if they have the potential to emit more than either 100 tons per year or 250 tons per year of any pollutant, varying by type; and (ii) Title V, which requires state-issued operating permits for stationary sources with the potential to emit at least 100 tons per year of any air pollutant.

Because GHGs are emitted in far greater quantities than other pollutants, EPA recognized that its Endangerment Rule set in motion a regulatory cascade that Congress never intended, including (as just one example) $22.5 *billion* of permit paperwork costs alone (compared to the prior $74 *million*). *See* 75 Fed. Reg. 31,514, 31,540 & Table V-I. Indeed, EPA recognized that the number of facilities subject to PSD and Title V would jump from 15 thousand to 6.1 million. *See id.*

EPA recognized that these unintended effects were so severe that they were "absurd." *Id.* at 31,517. But rather than considering the obvious possibility that arriving at an absurd endpoint meant that EPA had misconstrued the statute, failed to exercise proper interpretive discretion, or perhaps taken some other wrong turn, EPA claimed license to handle the absurdity by violating the statute through a wholesale rewriting of the PSD and Title V numerical thresholds.

Fourth, to implement this statutory rewrite, EPA built upon the Endangerment and Auto Rules by issuing two more rules, the Timing and Tailoring Rules. The Timing Rule delayed regulation of major stationary emitters of GHGs until January 2, 2011, the date the Auto Rule took effect. *See* 75 Fed. Reg. 17,004 (Apr. 2, 2010). The Tailoring Rule was more significant. Whereas Congress directed that the PSD and Title V programs would apply to facilities discharging more than either 100 or 250 tons per year of regulated pollutants, the Tailoring Rule reconstructed the statute to provide that only sources emitting more than 75,000 or 100,000 tons per year of GHGs will be subject to permitting requirements, while at the same time leaving EPA discretion to reduce the threshold over time as it sees fit. 75 Fed. Reg. 31,514 (June 3, 2010). These new thresholds, wholly invented by EPA, are several orders of magnitude higher than the thresholds mandated by Congress.

As a result of EPA's approach, none of its four purportedly separate rules tries to construe the Clean Air Act as a coherent whole. None sets forth an analysis of the rules' total costs or other impacts on private businesses. And nowhere did EPA provide the necessary "rational connection between the facts found [in the Endangerment Rule] and the choice made" in the ensuing rules. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

The Challenge and Panel Decision. An exceptionally broad and diverse coalition of States and business groups challenged this domino-like series of rules, as well as EPA's refusal to reconsider the Endangerment Rule. Although EPA's rules all hinge on its decision to violate and rewrite the statute, on June 26, 2012, the Panel ruled down the line for EPA. *See Coalition for Responsible Regulation v. EPA*, No. 09-1322 (D.C. Cir. June 26, 2012) ("Op.").

Perhaps most significantly, the Panel accepted EPA's argument that there was no judicial forum in which Petitioners could ever challenge the concededly absurd regulatory regime EPA had strategically pieced together. In response to the Chamber's argument that the Endangerment Rule was unlawful because it ignored statutory text and admittedly produced "absurd results" not intended by Congress, the Panel explained that the conceded absurdity was "irrelevant to the endangerment inquiry." According to the Panel, the "Act does not leave room for EPA to consider as part of the endangerment inquiry the stationary-source regulation triggered by an endangerment finding." Op. 26. Yet when the Chamber tried to challenge the stationary-source-focused Tailoring Rule, the Court held that it lacked standing to do so, because, according to the Panel, the Tailoring Rule merely eased the regulatory burdens that EPA had set in motion in the related Endangerment Rule. *See* Op. 77. The Panel thus rewarded EPA's "shell game" of designing, promulgating, and hermetically sealing off multiple regulations, sidestepping entirely the merits of the Chamber's principal challenge to what is the most sweeping regulatory program in EPA's history.

ARGUMENT

I. THE PANEL ERRED ON STANDING BY ALLOWING EPA TO PLAY A SHELL GAME TO EVADE JUDICIAL REVIEW.

Administrative agencies may not "use shell games to elude review." *Tesoro*, 234 F.3d at 1293-94. But that is precisely what happened here — with the Panel's blessing. With regard to the Endangerment Rule, the Panel held the Chamber could not challenge the absurd consequences that admittedly flowed from the Rule, because the Endangerment Rule was merely a statutory prerequisite that did not by itself set regulatory standards. *See* Op. 26-27. Then, when the Chamber argued that the Tailoring Rule had unlawfully attempted to dodge the conceded absurdity by rewriting the statute, the Panel held that the Chamber lacked standing because the Tailoring Rule eased the regulatory burdens set in motion by the Endangerment Rule. *See id.* at 77. These two holdings cannot both be right — and as explained below, neither is.

Endangerment Rule. The Panel concluded that the Chamber could not challenge the Endangerment Rule because the absurdity it set in motion had to be litigated in a challenge to the follow-on rules, not to the Endangerment Rule itself. But the Endangerment Rule is the root cause of the absurdity that the Tailoring Rule seeks to address. Without it, there would be no Auto Rule; and without the Auto Rule, EPA would have no basis for its claim that the PSD program has been triggered; and without a triggering of the PSD program, EPA would have had no excuse for rewriting numerical thresholds fixed by Congress. When the Panel accepted EPA's argument that in challenging the stationary-source regulations the Chamber was required to take the Endangerment and Auto Rules as a given, its approach stacked the deck on both standing and the merits, countenancing the very type of administrative shell game this Court's decisions forbid.

Tailoring Rule. Even if the Panel were correct that the Chamber could only challenge the stationary-source regulations through an attack on the Tailoring Rule, the Panel erred by concluding that the Chamber lacked standing to do so. As the Chamber stressed below, the Tailoring Rule is not a disconnected rule to be evaluated in isolation as if, for instance, it were issued as a deregulatory measure long after some regulatory regime had been independently promulgated, upheld on review, and enforced in practice. Rather, the Tailoring Rule is an integral part of a comprehensive new program of GHG regulation that was conceived and developed in the same timeframe with the express purpose of unleashing new GHG regulation across the entire national economy. It should make no difference whether EPA issued its GHG rules in one rule, as contemplated by the ANPRM, or fractured them into multiple *Federal Register* notices, as it did. Because the Tailoring Rule is an indivisible part of the GHG suite, the Chamber enjoys standing to challenge it. *See Catholic Soc. Servs. v. Shalala*, 12 F.3d 1123, 1125-26 (D.C. Cir. 1994).

In any event, the Chamber's members include numerous GHG emitters who will remain subject to PSD despite the higher regulatory thresholds promulgated in the Tailoring Rule — even while those same higher thresholds effectively exempt from regulation many other businesses. These Chamber members who remain subject to PSD despite the Tailoring Rule will thus face serious and obvious competitive disadvantages — granting those members competitor standing even if standing to challenge the Tailoring Rule were (incorrectly) considered only in isolation. *See, e.g., Inv. Co. Inst. v. Camp*, 401 U.S. 617, 620-21 (1971); *New World Radio, Inc. v. FCC*, 294 F.3d 164, 170 (D.C. Cir. 2002); *La. Energy & Power Auth. v. FERC*, 141 F.3d 364, 367 (D.C. Cir. 1998); *Bristol-Myers Squibb Co. v. Shalala*, 91 F.3d 1493, 1497-99 (D.C. Cir. 1996).

II. TWO KEY PANEL MERITS RULINGS ARE INCORRECT.

It is axiomatic that review of regulatory action is governed by the two-step process of *Chevron*. Moreover, even where Congress has left an agency the choice of whether to regulate or not, the agency must still explain a "rational connection between the facts found and the choice made." *State Farm*, 463 U.S. at 43. EPA's suite of GHG regulations flunk both *Chevron* step one and *State Farm* review.

A. The Panel's Resolution Of The Absurdity Issue Was Error.

In determining the intent of Congress at *Chevron* step one, the Court must "employ[] traditional tools of statutory construction." *Chevron U.S.A., Inc. v. NRDC*, 467 U.S. 837, 843 n.9 (1984). Among those tools is the requirement that agencies must interpret statutes structurally and as a whole. *See, e.g., ETSI Pipeline Project v. Missouri*, 484 U.S. 495, 517 (1998); *City of Tacoma v. FERC*, 331 F.3d 106, 114 (D.C. Cir. 2003).

EPA perceived early on, well before issuing its Endangerment Rule under Title II's Section 202(a), that finding endangerment would trigger effects that would violate foundational limits on the Title I PSD program: "Applying the [statutory] PSD thresholds to sources of GHG emissions literally results in a PSD program that is so contrary to what Congress had in mind — and that in fact so undermines what Congress attempted to accomplish with the PSD requirements — that it should be avoided under the 'absurd results' doctrine." 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009); *see also id.* (same for Title V permitting regulations).

EPA's only answer to the objections that it lacked authority to issue an Endangerment Finding under the Act's Title II — if doing so would lead to consequences inconsistent with those contemplated by Congress in enacting the Act's Title I PSD and Title V permitting programs — was to conclude that it could invoke the absurdity canon to rewrite the statute's PSD and Title V provisions. According to EPA, this would make GHG regulation fit with Congress's indisputable intent that the PSD program apply only to a small number of large emissions sources. In other words, to meet the *Chevron* step one objection that EPA was ignoring the CAA as a whole, EPA tried to invoke the absurdity canon, which also forms part of *Chevron* step one. *See Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1067-68 (D.C. Cir. 1998) (*Chevron* case involving the absurdity canon, relied upon by EPA here to defend its Endangerment Rule).

But the Tailoring Rule cannot be invoked to cure the absurdity unleashed by the Endangerment Rule. Under settled law, absurd statutory applications can be avoided only by "adopting a restricted rather than a literal or usual meaning" of statutory language. *In re Trans Alaska Pipeline Cases*, 436 U.S. 631, 643 (1978); *see also Green v. Bock Laundry Mach. Co.*, 490 U.S. 504, 510 (1989). The "rule that statutes are to be read to avoid absurd results" allows an agency to establish that seemingly clear statutory language does not reflect the "unambiguously expressed intent of Congress," but it does not grant the agency "a license to rewrite the statute." *Mova*, 140 F.3d at 1068.[‡] No agency has authority to use the canon of absurd results as a form of alchemy to "interpret" and thereby transform the specific numerical values in a statute into completely different numerical values.

EPA was thus left with no answer to the point that the statutory text did not allow it to issue a Title II Endangerment Rule that would unavoidably lead to the promulgation of Title I PSD and Title V permitting regulations contrary to Congress's intent as expressed in those other portions of the same congressional enactment. *See, e.g., Martini v. Fed. Nat'l Mortg. Ass'n*, 178 F.3d 1336, 1345 (D.C. Cir. 1999) ("[W]e have a duty to conduct an independent examination of the statute in question, looking not only to the particular statutory language at issue, but also to the language and design of the statute as a whole." (internal quotation marks and citations omitted)).

EPA then compounded its error by contending that Section 202(a)(1) stood as if it were an impregnable fortress walled off from the rest of the statute and, hence, that EPA could issue an Endangerment Rule divorced from the Rule's impact on EPA's ability to abide by other parts of the statute's text. Such a myopic view of agency authority is, by definition, arbitrary. *See Prill v. NLRB*, 755 F.2d 941, 947-48

[‡] *See generally* John F. Manning, *The Absurdity Doctrine*, 116 HARV. L. REV. 2387, 2409 (2003) ("[A]n unwillingness to sacrifice textually specified means for more remote statutory ends lies at the core of modern textualism.").

(D.C. Cir. 1985). As the Supreme Court has underscored, a statute must be interpreted as a coherent whole. *See U.S. Nat'l Bank of Oregon v. Indep. Ins. Agents of Am.*, 508 U.S. 439, 455 (1993) ("Over and over we have stressed that in expounding a statute, we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy.").

In rejecting both the *Chevron* step one challenge and the related *Prill* challenge, the Panel seriously erred, asserting that "the Supreme Court has already held that EPA indeed wields the authority to regulate greenhouse gases under the CAA." Op. 26; *contrast Massachusetts*, 549 U.S. at 534-35 ("We need not and do not reach the question whether on remand EPA must make an endangerment finding ...."). Indeed, the holding the Panel attributed to *Massachusetts* was expressly disavowed by *Massachusetts* itself. In truth, *Massachusetts* held only that GHGs are "air pollutants" within the meaning of Section 202(a)(1); it did not hold that Congress effectively required their regulation from new vehicles under Section 202(a)(1); it did not hold that Congress required their regulation from stationary sources, which were not even before the Court in *Massachusetts*; and it certainly did not authorize EPA to rewrite the Act. *See Massachusetts*, 549 U.S. at 535 (going no farther than to instruct EPA on remand to "ground its reasons for action *or inaction* in the statute") (emphasis added). If the Supreme Court had held that EPA had no alternative but to regulate, then its express remand instructions — which contemplate regulatory "inaction" — would make no sense.

Respectfully, the Panel's error in this regard is clear and grave.

B. The Panel Also Erred In Its Treatment Of The "Adaptation And Mitigation" Issue.

An equally clear error by the Panel is found in its refusal to follow the statute's plain terms, allowing EPA to engage in rewriting the text of Title II as well as Titles I and V. The Act's Section 202(a)(1) permits the Administrator to regulate emissions "which in [her] judgment cause, or contribute to, air pollution which may *reasonably be anticipated* to endanger public health or welfare." 42 U.S.C. § 7521(a)(1) (emphasis added); *see also* 74 Fed. Reg. at 66,505. That statutory text plainly and unequivocally calls for analysis of what realistically can be expected to occur in the real world, not for speculation or worst-case assessment. In this case, EPA violated this statutory directive by refusing to consider a critical real-world factor — natural adaptation and mitigation patterns that predictably occur as climates change over time — that the statute does not permit it to ignore. The U.N. science reports that EPA considered identify reasonably anticipated human demographic shifts that occur — not as some policy "cure" — but as natural, predictable human behaviors organically arising over long timespans. Unhelpfully for EPA, these factors cut strongly against the conclusion that GHGs endanger health and welfare, and they were ignored by EPA.

In unleashing the exceptionally burdensome regulations challenged here, EPA's Endangerment Rule observed that nothing can "change the issue before EPA — does the air pollution endanger public health or welfare, *without considering future planned adaptation or mitigation?*" 09-1322 JA3607 (emphasis added). But this made-up test engrafts new words into a statute that, as written, does not permit EPA to make artificial distinctions among categories of "reasonably anticipated" health and welfare effects. Although extraordinarily long time periods are inherently involved in assessing issues of climate change, EPA refused to acknowledge that the statute requires consideration of geographic, demographic, and behavioral adaptations that naturally occur and that could avert "endangerment" by means of real-world actions taken before harms ever arise. Plainly, to the extent such adaptive and mitigating actions are reasonably anticipated, EPA's emissions forecasts could not be "reasonably anticipated" to endanger within the meaning of the Act's text. *See* 74 Fed. Reg. 66,512 (conceding that adaptation will likely "help protect public health and welfare from certain impacts of climate change").

The Panel nonetheless gave short shrift to the Chamber's statutory construction. *See* Op. 24-25 ("Instead of focusing on the question whether greenhouse gas emissions may reasonably be anticipated to endanger public health or welfare, the factors State and Industry Petitioners put forth only address what might happen were EPA to answer that question in the affirmative."). The Panel failed to grapple with the principal thrust of the Chamber's statutory argument — that wholly foreseeable adaptation and mitigation responses over long time periods might limit any endangerment, within the meaning of the statute, *before it ever occurs*. Thus, the Panel embraced EPA's similar mistake in the rulemaking below, which mischaracterized the statutory argument over adaptation and mitigation as involving only "future *planned*" actions. 09-1322 JA3607 (emphasis added).

By describing the Chamber's statutory construction as merely involving the possibility that adaptation and mitigation might occur *following* endangerment, the Panel (and EPA) rebutted a straw-man argument the Chamber did not advance. The Panel (and EPA) thus provided no adequate response to the Chamber's true argument: the statutory text of "reasonably be anticipated to endanger public health or welfare" readily encompasses spontaneous but reasonably predictable human behaviors as an essential aspect of the statutory inquiry into whether changes in climate will lead to public endangerment. *Chevron* step one is a vital constraint on agency attempts to overreach beyond the limited sphere of authority Congress actually confers. But here, the Panel failed even to consider whether the statutory text required EPA to take adaptation into account in promulgating its Endangerment Rule.

CONCLUSION

The Court should grant *en banc* or panel rehearing to ensure that the Panel's errors are corrected, and most importantly, to ensure that EPA's unprecedented regulation of the entire national economy is subject to meaningful judicial review. An important irony of these cases is that *Massachusetts* never could have anticipated that, after extending existing standing doctrine to confer standing on the proponents of GHG regulation (in a mere rulemaking petition denial case), the businesses that are direct objects of such regulation would somehow be denied standing to challenge the linchpin of EPA's response on remand — its brazen decision to rewrite numerical, statutory thresholds delineated by Congress. The Panel's counterintuitive standing decision, and its equally insupportable merits decisions, are wrong and worthy of further judicial scrutiny.

AUGUST 10, 2012 Respectfully submitted,

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[ADDENDUM OMITTED]

[CERTIFICATE OF SERVICE OMITTED]

OPPOSITION
BRIEF

Supreme Court, U.S.
FILED
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OFFICE OF THE CLERK

Nos. 12-1146, 12-1152, 12-1153, 12-1248, 12-1253,
12-1254, 12-1268, 12-1269 and 12-1272

In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, PETITIONER
v.
ENVIRONMENTAL PROTECTION AGENCY

COMMONWEALTH OF VIRGINIA, ET AL., PETITIONERS
v.
ENVIRONMENTAL PROTECTION AGENCY

PACIFIC LEGAL FOUNDATION, PETITIONER
v.
ENVIRONMENTAL PROTECTION AGENCY

ON PETITIONS FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENTS IN OPPOSITION

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American Chemistry Council, et al., petitioners
v.
Environmental Protection Agency, et al.

Coalition for Responsible Regulation, Inc.,
et al., petitioners
v.
Environmental Protection Agency, et al.

Energy-Intensive Manufacturers Working
Group on Greenhouse Gas Regulation, et al.,
petitioners
v.
Environmental Protection Agency, et al.

Southeastern Legal Foundation, Inc., et al.,
petitioners
v.
Environmental Protection Agency, et al.

State of Texas, et al., petitioners
v.
Environmental Protection Agency, et al.

Chamber of Commerce of the United States,
et al., petitioners
v.
Environmental Protection Agency, et al.

QUESTIONS PRESENTED

Petitioners challenge administrative decisions of the United States Environmental Protection Agency (EPA) relating to the regulation of greenhouse gas emissions under the Clean Air Act (CAA), 42 U.S.C. 7401 *et seq.* The questions presented are as follows:

1. Whether the EPA properly concluded that elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger public health or welfare, and that motor-vehicle emissions contribute to that air pollution (Endangerment Finding).
2. Whether the EPA appropriately prescribed new motor-vehicle emission standards for greenhouse gases following its Endangerment Finding.
3. Whether the EPA correctly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the CAA for stationary sources that emit greenhouse gases.
4. Whether petitioners have standing to challenge the EPA's implementation of the stationary-source permitting requirements applicable to the emission of greenhouse gases.

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In the Supreme Court of the United States

Nos. 12-1146

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ENERGY-INTENSIVE MANUFACTURERS WORKING
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STATE OF TEXAS, ET AL., PETITIONERS
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ENVIRONMENTAL PROTECTION AGENCY, ET AL.

No. 12-1272

CHAMBER OF COMMERCE OF THE UNITED STATES,
ET AL., PETITIONERS
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON PETITIONS FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENTS IN OPPOSITION

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. 6a-107a)[1] is reported at 684 F.3d 102. Final actions of the Environmental Protection Agency are published at 75

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[1] Citations to "Pet. App." are to the appendix to the petition in No. 12-1146.

Fed. Reg. 31,514 (June 3, 2010); 75 Fed. Reg. 25,324 (May 7, 2010); 75 Fed. Reg. 17,004 (Apr. 2, 2010); 74 Fed. Reg. 66,496 (Dec. 15, 2009); 67 Fed. Reg. 80,186 (Dec. 31, 2002); 45 Fed. Reg. 52,676 (Aug. 7, 1980); 43 Fed. Reg. 26,388 (June 19, 1978); and 43 Fed. Reg. 26,380 (June 19, 1978).

JURISDICTION

The judgment of the court of appeals was entered on June 26, 2012. Petitions for rehearing were denied on December 20, 2012 (Pet. App. 603a-607a). The petitions for a writ of certiorari in Nos. 12-1146, 12-1152, and 12-1153 were filed on March 20, 2013. On March 7, 8, 11, and 12, 2013, the Chief Justice extended the time within which to file a petition for a writ of certiorari in Nos. 12-1248, 12-1253, 12-1254, 12-1268, 12-1269, and 12-1272 to and including April 19, 2013. The petitions in No. 12-1253 and 12-1254 were filed on April 17, 2013. The petition in No. 12-1248 was filed on April 18, 2013. The petitions in No. 12-1268, 12-1269, and 12-1272 were filed on April 19, 2013. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

This case involves challenges to administrative decisions of the Environmental Protection Agency (EPA) regulating greenhouse gas emissions from mobile and stationary sources. In *Massachusetts* v. *Environmental Protection Agency*, 549 U.S. 497 (2007), this Court held that greenhouse gases are "air pollutant[s]" within the meaning of the Clean Air Act (CAA or Act), 42 U.S.C. 7401 *et seq.* 549 U.S. at 528-529. The Court further held that the CAA "requires the [EPA] to regulate emissions" of greenhouse gases from new motor vehicles if the agency determines that greenhouse gases may endanger public health or welfare. *Id.* at 533.

On remand, the EPA made an endangerment finding, 74 Fed. Reg. 66,497 (Dec. 15, 2009), and it subsequently promulgated standards regulating the emission of greenhouse gases from certain new motor vehicles, 75 Fed. Reg. 25,324 (May 7, 2010). The EPA also implemented statutory permitting requirements for certain stationary sources of greenhouse gases. 75 Fed. Reg. 17,004 (Apr. 2, 2010); 75 Fed. Reg. 31,514 (June 3, 2010). The court of appeals denied, in part, petitions for review challenging the EPA's actions; it dismissed the petitions insofar as they asserted claims for which the court found that no party had standing. Pet. App. 6a-107a.

1. Congress enacted the CAA to address "the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles," which "has resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation." 42 U.S.C. 7401(a)(2). The Act establishes a "lengthy, detailed, technical, complex, and comprehensive" framework for regulating air pollution. *Chevron U.S.A. Inc.* v. *Natural Res. Def. Council, Inc.*, 467 U.S. 837, 848 (1984). Congress authorized the EPA to promulgate regulations implementing the CAA. 42 U.S.C. 7601(a). States and Indian Tribes also implement aspects of the CAA, subject to federal oversight. See, *e.g.*, 42 U.S.C. 7410.

The Act defines the term "air pollutant" to mean "any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air," including any precursors to the formation of such air pollutant. 42 U.S.C. 7602(g). References in the CAA to "effects on welfare" include "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to * * * property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being." 42 U.S.C. 7602(h).

The CAA regulates air pollution emitted by both mobile and stationary sources. Title II of the Act establishes a framework for federal control of pollution from motor vehicles and other mobile sources. 42 U.S.C. 7521-7590. Section 202(a)(1) directs the EPA to determine whether, in its judgment, a particular form of air pollution "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1).[2] If the EPA makes an endangerment finding, Section 202(a)(1) directs the agency to "prescribe * * * standards applicable to the emission of [the] air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [the EPA's] judgment cause, or contribute to," the air pollution that may endanger public health or welfare. *Ibid.*

Titles I and V of the CAA focus on stationary sources of air pollution, such as power plants. 42 U.S.C. 7401-7515, 7661-7661f. Section 165 of the CAA requires any new "major emitting facility," or one to which a major modification is made, to obtain a pre-construction permit to ensure the prevention of significant deterioration (PSD) of air quality. 42 U.S.C. 7475. The definition of "major emitting facility" includes stationary sources exceeding specified amounts of emissions "of any air pollutant." 42 U.S.C. 7479(1). Permitting requirements under the PSD program apply to "any * * * applicable emission standard or standard of performance under [the CAA]." 42 U.S.C. 7475(a)(3)(C). A permit application must show that the facility will employ "the best available control technology for each pollutant subject to regulation under [the CAA]." 42 U.S.C. 7475(a)(4). Similarly, Title V requires operating permits for stationary sources of air pollution exceeding specified amounts of emissions "of any air pollutant." 42 U.S.C. 7602(j); see 42 U.S.C. 7661(2)(B), 7661a(a).

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[2] References to sections of the CAA are to the Act as amended by, *inter alia*, Pub. L. No. 89-272, 79 Stat. 992 and Pub. L. No. 95-95, 91 Stat. 685.

2. In 2003, the EPA denied a petition for rulemaking that had asked the agency to regulate greenhouse gas emissions from new motor vehicles under Section 202 of the CAA. *Massachusetts*, 549 U.S. at 511; see 68 Fed. Reg. 52,922 (Sept. 8, 2003). That denial was based in part on the agency's determination that it lacked regulatory authority over emissions of greenhouse gases because such gases do not qualify as "air pollutant[s]" under the Act. *Massachusetts*, 549 U.S. at 511-513. In overturning that decision, this Court had "little trouble concluding" that greenhouse gases come within the EPA's regulatory authority, in light of the "Act's sweeping definition of 'air pollutant.'" *Id.* at 528 (quoting 42 U.S.C. 7602(g)).

The Court in *Massachusetts* remanded the matter for further consideration by the EPA. The Court did "not reach the question whether on remand EPA must make an endangerment finding." 549 U.S. at 534. The Court observed, however, that "[i]f EPA makes a finding of endangerment, the [CAA] requires the Agency to regulate emissions of the deleterious pollutant from new motor vehicles." *Id.* at 533.

a. In response to the Court's decision, the EPA "compil[ed] and consider[ed] a considerable body of scientific evidence," Pet. App. 26a, and determined "that elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations." 74 Fed. Reg. at 66,516 (Endangerment Finding).[3] The agency found that "atmospheric greenhouse gas concentrations are now at elevated and essentially unprecedented levels," and that the increase in each component gas is either "primarily" or "almost entirely anthropogenic in origin." *Id.* at 66,517. The EPA also found that mean global temperatures "show an unambiguous warming trend over the last 100 years, with the greatest warming occurring over the past 30 years." *Ibid.* The EPA recognized the existence of some continuing uncertainty regarding the causes of climate change. *Id.* at 66,518; see *id.* at 66,506, 66,523-66,524. The agency found, however, that "multiple lines" of "compelling" evidence support the conclusion that recent global warming is "due to the observed increase in anthropogenic greenhouse gas concentrations." *Id.* at 66,518; see generally *American Electric Power Co.* v.

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[3] The EPA made this finding "specifically with regard to six key directly-emitted, long-lived and well-mixed greenhouse gases: Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride." 74 Fed. Reg. at 66,516.

Connecticut, 131 S. Ct. 2527, 2533 (2011) (discussing EPA Endangerment Finding).

The EPA further found that greenhouse gas air pollution is reasonably anticipated to endanger both public health and public welfare. 74 Fed. Reg. at 66,523. With respect to endangerment of public health, the EPA explained that the global warming caused by greenhouse gas emissions will produce an increase in heat-related deaths; an increase in respiratory illness and premature death relating to poor air quality; an increased risk of death, injury, and disease relating to extreme weather events; and an increase in food- and water-borne diseases. *Id.* at 66,524-66,526. The agency also determined that greenhouse gas air pollution is reasonably anticipated to endanger public welfare by causing "net adverse impacts on U.S. food production and agriculture, with the potential for significant disruptions and crop failure in the future"; by "endanger[ing] U.S. forestry in both the near and long term"; by "adversely affect[ing] water quality" and increasing the "risk of serious adverse effects from extreme events of flooding and drought"; by increasing the "risk of storm surge and flooding in coastal areas from sea level rise"; by causing adverse impacts on infrastructure, energy production, and distribution capacity; and by causing "predominantly negative consequences" for ecosystems and wildlife. *Id.* at 66,530-66,535; see 42 U.S.C. 7602(h) (defining "effects on welfare").

Having determined that greenhouse gases are a form of "air pollution which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. 7521(a)(1), the EPA next found "that emissions of the well-mixed greenhouse gases from new motor vehicles contribute to" that air pollution, 74 Fed. Reg. at 66,537. The EPA determined that motor vehicles subject to regulation under CAA Section 202 are responsible for 23.5% of all greenhouse gas emissions in the United States and for 4.3% of such emissions worldwide. *Id.* at 66,539.[4]

b. In a joint rulemaking, the EPA and the National Highway Traffic Safety Administration (NHTSA) subsequently issued rules regulating greenhouse gas emissions from new light-duty vehicles manufactured in model years 2012-2016 and setting average fuel-economy levels for those vehicles. 75 Fed. Reg. at 25,324 (Tailpipe Rule). Those rules, which were promulgated pursuant to the EPA's authority under CAA Section 202 and NHTSA's authority under the Energy Policy and Conservation Act, 49 U.S.C. 32902(a), are intended to "achieve substantial reductions of [greenhouse gas] emissions and improvements in fuel economy." 75 Fed. Reg. at 25,326; see *id.* at 25,327 ("[T]he relationship between improving fuel economy and reducing CO_2 tailpipe emissions is a very direct and close one."). The EPA estimates that the greenhouse gas standards will "result in approximately 960 million metric tons of total carbon dioxide equivalent emissions reductions" over the lifetime of the covered vehicles. *Id.* at 25,328.[5]

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[4] The EPA denied petitions for reconsideration of the Endangerment Finding, concluding that petitioners' "arguments and evidence are inadequate, generally unscientific, and do not show that the underlying science supporting the Endangerment Finding is flawed, misinterpreted by EPA, or inappropriately applied by EPA." 75 Fed. Reg. 49,557 (Aug. 13, 2010).

[5] Because different greenhouse gases have common properties, it is "common practice" to measure their impact on the environment

c. The EPA's regulation of greenhouse gas emissions under Title II triggered permitting requirements under the PSD program and Title V of the Act, which are applicable to stationary sources of greenhouse gases. Those permitting requirements apply to stationary sources emitting "any air pollutant" above a statutory threshold. 42 U.S.C. 7475(a), 7479(1), 7602(j), 7661(2)(B), 7661a(a); see pp. 5-6, *supra*. Since 1978, the EPA has interpreted "any air pollutant" to mean "any air pollutant regulated under the Clean Air Act." 43 Fed. Reg. 26,382 (June 19, 1978); see 43 Fed. Reg. 26,403 (June 19, 1978); 45 Fed. Reg. 52,710-52,711 (Aug. 7, 1980); 67 Fed. Reg. 80,239-80,240 (Dec. 31, 2002). In 2010, the agency clarified that an air pollutant is "subject to regulation" under the CAA if it is subject either to a statutory requirement or to an EPA regulation "that requires actual control of emissions of that pollutant" rather than monitoring or reporting alone. 75 Fed. Reg. at 17,004 (Timing Rule). Accordingly, under the agency's construction of the CAA, when the EPA's regulation of greenhouse gas emissions from new motor vehicles took effect on January 2, 2011, the permitting requirements under the PSD program and Title V automatically applied to stationary sources emitting greenhouse gases in quantities above the statutory threshold. See *id.* at 17,019-17,023.

As a general matter, the statutory threshold for PSD and Title V permitting requirements is 100 or 250 tons per year of a particular pollutant, depending

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"on a carbon dioxide equivalent basis, based on each gas's warming effect relative to carbon dioxide (the designated reference gas) over a specified timeframe." 74 Fed. Reg. at 66,519; see *id.* at 66,499 n.4.

on the type of facility and program involved. See Pet. App. 27a. Because greenhouse gases "are emitted in far greater volumes than other pollutants," however, "millions of industrial, residential, and commercial sources exceed the 100/250 [tons per year] statutory emissions threshold for" greenhouse gases. *Id.* at 29a. Application of permitting requirements to all such facilities would impose "overwhelming permitting burdens that would * * * fall on permitting authorities and sources." 75 Fed. Reg. at 31,516; see *id.* at 31,533-31,541 (detailing financial costs to sources, and administrative and financial burdens to permitting authorities). The EPA recognized that Congress had deliberately employed "broad language" in the permitting provisions in "an intentional effort to confer the flexibility necessary to forestall * * * obsolescence." *Id.* at 31,559 n.41 (quoting *Massachusetts*, 549 U.S. at 532). The agency concluded, however, that a "literal" application of the statutory threshold would frustrate rather than further congressional intent and would lead to "absurd results." *Id.* at 31,541.

The EPA determined, for example, that the administrative burdens resulting from immediate implementation of greenhouse gas permitting requirements pursuant to the statutory thresholds would "overwhelm[] the resources of permitting authorities" and "severely impair[] the functioning of the programs." 75 Fed. Reg. at 31,514; see, *e.g.*, 42 U.S.C. 7661c(c) (requiring permitting authorities to issue or deny applications under Title V within 18 months of application); 75 Fed. Reg. at 31,564 (observing that "[i]t would be impossible for permitting authorities to meet this statutory [deadline] if their workload increases from some 14,700 permits to 6.1 million"). The EPA also determined that "the addition of enormous numbers of additional sources would provide relatively little benefit compared to the costs to sources and the burdens to permitting authorities." *Id.* at 31,533. Under the PSD program, the agency explained, "the large number of small sources that would be subject to control constitute a relatively small part of the environmental problem." *Ibid.* And "[i]n the case of title V, a great many of the sources that would be newly subject to permit requirements would have 'empty' permits * * * that do not include any applicable requirements." *Ibid.*

To better achieve Congress's purpose in enacting the permitting provisions, the EPA promulgated a rule to "phas[e] in the applicability" of the permitting requirements, "starting with the largest [greenhouse gas] emitters." 75 Fed. Reg. at 31,514 (Tailoring Rule). Under that rule, a stationary source is subject to permitting requirements for greenhouse gas emissions if its emissions exceed regulatory thresholds rather than the thresholds specified in the CAA. *Id.* at 31,523-31,524. Because the regulatory thresholds are considerably higher than the statutory thresholds, the Tailoring Rule in effect limits permitting requirements to "the largest emitters" of greenhouse gases. *Id.* at 31,516.[6] Even as tailored, however, the EPA's implementation of the greenhouse gas permitting requirements "represents 86 percent of the coverage at full implementation of the statutory * * * thresholds." *Id.* at 31,571. The EPA indicated that it would consider extending the PSD program and Title V permitting requirements to other stationary sources at a later date, to the extent that could be done without imposing prohibitive burdens on sources and permitting authorities. *Id.* at 31,524; see *id.* at 31,548 ("[The] EPA seeks to include as many [greenhouse gas] sources in the permitting programs at as close to the statutory thresholds as possible, and as quickly as possible.").

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[6] The regulatory threshold is 75,000 or 100,000 tons per year on a carbon dioxide equivalent basis, depending on the program and project. 75 Fed. Reg. at 31,523-31,524. The statutory threshold is 100 or 250 tons per year of any air pollutant, depending on the program and project. 42 U.S.C. 7475(a), 7479(1), 7602(j), 7661(2)(B), 7661a(a).

3. The court of appeals denied in part, and dismissed in part, petitions by "various states and industry groups" challenging the EPA's Endangerment Finding, Tailpipe Rule, Timing Rule, and Tailoring Rule. Pet. App. 24a.

a. The court of appeals denied the petitions insofar as they challenged the Endangerment Finding and Tailpipe Rule. Pet. App. 31a-60a. The court held that the EPA's interpretation of the relevant statutory provisions was consistent with the unambiguous text and the structure of the CAA, and that those administrative decisions "are neither arbitrary nor capricious." *Id.* at 24a. Petitioners argued that the EPA had misconstrued the CAA by resting its Endangerment Finding on "a science-based judgment devoid of considerations of policy concerns and regulatory consequences." *Id.* at 32a. That argument, the court of appeals concluded, was foreclosed by this Court's holding in *Massachusetts* that "policy judgments . . . have nothing to do with whether greenhouse gas emissions contribute to climate change." *Id.* at 34a (quoting 549 U.S. at 533). The court also found that "[t]he plain language" of Section 202(a)(1) makes the regulatory consequences of an endangerment finding "irrelevant" to the threshold endangerment determination. *Id.* at 36a, 37a.

The court of appeals further held that the scientific record adequately supported the EPA's Endangerment Finding. Pet. App. 37a-45a. The court explained that the evidence of endangerment was "substantial," *id.* at 40a, and that the EPA had properly exercised its independent judgment in evaluating that evidence, *id.* at 39a. The court held that the EPA was not required to identify the precise concentration of greenhouse gas that would endanger public health or welfare before making an endangerment finding. *Id.* at 45a. The court explained that CAA Section 202(a)(1) authorizes the EPA to make such findings based on "reciprocal elements of risk and harm, or probability and severity." *Ibid.* (citation omitted). The court also rejected a procedural challenge to the Endangerment Finding, concluding that even if the EPA had erred in failing to "make available" the proposed endangerment finding to the agency's Science Advisory Board, but see *id.* at 48a-49a (calling that proposition into doubt), petitioners had not shown that "the rule would have been significantly changed" if that alleged error had not occurred, *id.* at 49a (quoting 42 U.S.C. 7607(d)(8)).

b. The court of appeals rejected petitioners' contention that the EPA had misconstrued Section 202(a)(1) and acted arbitrarily and capriciously in promulgating the Tailpipe Rule without considering the consequences that rule would have for the regulation of stationary sources. Pet. App. 53a. The court found that argument to be foreclosed by "the plain text of Section 202(a) and precedent," *ibid.*, which require the EPA to promulgate emission standards if it makes an endangerment finding. *Id.* at 54a (discussing 42 U.S.C. 7521(a)(1) and *Massachusetts*, 549 U.S. at 533). The court further observed that, because Section 202(a)(1) requires the EPA to regulate emissions from new vehicles if it determines that the emissions "contribute" to air pollution that may endanger public health or welfare, the EPA need not demonstrate as a precondition to regulation that its proposed emission standard "would meaningfully mitigate the alleged endangerment." *Id.* at 56a (citation omitted). In any event, the court observed, the EPA had identified meaningful mitigation. *Id.* at 57a-58a (noting the EPA's estimated reduction of 960 million metric tons of total carbon dioxide equivalent emissions from covered vehicles).

c. The court of appeals upheld, as "statutorily compelled," Pet. App. 72a, the EPA's longstanding interpretation of the PSD program and Title V as requiring stationary sources to obtain permits if they emit specified amounts of any air pollutant regulated by the EPA under any provision of the CAA, *id.* at 67a-95a.[7] Petitioners argued that the permitting requirements in the PSD program are "regionally" focused. *Id.* at 80a; see 42 U.S.C. 7471 (requiring implementation plans to contain emission limitations necessary "to prevent significant deterioration of air quality in each region"). Accordingly, petitioners argued, references in the PSD program to "any air pollutant" should not be understood to include pollutants, such as greenhouse gases, that are well-mixed throughout the atmosphere. Pet. App. 78a-80a. The court rejected that argument, explaining that the PSD program is not focused solely on regional air quality, but also requires permit applicants "to comply with '*any* . . . emission standard' under the CAA" and "to control 'each pollutant subject to regulation under [the CAA].'" *Id.* at 82a (quoting 42 U.S.C. 7475(a)(3)(C) and (4)). The court further explained that this Court in *Massachusetts* had found "plainly unreasonable" an interpretation of the CAA's definition of "air pollutant" that would limit the term to emissions causing only local pollution. *Id.* at 81a (quoting 549 U.S. at 529 n.26).

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[7] The court of appeals held that at least some petitioners could timely challenge the EPA's interpretation—articulated in rules promulgated in 1978, 1980, and 2002—because the EPA's regulation of greenhouse gas emissions under Title II had the effect of expanding the permitting requirements under the PSD program to some stationary sources operated by those petitioners that had never been regulated under that program. Pet. App. 60a-67a; see 42 U.S.C. 7607(b)(1). Because none of the petitioners had adequately developed any arguments concerning Title V, however, the court held that petitioners had forfeited their challenge to the EPA's "greenhouse gas-inclusive interpretation of Title V." Pet. App. 78a.

The court of appeals also rejected petitioners' more limited objection to the EPA's construction of the stationary-source permitting trigger. Pet. App. 83a-94a. Pursuant to CAA Section 109, the EPA has promulgated national ambient air quality standards for six pollutants known as "criteria pollutants." 42 U.S.C. 7409; 40 C.F.R. Pt. 50. One purpose of the PSD program is to prevent any "major emitting facility" located in regions that have attained the air quality standard for a criteria pollutant from contributing to the deterioration of air quality in the region. 42 U.S.C. 7475(a); see, *e.g.*, 42 U.S.C. 7475(a)(3)(A) and (B). The CAA provisions governing the PSD program define "major emitting facility" as a stationary source that emits "any air pollutant" at levels above an identified threshold. 42 U.S.C. 7479(1). Petitioners argued that "any air pollutant" should be interpreted to mean any air pollutant for which the EPA has promulgated an air quality standard, *i.e.* any of the six criteria pollutants. Pet. App. 83a.

Under that interpretation, a particular stationary source would be subject to permitting requirements for greenhouse gas emissions if, but only if, it emitted a criteria pollutant at a level above the statutory threshold and was located in an attainment area for that criteria pollutant. Pet. App. 83a-84a; see 42 U.S.C. 7475(a)(3)(C) and (4). The court of appeals agreed that the context of some CAA provisions requires that the term "any air pollutant" be construed to refer only to criteria pollutants. See, *e.g.*, Pet. App. 87a (discussing 42 U.S.C. 7473(b)(4)). The court concluded, however, that petitioners had "failed to identify any reasons that the phrase should be read narrowly here." *Id.* at 93a.

d. The court of appeals concluded that "no petitioner has standing to challenge" the Timing and Tailoring Rules, and it accordingly dismissed the petitions insofar as they sought review of those Rules. Pet. App. 24a; see *id.* at 95a-106a. The court explained that the Timing and Tailoring Rules did not injure petitioners, but rather reduced the costs and administrative burdens to which petitioners otherwise would have been subject "by automatic operation of the statute." *Id.* at 101a.

e. The court of appeals denied petitions for rehearing en banc. Pet. App. 603a-607a. Judges Brown and Kavanaugh dissented from the denial of rehearing. *Id.* at 613a-661a. The members of the original panel (Chief Judge Sentelle and Judges Rogers and Tatel) issued a separate opinion concurring in the denials of rehearing en banc. *Id.* at 609a-612a. Those judges acknowledged that "[t]he underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance." *Id.* at 612a. They concluded, however, that en banc review was unwarranted because "[t]he legal issues presented * * * are straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent." *Ibid.*

ARGUMENT

Collectively, petitioners suggest that nearly every aspect of the court of appeals' analysis involves a significant legal error warranting correction by this Court. Petitioners' wide-ranging attacks on the decision below lack merit. The court of appeals correctly held that the EPA's interpretation of the governing CAA provisions is compelled by the statutory text and by this Court's decision in *Massachusetts* v. *Environmental Protection Agency*, 549 U.S. 497 (2007); that the EPA's implementation of the statutory scheme was neither arbitrary nor capricious; and that no petitioner has standing to challenge the Timing or Tailoring Rules. The court of appeals' decision does not conflict with any decision of this Court and represents an unexceptional application of settled principles of statutory construction and administrative law. Petitioners' policy concerns with the implementation of an intentionally broad and precautionary statutory scheme are properly addressed to Congress. Further review is not warranted.

1. The court of appeals correctly upheld the EPA's determination that emissions from new motor vehicles "contribute to" greenhouse gases, and that such gases "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1).

a. Like many other CAA provisions, Section 202(a)(1) directs the EPA to prescribe standards governing the emission of an air pollutant only after making a threshold determination that the air pollution may endanger public health or welfare. 42 U.S.C. 7521(a)(1); see, *e.g.*, 42 U.S.C. 7408(a)(1)(A), 7411(b)(1)(A), 7545(c)(1)(A), 7571(a)(2)(A). In *Massachusetts*, this Court held that, to make that threshold determination, the EPA must "form a scientific judgment," based on the available evidence. 549 U.S. at 534. The Court also explained that, even in the absence of scientific certainty, the EPA must make that threshold assessment or provide a "reasoned justification" for declining to do so. *Ibid.*; see *id.* at 506 n.7 (Section 202(a)(1) requires an endangerment finding "even if the regulator is less than certain that harm is otherwise inevitable") (quoting *Ethyl Corp.* v. *Environmental Prot. Agency*, 541 F.2d 1, 25 (D.C. Cir.) (en banc), cert. denied, 426 U.S. 941 (1976)).

Although it found some "uncertainties" in the scientific data, the EPA "determined that the body of scientific evidence compellingly supports" the finding that greenhouse gases may reasonably be anticipated to endanger public health and public welfare by driving global climate change, and that emission of greenhouse gases from new motor vehicles contributes to that pollution. 74 Fed. Reg. at 66,498; see pp. 7-9, *supra*. In making that Endangerment Finding, the EPA "compil[ed] and consider[ed] a considerable body of scientific evidence." Pet. App. 26a. The EPA relied principally on "recent synthesis and assessment reports" of three scientific organizations: the United States Global Climate Research Program, the Intergovernmental Panel on Climate Change, and the National Research Council. 74 Fed. Reg. at 66,511; see *id.* at 66,497. The EPA explained that it had relied on those reports because they address the scientific issues the agency was required to consider in making an endangerment finding; "are comprehensive in their coverage of the greenhouse gas and climate change problem," synthesizing "thousands of individual studies" and conveying "consensus conclusions"; and were subject to "rigorous and exacting" peer review as well as review by government experts. *Id.* at 66,510-66,511. In the EPA's view, the reports were "the best reference materials for determining the general state of knowledge on the scientific and technical issues before the agency in making an endangerment decision." *Id.* at 66,511.

b. Petitioners present minimal challenges to the adequacy of the agency's scientific assessment. One petition contends that the EPA's finding is unsupported because it rests on "weak and inconclusive" evidence. 12-1268 Pet. 11. A court may not set aside the EPA's factual findings, however, unless they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 42 U.S.C. 7607(d)(9)(A). Under that standard, a reviewing court simply considers whether the agency "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'" *Motor Vehicle Mfrs. Ass'n of the United States* v. *State Farm*

Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) (quoting *Burlington Truck Lines, Inc.* v. *United States*, 371 U.S. 156, 168 (1962)); see *Baltimore Gas & Elec. Co.* v. *Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983) (*BG&E*) (explaining that, when examining an agency's "predictions, within its area of special expertise, at the frontiers of science * * * a reviewing court must generally be at its most deferential"). Consistent with that well-established rule of administrative law, the court of appeals declined to "re-weigh the scientific evidence before EPA" and instead asked only "whether the conclusion reached by EPA is supported by substantial evidence when considered on the record as a whole." Pet. App. 44a. Neither the court's articulation of the governing standard, nor its application of that standard to the record in this case, presents any legal issue of recurring importance warranting this Court's review.[8]

c. In making its Endangerment Finding, the EPA conducted a science-based inquiry into whether atmospheric greenhouse gases reasonably may be expected to endanger public health or welfare, and whether emissions from new motor vehicles contribute to that pollution. Petitioners argue that the agency should not have made an endangerment finding without first assessing the potential efficacy of the emission-control standards that would follow from that finding. See 12-1253 Pet. 20-29. That argument is foreclosed by both the unambiguous statutory language and this Court's decision in *Massachusetts*.

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[8] Other petitioners contend, in passing, that the EPA could not rationally find that greenhouse gas emissions may endanger public health or welfare without first identifying a specific quantitative threshold above which atmospheric greenhouse gas would be unsafe. 12-1253 Pet. 18-19. The court of appeals properly rejected that argument as "no more than a specialized version of [the] claim that the scientific record contains too much uncertainty to find endangerment." Pet. App. 46a; see *Ethyl Corp.*, 541 F.2d at 10, 31-32 (upholding the EPA's regulation of lead additives to gasoline despite the agency's acknowledgment "that it was virtually impossible to identify the precise amount of airborne lead that will endanger public health").

CAA Section 202(a)(1) requires the EPA to determine whether a form of "air pollution * * * may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). If the EPA makes such a determination, and if the agency further concludes that emissions from new motor vehicles "cause, or contribute to" that pollution, the CAA directs the EPA to "prescribe * * * standards" governing those emissions. *Ibid.* The perceived likely efficacy of subsequent regulation has no legal or logical connection to the determination whether a form of pollution may endanger public health or welfare. As the Court in *Massachusetts* observed, the agency's views regarding the policy implications of greenhouse gas regulation "have nothing to do with whether greenhouse gas emissions contribute to climate change." 549 U.S. at 533; see Pet. App. 32a-36a. For the same reason, the EPA does not have "discretion" (12-1253 Pet. 30) to decline to make an endangerment finding based on the projected implications of such a finding for stationary-source permitting requirements under other CAA provisions.

d. Petitioners argue that the EPA acted improperly by considering indirect consequences of atmospheric greenhouse gases in determining whether the pollution may endanger public health or welfare. In petitioners' view, the EPA may make an endangerment finding for a particular type of air pollution only if the EPA concludes that the air pollution is itself the "proximate cause" of the harm. 12-1272 Pet. 23 (citation omitted); see *id.* at 21-27. That argument lacks merit.

The EPA's interpretation of the undefined term "reasonably * * * anticipated to endanger," 42 U.S.C. 7521(a)(1), is controlling unless it is contrary to Congress's clearly expressed intent or otherwise unreasonable. See *Chevron U.S.A. Inc.* v. *Natural Res. Def. Council, Inc.*, 467 U.S. 837, 842-843 (1984). Petitioners do not contend that the CAA unambiguously requires direct causation. And, as a matter of ordinary usage, a particular phenomenon "may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. 7521(a)(1), if it is likely to set in motion a chain of events culminating in such harms, whether or not it is the proximate cause of injury to humans. See 74 Fed. Reg. at 66,526-66,529.[9] The Court in *Massachusetts* understood, moreover, that the potential harms associated with greenhouse gas emissions result from the effects of such emissions on the global climate. See 549 U.S. at 521-523. The Court's remand would have been a pointless exercise if the causal links between greenhouse gas emissions, climate change, and harm to the public health or welfare were as a matter of law too indirect to support an endangerment finding.

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[9] For the same reason, the EPA's interpretation of the undefined terms "public health" and "public welfare" is entitled to deference. 74 Fed. Reg. at 66,527-66,528; cf. 12-1272 Pet. 24-26. In addition, contrary to petitioners' puzzling suggestion, *id.* at 25-26, the EPA's consideration of the effects of greenhouse gas on "public welfare" closely tracks the CAA's non-exhaustive definition of "effects on welfare." Compare 42 U.S.C. 7602(h) with 74 Fed. Reg. at 66,530-66,535.

e. One petitioner seeks review of the court of appeals' determination, Pet. App. 48a-49a, that the EPA's Endangerment Finding is valid notwithstanding the agency's failure to "make available" to the agency's Scientific Advisory Board the proposed finding, 42 U.S.C. 4365(c)(1). See 12-1153 Pet. i. The CAA authorizes invalidation of EPA rules based on "alleged procedural errors * * * only if the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made." 42 U.S.C. 7607(d)(8). That provision is in substance a codification of harmless-error principles in the specific context of EPA procedural errors. Cf. *National Ass'n of Home Builders* v. *Defenders of Wildlife*, 551 U.S. 644, 659-660 (2007) (*NAHB*). The court of appeals held that, even assuming the EPA had violated the procedural requirement on which petitioners rely, petitioner had failed to make the requisite showing that compliance with the requirement would likely have altered the agency's ultimate decision. Pet. App. 49a.

Petitioner contends that a "substantial likelihood" of "significant change" is "built into the fabric" of the provision requiring the EPA to make available to the Scientific Advisory Board certain documents under specified circumstances. 12-1153 Pet. 23. The apparent thrust of petitioner's argument is that, because the requirements of 42 U.S.C. 4365(c)(1) are intended to improve the quality of the EPA's deliberations, any violation of those requirements should be assumed to have affected the agency's decision. That argument is inconsistent both with 42 U.S.C. 7607(d)(8), which assumes the existence of "procedural errors" that do *not* have a "substantial likelihood" of "significantly chang[ing]" the content of EPA rules, and with the background harmless-error principles on which that provision is based. In any event, certiorari is not warranted on this issue because petitioner "failed to respond" to the EPA's alternative argument that its statutory obligation to make available certain documents to the Scientific Advisory Board was not triggered in this case. Pet. App. 49a; see *United States* v. *Jones*, 132 S. Ct. 945, 954 (2012).

f. Petitioners seek review of the court of appeals' determination (Pet. App. 49a-53a) that the EPA properly denied petitions for reconsideration of the Endangerment Finding. 12-1152 Pet. i. In seeking reconsideration, petitioners argued that one of the three scientific assessments on which the EPA relied contained factual mistakes resulting from the use of non-peer-reviewed studies and "goal-oriented 'science.'" *Id.* at 23; see Pet. App. 50a. They also argued that several studies postdating the Endangerment Finding contradicted the EPA's central conclusions. *Ibid.* The EPA denied the petitions for reconsideration, concluding that they did not "provide substantial support" for the contention that the finding should be reconsidered. 75 Fed. Reg. at 49,561; see 42 U.S.C. 7607(d)(7)(B). The agency found that "petitioners' claims are exaggerated, are often contradicted by other evidence, and are not a material or reliable basis to question the validity and credibility of the body of science underlying" the Endangerment Finding. 75 Fed. Reg. at 49,557. The EPA further determined that the "two factual mistakes" identified by petitioners were "tangential and minor"; petitioners had "misinterpreted or misrepresented the meaning and significance" of the new studies on which they relied; and petitioners had "failed to acknowledge other new studies" that did not support their views. *Id.* at 49,558.

Petitioners contend that, in denying their reconsideration petitions, the EPA misapplied 42 U.S.C. 7607(d)(7)(B), which requires the EPA to grant reconsideration when a petitioner can demonstrate that a preserved objection "is of central relevance to the outcome of the rule." See 12-1152 Pet. 14-17. The court of appeals correctly rejected that argument, see Pet. App. 51a, which presents a fact-bound challenge to the EPA's evaluation of scientific evidence within its core area of expertise. See *BG&E*, 462 U.S. at 103. Petitioners also argue that, by relying on material not already in the administrative record in responding to the rehearing petitions, the EPA effectively revised the Endangerment Finding, thus requiring a new round of notice and comment. 12-1152 Pet. 15-19. But petitioners' "effective revision" theory founders on the fact that the EPA did not reopen the Endangerment Finding, which rests entirely on its own administrative record. As the court of appeals correctly recognized, when the EPA explains its reasons for denying petitions for reconsideration of a rule, it may refer to material outside the rule's administrative record "without triggering a new round of notice and comment for the rule." Pet. App. 53a.[10]

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[10] Petitioners suggest more generally that, in relying on assessment reports of three prominent scientific organizations, the EPA improperly "delegated its judgment to outside groups." 12-1152 Pet. 27; see *id.* at 27-30. That contention lacks merit. The "EPA

2. The court of appeals also correctly held that, once the EPA found that greenhouse gas emissions contribute to air pollution that may endanger public health or welfare, the CAA imposed on the agency a nondiscretionary duty to regulate the emission of such gases from new motor vehicles. See Pet. App. 54a.

a. Section 202(a)(1) states that the EPA "shall by regulation prescribe * * * standards applicable to the emission of any air pollutant" from any new motor vehicles if the EPA determines that the emission "cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1). A federal statute's use of the word "shall" ordinarily indicates Congress's intent to impose an obligation. See, *e.g.*, *NAHB*, 551 U.S. at 661 (noting that Section 402(b) of the Clean Water Act "provides, without qualification, that the EPA 'shall approve' a transfer application" under specified conditions, and holding that "[b]y its terms, the statutory language is mandatory").[11] This Court in *Massachusetts* recognized that, "[i]f EPA makes a finding of endangerment, the Clean Air Act requires the Agency to regulate emissions of the deleterious pollutant from new motor vehicles." 549 U.S. at 533 (citing 42 U.S.C. 7521(a)(1)).

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used the assessment reports not as substitutes for its own judgment but as evidence upon which it relied to make that judgment." Pet. App. 39a.

[11] In the context of a "well established tradition" of official discretion, a statute providing that an official "shall" take some action may be construed as discretionary. *Town of Castle Rock* v. *Gonzales*, 545 U.S. 748, 760-761 (2005). Section 202(a)(1) of the CAA does not implicate that doctrine.

b. As in the court of appeals, petitioners "do not challenge the substantive standards of the [Tailpipe] Rule." Pet. App. 53a. They contend instead that, notwithstanding the Endangerment Finding, the EPA lacks legal authority to regulate the emission of greenhouse gases from new motor vehicles. They argue, for example, that the EPA may prescribe greenhouse gas emission standards only if regulation "would meaningfully address the climate-related effects it invoked as the basis for regulating." 12-1253 Pet. 19; see *id.* at 24-32. Petitioners identify no CAA provision imposing such a requirement, which would be inconsistent with both Section 202(a)(1)'s mandatory language and this Court's decision in *Massachusetts*. See 549 U.S. at 533.

Petitioners' argument is also inconsistent with the precautionary and incremental approach reflected in the CAA as a whole. "A primary goal" of the Act is "pollution prevention," which includes "the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source." 42 U.S.C. 7401(a)(3) and (c). More than 35 years ago, the en banc D.C. Circuit rejected the contention that the EPA lacked authority under the Act to regulate gasoline additives (such as lead) unless "the additive to be regulated 'in and of itself,' *i.e.*, considered in isolation, endangers health." *Ethyl Corp.*, 541 F.2d at 29. The court held that, in deciding whether lead emissions "will endanger the public health or welfare," the EPA could consider "the impact of lead emissions * * * together with all other human exposure to lead." *Ibid.* (quoting 42 U.S.C. 1857f-6c(c)(1)(A), recodified as amended at 42 U.S.C. 7545(c)(1)(A)). The court upheld the EPA's regulation of leaded gasoline in light of the agency's determinations that "the aggregate [lead exposure] was dangerous, and [that] leaded gasoline was a significant source that was particularly suited to ready reduction." *Id.* at 30 (emphasis omitted).[12]

Similarly here, the EPA determined that aggregate amounts of atmospheric greenhouse gas may endanger public health and welfare, and that the emission of greenhouse gases from new motor vehicles contributes to that air pollution. 74 Fed. Reg. at 66,537 (finding that new motor vehicles "are responsible for about 4 percent of total global greenhouse gas emissions, and for just over 23 percent of total U.S. greenhouse gas emissions"). The EPA noted, and agreed with, this Court's observation that, "[j]udged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations." *Id.* at 66,543 (quoting *Massachusetts*, 549 U.S. at 525). The agency estimates that the Tailpipe Rule will reduce by 960 million metric tons the total carbon dioxide equivalent emissions over the life of vehicles produced in model years 2012 through 2016. 75 Fed. Reg. at 25,328.

The Tailpipe Rule, moreover, is only one part of a larger strategy to mitigate the effects of vehicle emissions on atmospheric greenhouse gas concentrations. In subsequent rulemaking, for example, the EPA has issued standards regulating greenhouse gas emissions from light-duty vehicles produced in model years 2017 through 2025. 77 Fed. Reg. 62,624 (Oct. 15, 2012). That rule, the EPA estimates, will reduce by 1610 million metric tons the total carbon dioxide equivalent emissions of vehicles manufactured pursuant to the prescribed standards. *Id.* at 62,893 (Table III-64); see 76 Fed. Reg. 57,294 (Sept. 15, 2011) (Table VI-4) (EPA standards applicable to medium- and heavy-duty vehicles produced for model years 2014 through 2018 will reduce by 227 million metric tons the carbon dioxide equivalent emissions of covered vehicles). And the EPA's vehicle greenhouse gas emissions standards are themselves part of a larger effort to address climate change by reducing greenhouse gas pollution. See generally Executive Office of the President, *The President's Climate Action Plan* (2013), http://www.whitehouse.gov/sites/default/files/image/president27sc limateactionplan.pdf.

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[12] Congress amended the CAA in 1977, in part to ratify the court of appeals' determination in *Ethyl Corp.* that the Act authorizes the EPA to "consider the cumulative risk to public health from multiple sources of the pollutant." H.R. Rep. No. 294, 95th Cong., 1st Sess. 49 (1977); see Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685.

"[A]ny given [greenhouse gas] mitigation action when taken alone" will not prevent climate change. 76 Fed. Reg. at 57,298; see 75 Fed. Reg. at 25,496 (recognizing that "the magnitude of the avoided climate change projected" under the Tailpipe Rule "is small"); cf. *Massachusetts*, 549 U.S. at 524 ("Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop."). But each of the EPA's vehicle rules, including the Tailpipe Rule, "makes a significant contribution towards addressing the challenge by producing substantial reductions in greenhouse gas emissions from a particularly large and important source of emissions." 76 Fed. Reg. at 57,299; see 77 Fed. Reg. at 62,890; 75 Fed. Reg. at 25,495. The EPA estimates that the net present value of avoided climate-change-related damages (such as losses in agricultural productivity, property loss due to flooding, and adverse health effects) from greenhouse gas emission reductions from vehicles produced over the next four decades under applicable standards ranges between 79 billion and 1.2 trillion dollars. 77 Fed. Reg. at 62,930 (Table III-88); 76 Fed. Reg. at 57,333 (Table VIII-15); 75 Fed. Reg. at 25,403 (Table III.A.3-3). The Tailpipe Rule "meaningfully address[es] the climate-related effects" (12-1253 Pet. 19) of greenhouse gas emissions, even though it is simply part of a much larger regulatory strategy.[13]

3. Under the PSD program, any new or modified "major emitting facility" must obtain a preconstruction permit. 42 U.S.C. 7475(a). A "major emitting facility" is a stationary source emitting "any air pollutant" in quantities above a statutory threshold. 42 U.S.C. 7479(1). Since 1978, the EPA has interpreted the term "any air pollutant" in the definition of "major emitting facility" to mean "any air pollutant regulated under the Clean Air Act." 43 Fed. Reg. at 26,382. The court of appeals correctly upheld that

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[13] Petitioners argue (12-1253 Pet. 27-28) that the EPA should have declined to promulgate the Tailpipe Rule in light of NHTSA's authority to regulate fuel-economy standards. That contention is foreclosed by *Massachusetts*. See 549 U.S. at 532 ("[T]hat [the Department of Transportation] sets mileage standards in no way licenses EPA to shirk its environmental responsibilities [under the CAA]."). Petitioners are also wrong in suggesting (12-1253 Pet. 27) that NHTSA's fuel-economy standards would provide the same benefits as the Tailpipe Rule. The agencies estimate that the Tailpipe Rule will result in the reduction of 960 million metric tons of carbon dioxide equivalent emissions, while the fuel-economy standards alone would reduce carbon dioxide equivalent emissions by 655 million metric tons. Compare 75 Fed. Reg. at 25,490 (Table III.F.1-2) with *id.* at 25,636 (Table IV.G.1-4).

longstanding agency interpretation of the "trigger" for stationary-source permitting requirements under the PSD program, finding it to be "statutorily compelled." Pet. App. 72a.

a. Congress enacted the PSD program's permitting requirements "to protect public health and welfare from any actual or potential adverse effect which in the [EPA's] judgment may reasonably be anticipate[d] to occur from air pollution," notwithstanding the attainment of air quality standards for specified criteria pollutants. 42 U.S.C. 7470(1); see 42 U.S.C. 7409; 40 C.F.R. Pt. 50; see also p. 16, *supra* (discussing criteria pollutants). A permit for a "major emitting facility" must show that the facility will not produce air pollution in excess of standards applicable to criteria pollutants. 42 U.S.C. 7475(a)(3)(A) and (B). The permit also must demonstrate that the facility will not produce air pollution in excess of "any other applicable emission standard or standard of performance under [the CAA]." 42 U.S.C. 7475(a)(3)(C). In addition, the facility "is subject to the best available control technology for each pollutant subject to regulation under [the CAA]." 42 U.S.C. 7475(a)(4).

The EPA's longstanding interpretation of the term "any air pollutant" in the definition of "major emitting facility" follows from the unambiguous statutory text and from Congress's purpose in enacting the PSD program. The CAA defines "air pollutant," "[w]hen used in [the CAA]," to mean "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. 7602(g). That definition is "sweeping," and Congress's inclusive intent is "underscore[d] * * * through the repeated use of the word 'any.'" *Massachusetts*, 549 U.S. at 528, 529; see *United States* v. *Gonzales*, 520 U.S. 1, 5 (1997) ("[T]he word 'any' has an expansive meaning, that is, 'one or some indiscriminately of whatever kind.'") (quoting *Webster's Third New International Dictionary* 97 (1976)). The CAA's definition of the term "major emitting facility," which encompasses stationary sources of air pollution that emit "*any* air pollutant" in quantities above a statutory threshold, reflects the same inclusive intent. 42 U.S.C. 7479(1) (emphasis added).

"On its face, the definition [of 'air pollutant'] embraces all airborne compounds of whatever stripe." *Massachusetts*, 549 U.S. at 529. The EPA's long-standing interpretation of "any air pollutant" in the definition of "major emitting facility," however, limits the term to air pollutants regulated by the agency under the CAA. 43 Fed. Reg. at 26,382. That restriction reflects the PSD program's purpose of guarding against "any actual or potential adverse effect" that the EPA has determined "may reasonably be anticipate[d] to occur from air pollution." 42 U.S.C. 7470(1). If the EPA has not determined that a particular airborne substance may endanger public health or welfare, and if the CAA does not otherwise require regulation of the substance, the purpose of the PSD program would not be furthered by treating a stationary source's emission of that substance as a ground for applying the Act's permitting requirements. See Pet. App. 74a ("'[A]ny regulated air pollutant' is, in this context, the only plausible reading of 'any air pollutant.'").

b. In *American Electric Power Co.* v. *Connecticut*, 131 S. Ct. 2527 (2011), the Court explained that "*Massachusetts* made plain that emissions of carbon dioxide qualify as air pollution subject to regulation under the [CAA]." *Id.* at 2537. The Court found it "equally plain that the Act 'speaks directly' to emissions of carbon dioxide from [stationary sources]." *Ibid.* Some petitioners ask this Court to overrule *Massachusetts*'s interpretation of the statutory term "air pollutant" as including carbon dioxide and other greenhouse gases. 12-1269 Pet. 31-33. But "*stare decisis* in respect to statutory interpretation has 'special force,' for 'Congress remains free to alter what [the Court has] done.'" *John R. Sand & Gravel Co.* v. *United States*, 552 U.S. 130, 139 (2008) (quoting *Patterson* v. *McLean Credit Union*, 491 U.S. 164, 172-173 (1989)). Petitioners identify no sound reason to depart from this "[b]asic principle[] of *stare decisis*," *ibid.*, especially after both this Court in *American Electric Power*, and the EPA in conducting the rulemakings at issue here, have relied substantially on the decision in *Massachusetts*.

c. Some petitioners contend that the EPA lacks authority under the PSD program to regulate greenhouse gas emissions from stationary sources. In their view, the only purpose of the PSD program is to regulate criteria air pollutants, *i.e.*, the six air pollutants regulated under national ambient air quality standards. See 12-1146 Pet. 25-26; 12-1268 Pet. 20; 12-1269 Pet. 11, 30; 12-1272 Pet. 28-29; see also 12-1254 Pet. 23-30. They argue on that basis that the PSD program permitting requirements can apply only to "pollutants that deteriorate local air quality," 12-1146 Pet. 25, not to air pollutants such as greenhouse gases that do not cause "exposure-related health problems," 12-1272 Pet. 28.

That argument proceeds from a false premise. Although some PSD program provisions do regulate criteria pollutants, see, *e.g.*, 42 U.S.C. 7475(a)(3)(A) and (B), others unambiguously impose requirements for the control of non-criteria pollutants, see, *e.g.*, 42 U.S.C. 7475(a)(4) (requiring stationary sources to adopt the "best available control technology for each pollutant subject to regulation under [the CAA]"); 42 U.S.C. 7475(a)(3)(C) (imposing requirements related to "any other applicable emission standard" under the Act). In enacting the PSD program, moreover, Congress intended to "protect public health and welfare" from adverse effects resulting "from air pollution," a purpose that encompasses much more than the regulation of criteria pollutants. 42 U.S.C. 7470(1); see 42 U.S.C. 7602(h) (defining "effects on welfare" to include effects on "weather" and "climate"). Because provisions of the PSD program apply to any air pollutant regulated by the EPA, and because greenhouse gases "indisputably" (Pet. App. 79a) are such pollutants, applying that program's permit requirements to stationary sources of greenhouse gases is fully consistent with Congress's intent.[14]

Other petitioners recognize that the substantive provisions of the PSD program apply to any air pollutant regulated by the EPA, regardless of the manner in which the pollutant endangers public health or welfare. 12-1248 Pet. 24 n.12. They argue more modestly that the term "any air pollutant" in the definition of "major emitting facility" should be construed as limited to the six regulated criteria pollutants. *Id.* at 23-24 & nn.11, 12; see 42 U.S.C. 7479(1). Under that view, a particular stationary source will be subject to PSD permitting requirements only if it emits a criteria pollutant above the statutory threshold; emission of any amount of greenhouse gases would not trigger the requirements. 12-1248 Pet. 24. Where that prerequisite to regulation is established, however, stationary sources subject to permitting requirements because of their emission of criteria air pollutants would "be required under this interpretation to adopt the 'best available control technology' for greenhouse gas emissions," as well as for the criteria pollutants that (in these petitioners' view) are the only permissible trigger for PSD regulation. *Id.* at 24 n.12 (quoting 42 U.S.C. 7475(a)(4)).[15]

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[14] Because petitioners have "not identified any congressional action that conflicts in any way with the regulation of greenhouse gases" (*Massachusetts*, 549 U.S. at 531) emitted by stationary sources, their reliance on *Food & Drug Administration* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), is misplaced. See 12-1146 Pet. 32-33; 12-1268 Pet. 31-33; 12-1269 Pet. 29-30; 12-1272 Pet. 30.

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[15] Petitioners suggest that their interpretation of "any air pollutant" in the definition of "major emitting facility" in 42 U.S.C. 7479(1) is supported by the fact that the PSD program imposes permitting requirements only on major emitting facilities "constructed in any area to which this part applies," 42 U.S.C. 7475(a), because the PSD program "applies" in areas that have attained air quality standards for criteria air pollutants, 42 U.S.C. 7471. See 12-1248 Pet. 21-22. That geographic limitation does not appear in the definition of "major emitting facility," however, and it cannot plausibly be construed as implicitly modifying "any air pollutant" in the separate, definitional provision. See Pet. App. 84a-94a; see also *Alabama Power Co.* v. *Costle*, 636 F.2d 323, 352 (D.C. Cir. 1979) (per curiam) (upholding the EPA's view that PSD permitting requirements are triggered by emission of any regulated air

Petitioners contend that their interpretation reflects wise policy because it avoids the severe burden on permitting authorities and sources that will follow if greenhouse gas emissions above the statutory threshold trigger the PSD permitting requirements, and because it obviates the need for the EPA to phase in the statutory standard. 12-1248 Pet. 23-24. Petitioners' proposed ameliorating construction, however, ignores the statutory definition of "air pollutant," which "[o]n its face * * * embraces all airborne compounds of whatever stripe." *Massachusetts*, 549 U.S. at 529. And it suggests, at least implicitly, that by adding the "expansive" word "any" (*Gonzales*, 520 U.S. at 5) before the term "air pollutant," Congress intended to limit rather than extend the reach of the definition.

Petitioners argue that the EPA's interpretation of "major emitting facility" "cannot be deemed the 'unambiguous' meaning of the statutory language" because the agency construes "any air pollutant" to mean "any *regulated* air pollutant." 12-1248 Pet. 21, 23 (citation omitted). But the susceptibility of a term "to alternative meanings" does not render the term, "'whenever it is used, ambiguous,' particularly where 'all but one of the meanings is ordinarily eliminated by context.'" *Carcieri* v. *Salazar*, 555 U.S. 379, 391 (2009) (quoting *Deal* v. *United States*, 508 U.S. 129, 131-132 (1993)). Here, context makes it clear that Congress intended to impose permitting restrictions only on stationary

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pollutant so long as the stationary source is constructed in an area that is in attainment for any air quality standard).

sources emitting an air pollutant regulated under the CAA. See pp. 32-33, *supra*; Pet. App. 73a-74a.[16]

Petitioners' interpretation, moreover, leads to substantial anomalies. Section 111 of the CAA directs the EPA to list categories of "stationary sources" that "cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7411(b)(1)(A). That provision defines "stationary source" as "any building, structure, facility, or installation which emits or may emit any air pollutant." 42 U.S.C. 7411(a)(3). After the EPA identifies such categories of stationary sources, Section 111 directs it to establish performance standards for the emission of pollutants, specified by the EPA, from new or modified sources in that category. 42 U.S.C. 7411(b)(1)(B). Once the EPA has established new source performance standards for a particular category of sources, Section 111(d) (42 U.S.C. 7411(d)) requires States to issue performance standards, in accordance with EPA guidelines, for existing sources within that category, unless the air pollutant identified by the performance standard is already regulated under other, specified provisions of the Act.

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[16] Because the term "any air pollutant" is not ambiguous, petitioners' reliance, 12-1146 Pet. 21, 23; 12-1272 Pet. 29, on *Environmental Defense* v. *Duke Energy Corp.*, 549 U.S. 561 (2007), is misplaced. See *id.* at 575 (explaining that the Court has "declined to require uniformity when resolving ambiguities in identical statutory terms"). And even assuming that the term "any air pollutant" were ambiguous, the EPA's interpretation would be entitled to deference so long as it is reasonable. *Chevron*, 467 U.S. at 843. For the reasons given in the text, the EPA's interpretation is most congruent with the statutory scheme and so is a permissible construction of the provision.

When it considered Section 111 two years ago, this Court found it "plain that the Act 'speaks directly' to emissions of carbon dioxide from [stationary sources]." *American Electric Power*, 131 S. Ct. at 2537. In holding that the CAA "displace[d] federal common law," the Court identified as "[t]he critical point" its determination that "Congress delegated to EPA the decision whether and how to regulate carbon-dioxide emissions from power plants." *Id.* at 2538; see *id.* at 2539 ("It is altogether fitting that Congress designated an expert agency, here, EPA, as best suited to serve as primary regulator of greenhouse gas emissions."); see also 77 Fed. Reg. 22,392 (Apr. 13, 2012) (*Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units*) (notice of proposed rulemaking). Under petitioners' interpretation, the term "any air pollutant" would *include* greenhouse gases in Sections 202(a)(1) (providing for emission standards for new motor vehicles), see *Massachusetts*; would *exclude* greenhouse gases in Section 169(1) (defining "major emitting facility" for purposes of the PSD program); and would again *include* greenhouse gases in Section 111 (providing for performance standards for stationary sources), see *American Electric Power*—all without any indication from Congress that it was using the term differently, and notwithstanding this Court's recognition that the CAA's definition of "air pollutant," applicable throughout the statute, "unquestionably" encompasses greenhouse gases. *Massachusetts*, 549 U.S. at 529 n.26.[17]

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[17] One petitioner notes that the EPA has interpreted the term "any pollutant," within the definition of "major stationary source" that appears in the CAA provision addressing visibility protection,

d. In arguing that the EPA's interpretation of "major emitting facility" should be rejected, petitioners rely heavily on the agency's own determination that "absurd results" would ensue if the PSD program requirements were immediately applied to all stationary sources emitting greenhouse gases in amounts above the 100/250 tons per year statutory thresholds. 12-1248 Pet. 20 (quoting 75 Fed. Reg. at 31,557); see 12-1254 Pet. 39-40; 12-1268 Pet. 19-23; 12-1269 Pet. 28-31; 12-1272 Pet. 18-20. To avoid those untoward consequences, the agency prescribed regulatory thresholds that are significantly higher than those specified by Congress. See note 6, *supra*. As petitioners observe, the EPA also concluded that applying the statutory thresholds "literally to [greenhouse gas] sources at the present time . . . would result in a program that would have been unrecognizable to the Congress that designed PSD." 12-1268 Pet. 19 (quoting 75 Fed. Reg. at 31,555). Petitioners argue (*e.g.*, 12-1248 Pet. 19-20) that this Court should reject an interpretation of "major emitting facility" that can be rendered workable and consistent with congressional intent only through regulatory modification of the statutory 100/250 tons per year thresholds for coverage in the PSD program.

That argument lacks merit. First, although the EPA found that *immediate* application of the 100/250

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as including only "visibility-impairing pollutants." 12-1146 Pet. 22 (quoting 42 U.S.C. 7491(g)(7) and 40 C.F.R. Pt. 51, App. Y, § III.A.2) (emphasis omitted). But context is critical. Because the visibility program regulates only visibility-impairing pollutants, that portion of the statutory scheme does provide an indication that Congress was using the term "any pollutant" in a more limited manner. See Pet. App. 89a-90a.

tons per year thresholds would be unworkable, the agency did not disavow the goal of ultimately applying those thresholds according to their literal terms. Rather, the agency stated that it "will implement the phase-in approach by applying PSD and title V at threshold levels that are as close to the statutory levels as possible, and do so as quickly as possible, at least to a certain point." 75 Fed. Reg. at 31,523. To be sure, the EPA acknowledged that it is currently uncertain whether the phase-in process can feasibly be continued all the way to the 100/250 tons per year thresholds. See *ibid.* (noting the possibility that the EPA "may make a definitive determination in one of the future rulemaking actions that, under the 'absurd results' doctrine, PSD or title V applies only to certain [greenhouse gas] sources"); *id.* at 31,548 (recognizing that the EPA "ultimately may stop the phase-in process short of the statutory threshold levels"). The agency's acknowledgment of that uncertainty, however, is something significantly different from simple disregard of the statutory thresholds.

Second, petitioners offer no textually-defensible *alternative* understanding of the term "any air pollutant" in the definition of "major emitting facility" that would avoid the over-regulation the EPA sought to prevent. The suggestion that the EPA should have treated the prospect of such over-regulation as a ground for declining to make the initial Endangerment Finding is contrary to the CAA's language and to this Court's decision in *Massachusetts.* See p. 22, *supra.* The contention that "any air pollutant" in this context means "any criteria pollutant" likewise has no grounding in the statutory text. See Pet. App. 70a-77a. And, as the court of appeals correctly held (Pet.

App. 95a-106a), petitioners lack standing to contend (by challenging the Tailoring Rule) that the EPA should have immediately applied the 100/250 tons per year thresholds according to their terms. See pp. 43-47, *infra*. In the absence of an alternative framework that can be reconciled with the literal text of all the relevant CAA provisions, the need for regulatory modification of the 100/250 tons per year thresholds cannot reasonably be viewed as a sufficient ground for rejecting the expert agency's approach.

Although the Congress that enacted the CAA "might not have appreciated the possibility that burning fossil fuels could lead to global warming," Congress drafted the CAA in broad terms "to confer the flexibility necessary to forestall * * * obsolescence." *Massachusetts*, 549 U.S. at 532; see *ibid.* ("[T]he fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth.") (brackets in original) (quoting *Pennsylvania Dep't of Corr.* v. *Yeskey*, 524 U.S. 206, 212 (1998)). The EPA's determination that a phased-in implementation of the statutory thresholds was necessary in this context "may indicate that the CAA is a regulatory scheme less-than-perfectly tailored to dealing with greenhouse gases." Pet. App. 36a-37a. In contrast to petitioners' construction, however, the EPA's interpretation of "major emitting facility" is congruent with the statutory text and structure, and it best implements Congress's purpose in enacting the PSD program to "protect public health and welfare" from adverse effects resulting "from air pollution," 42 U.S.C. 7470(1), including adverse "effects on * * * weather" and "climate," 42 U.S.C. 7602(h). See 75 Fed. Reg. at 31,548 (explaining that the "EPA seeks to include as many [greenhouse gas] sources in the permitting programs at as close to the statutory thresholds as possible, and as quickly as possible").[18]

4. The court of appeals correctly held (Pet. App. 95a-106a) that no petitioner has standing to challenge the Timing and Tailoring Rules, which relieved petitioners of burdens they would otherwise have faced. That holding does not warrant further review.

a. Three elements comprise the "irreducible constitutional minimum of standing." *Lujan* v. *Defenders of Wildlife*, 504 U.S. 555, 560 (1992). First, a party invoking federal jurisdiction must establish an "injury in fact," *i.e.*, the "invasion of a legally protected interest which is (a) concrete and particularized and (b) 'actual or imminent, not conjectural or hypothetical.'" *Ibid.* (quoting *Whitmore* v. *Arkansas*, 495 U.S. 149, 155 (1990)) (internal citations and quotation marks omitted). Second, the party must show that the injury is "fairly . . . trace[able] to the challenged action of the defendant, and not . . . th[e] result [of] the independent action of some third party not before the court." *Ibid.* (brackets in original) (quoting *Simon* v. *Eastern Ky. Welfare Rights Org.*, 426 U.S. 26, 41-42 (1976)). Third, the party must establish that it is "'likely,' as opposed to merely 'speculative,' that the injury will be 'redressed by a favorable decision.'" *Id.* at 561 (quoting *Simon*, 426 U.S. at 38, 43).

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[18] In the court of appeals, petitioners did not adequately develop arguments concerning the application of Title V permitting requirements to stationary sources that emit greenhouse gases, and they consequently "forfeited any challenges to EPA's greenhouse gas-inclusive interpretation of Title V." Pet. App. 78a. There is consequently no warrant for this Court's review of the EPA's determination that Title V imposes permitting requirements on stationary sources that emit greenhouse gases above the applicable threshold. See *Jones*, 132 S. Ct. at 954.

The Timing Rule clarified that an air pollutant is "subject to regulation" under the CAA if the Act or an implementing EPA regulation "requires actual control of emissions of that pollutant" rather than only monitoring or reporting. 75 Fed. Reg. at 17,004. Under the Timing Rule, greenhouse gas emissions became subject to regulation on January 2, 2011, the date on which the Tailpipe Rule took effect. See *id.* at 17,019-17,023. The Tailoring Rule began to phase in the PSD and Title V permitting requirements, "starting with the largest [greenhouse gas] emitters," by imposing those requirements on stationary sources emitting greenhouse gases in excess of a regulatory threshold that is higher than that specified in the CAA. 75 Fed. Reg. at 31,514; see *id.* at 31,523-31,524. In the court of appeals, the private petitioners claimed that they were injured by those rules because petitioners "are subject to regulation of greenhouse gases." Pet. App. 100a; see Non-State Pet'rs' C.A. Reply Br. 28 (No. 10-1073). The state petitioners "claim[ed] injury because they own some regulated sources," Pet. App. 100a, and so will be subject "to the costs of complying with the PSD and Title V programs," State Pet'rs' C.A. Br. 23 (No. 10-1073), "and because they now carry a heavier administrative burden," Pet. App. 100a.

Petitioners failed to establish any element of standing to challenge the Timing and Tailoring Rules. As the court of appeals explained, the PSD and Title V permitting requirements applied to petitioners "not because of anything EPA did in the Timing and Tailoring Rules, but by automatic operation of the statute." Pet. App. 101a; see pp. 31-33, *supra*. Rather than causing the injuries that petitioners identified, the Timing and Tailoring Rules "actually mitigate Petitioners' purported injuries." Pet. App. 101a. Without the Timing Rule, petitioners "may well have been subject" to the PSD and Title V permitting requirements before January 2, 2011. *Ibid.* And because the Tailoring Rule phased in the permitting requirements for stationary sources, "an even greater number of * * * sources" would have been subject to the requirements, "and state authorities would be overwhelmed with millions of additional permit applications," if the Rule had not been promulgated. *Ibid.*

b. Petitioners identify no plausible reason for this Court's review of the court of appeals' straightforward standing analysis. The private petitioners contend that the court of appeals erred in not assuming the correctness of their argument on the merits in evaluating their standing to challenge the Timing and Tailoring Rules. See 12-1146 Pet. 30-31; 12-1268 Pet. 27-29. According to petitioners, if their "statutory construction argument were accepted—thereby establishing that [greenhouse gases] are not an air pollutant that is subject to PSD and Title V requirements—its members' present injury caused by [greenhouse gas] regulation would be redressed." 12-1146 Pet. 31; see 12-1268 Pet. 29 (arguing that petitioners have established injury caused by the EPA's greenhouse gas regulations "considered as a whole").

That injury, however, arises not from the Timing or Tailoring Rule, but from the EPA's interpretation of the PSD (and Title V) triggering mechanism, an interpretation embodied in separate rules first promulgated in 1978. See pp. 10, 31-43, *supra*. A party invoking federal court jurisdiction "must demonstrate standing for each claim he seeks to press." *DaimlerChrysler Corp.* v. *Cuno*, 547 U.S. 332, 352 (2006); see *Davis* v. *Federal Election Comm'n*, 554 U.S. 724, 734 (2008) ("[S]tanding is not dispensed in gross.") (brackets in original) (quoting *Lewis* v. *Casey*, 518 U.S. 343, 358 n.6 (1996)). Petitioners therefore cannot rely on the injury caused by the EPA's interpretation of the PSD triggering mechanism to establish their standing to challenge the Timing and Tailoring Rules.[19]

The state petitioners contend that they "have standing coming and going" because vacatur of the Timing and Tailoring Rule "will either redress the injury of onerous regulation" or "will redress the environmental injury recognized in *Massachusetts*." 12-1269 Pet. 22-23. Their first argument fails for the reasons already discussed, see pp. 43-45, *supra*: without the rule, state authorities "would be overwhelmed with millions of additional permit applications." Pet. App. 101a. Thus, the States' regulatory burden would be increased rather than redressed by vacatur of the Timing and Tailoring Rules.

The state petitioners alternatively seek to establish their standing to challenge the rules by claiming that "they are adversely affected by global climate change." 12-1269 Pet. 23 (quoting Pet. App. 105a); see *id.* at 24 & n.1 (relying on Endangerment Finding).

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[19] The court of appeals' determination that petitioners lack standing to challenge the Timing Rule does not warrant this Court's review for the additional reason that petitioners' challenges to that rule, which served only to delay implementation of the PSD permitting requirements to January 2, 2011, have become moot. See, *e.g.*, *Norton* v. *Southern Utah Wilderness Alliance*, 542 U.S. 55, 67-68 (2004).

"In making this argument," however, the state petitioners "d[id] not concede the validity of EPA's Endangerment Finding," State Pet'rs' C.A. Reply Br. 4 n.1 (No. 10-1073), which they elsewhere rejected as resting on "highly uncertain climate forecasts," State Pet'rs' C.A. Br. 18 (No. 09-1322). The elements of standing "are not mere pleading requirements but rather an indispensable part of the plaintiff's case." *Lujan*, 504 U.S. at 561. Accordingly, "[t]he party invoking federal jurisdiction bears the burden of establishing these elements." *Ibid.* Because a party may not obtain a judgment on the merits without "prov[ing]" the facts necessary to support standing, *ibid.*, the state petitioners cannot establish their standing by relying on evidence they also repudiate.

CONCLUSION

The petitions for a writ of certiorari should be denied.

Respectfully submitted.

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OPPOSITION
BRIEF

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IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP,
Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

and eight related cases.

ON PETITIONS FOR WRITS OF CERTIORARI TO THE UNITED STATES
COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

CONSOLIDATED BRIEF IN OPPOSITION OF ENVIRONMENTAL ORGANIZATION RESPONDENTS

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QUESTIONS PRESENTED

Nine petitions for certiorari challenge some or all of four actions of the Environmental Protection Agency concerning the regulation of greenhouse gases under the Clean Air Act, 42 U.S.C. 7401, *et seq.*: (1) a finding under Section 202(a)(1) of the Act, 42 U.S.C. 7421(a)(1), that greenhouse gas pollution may reasonably be anticipated to endanger public health or welfare (Endangerment Finding); (2) regulations establishing greenhouse gas emissions standards for new light-duty motor vehicles for model years 2012–2016 under Section 202(a)(2), 42 U.S.C. 7421(a)(2) (Tailpipe Rule); (3) an agency interpretation identifying the time at which greenhouse gases would become "subject to regulation" under the Act (Timing Decision), and (4) regulations phasing in the application of the Act's Title I, Part C, Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs to stationary sources of greenhouse gas emissions (Tailoring Rule). In addition, certain petitioners challenge regulations promulgated by EPA in 1978, 1980, and 2002 interpreting the Act's PSD permitting requirements, 42 U.S.C. 7475(a), 7479(1).

The questions presented are:

1. Whether the Endangerment Finding complied with Section 202(a)(1), was supported by the record, and satisfied applicable procedural requirements.

2. Whether the Tailpipe Rule is consistent with Section 202(a)(2) and supported by the record.

3. Whether the statutory requirement to obtain a PSD construction permit applies to sources that emit sufficient amounts of any regulated air pollutant, including greenhouse gases.

4. Whether petitioners lacked Article III standing to challenge the Timing Decision and Tailoring Rule.

RULE 29.6 STATEMENT

Respondents Conservation Law Foundation; Environmental Defense Fund; Georgia ForestWatch; Indiana Wildlife Federation; Michigan Environmental Council; National Wildlife Federation; Natural Resources Council of Maine; Natural Resources Defense Council; Ohio Environmental Council; Sierra Club; Wetlands Watch, and Wild Virginia (Environmental Organization Respondents), all respondent-intervenors in the court of appeals, are nonprofit environmental organizations. The Environmental Organization Respondents have no corporate parents and no publicly held corporation owns an interest in any of them.

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INTRODUCTION

In *Massachusetts v. EPA*, 549 U.S. 497 (2007), this Court held that greenhouse gases "unambiguous[ly]" fall within the Clean Air Act's definition of "air pollutant," and that the Environmental Protection Agency has a duty under the Act to curb the emissions of these pollutants if it finds that they contribute to pollution that endangers public health or welfare. Responding to this Court's mandate, EPA has taken a series of carefully considered actions addressing greenhouse gas pollution.

Nine petitions for certiorari raise a variety of challenges to a D.C. Circuit decision upholding EPA's actions. Legal merit is not measured by "pages of briefing," see *Whitman v. American Trucking Ass'ns, Inc.*, 531 U.S. 457, 465 (2001), and the many petitions and supporting briefs raise no issue worthy of this Court's review.

EPA's endangerment and contribution findings and emissions standards for motor vehicles simply implement *Massachusetts*' mandate. The D.C. Circuit correctly determined that these agency actions satisfied all requirements of Section 202(a) of the Act as interpreted by this Court in *Massachusetts*, and reflected EPA's careful, candid, and reasonable assessment of the "ocean" (Pet.App. 46a) of scientific evidence concerning climate change, its causes, and its effects.[1] No petitioner challenges the motor vehicle emissions standards, which EPA established in coordination with the Department of Transportation as this Court contemplated in *Massachusetts.* These standards are delivering significant emissions reductions, and enjoy the automobile industry's support. None of the challenges to the endangerment finding and vehicle standards remotely warrants certiorari.

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[1] We cite to the Petition Appendix in *Utility Air Regulatory Group v. EPA*, No. 12-1146. The appendix to this brief contains a glossary of abbreviations.

Nor is review warranted of the D.C. Circuit's ruling that EPA was "unambiguously correct" (Pet.App. 24a), in regulations promulgated in 1978, 1980, and 2002, that the Act's Prevention of Significant Deterioration (PSD) permitting provisions apply to major sources of any air pollutant regulated under the Act. (As the D.C. Circuit found, petitioners forfeited any challenge as to Title V's operating permit requirements.) The D.C. Circuit applied orthodox rules of statutory interpretation and held EPA's construction to be "statutorily compelled." Pet.App. 94a. Petitioners' varied and conflicting arguments persistently ignore plain statutory language—including the "air pollutant" definition this Court in *Massachusetts* held "unambiguous[ly]" (549 U.S. at 529) covers greenhouse gases.

The D.C. Circuit also correctly concluded that petitioners lacked Article III standing to challenge EPA's Timing Decision and Tailoring Rule, because these actions benefited rather than harmed petitioners. The petitions that challenge this ruling only confirm the marked departures from settled Article III principles that would be required to reach any different conclusion.

Although many petitions disregard or slight *Massachusetts'* holdings and reasoning, only that of

Texas, *et al.*, explicitly calls for this Court to reconsider and overrule its holding in *Massachusetts* that greenhouse gases are an "air pollutant" under the Act's statute-wide definition. The strong version of *stare decisis* that applies in statutory cases requires rejection of that request under any circumstances, and the request should be especially unwelcome given that just two years ago this Court relied squarely upon *Massachusetts* in holding that "the Clean Air Act and the EPA actions it authorizes" displace federal common law abatement actions against carbon dioxide-emitting power plants. *American Electric Power Co. v. Connecticut*, 131 S. Ct. 2527, 2537 (2011). *Massachusetts*, this Court explained, "made plain that emissions of carbon dioxide qualify as air pollution subject to regulation under the Act." *Id.* (citing 549 U.S. at 528–29).

Finally, any suggestions of dire practical impacts from the PSD permitting requirements are simply unfounded. In contrast with petitioners' implications that tens of thousands of sources are being affected, fewer than 200 sources, all of them large emitters, applied for PSD permits for greenhouse gas emissions in the first two years of the program. See *infra*, pp. 44 & nn.21–22. In short, there is no practical issue warranting the Court's intervention.

The petitions should all be denied.

STATEMENT

A. Statutory Background. The Clean Air Act establishes a comprehensive suite of programs "to promote the public health and welfare." 42 U.S.C. 7401(b)(1). For purposes of the Act, "'air pollutant' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air." 42 U.S.C. 7602(g).

Section 202(a)(1) of the Act requires the EPA Administrator to determine whether, "in [her] judgment," "the emission of any air pollutant" from new motor vehicles "cause[s], or contribute[s] to, air pollution" that "may reasonably be anticipated to endanger public health or welfare." *Id.* 7521(a)(1). If the Administrator answers these questions affirmatively, then she "shall" promulgate vehicle emission standards "in accordance with the provisions of" Section 202. *Id.* Standards for passenger vehicles are governed by Section 202(a)(2), which provides that the standards "shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." 42 U.S.C. 7521(a)(2). See generally *Massachusetts*, 549 U.S. at 506, 532–35.

The Prevention of Significant Deterioration (PSD) program requires new and modified "major emitting facilities" to obtain preconstruction permits. 42 U.S.C. 7475. Covered facilities are those located in "attainment" areas (areas meeting at least one national ambient air quality standard (NAAQS)), 42 U.S.C. 7407(d)(1), 7471, 7475(a),[2] and which emit or have the potential to emit more than 100 or 250 tons per year of "any air pollutant." 42 U.S.C. 7479(1). The PSD program requires a preconstruction permit that includes, *inter alia*, emission limitations reflecting the best available control technology (BACT) for each pollutant "subject to regulation under the [Act]." 42 U.S.C. 7475(a)(1), (a)(4), 7479(3). For decades, EPA regulations have provided that, once an air pollutant becomes subject to regulation under any provision of the Act, emissions of that pollutant trigger application of PSD and Title V permitting—so that "the PSD program applies automatically to newly regulated ... pollutants." 67 Fed. Reg. 80,186, 80,240 (Dec. 31, 2002). See also 43 Fed. Reg. 26,380, 26,397 (June 19, 1978); 45 Fed. Reg. 52,676, 52,711 (Aug. 7, 1980); *Alabama Power v. Costle*, 636 F.2d 323, 352 (D.C. Cir. 1979) (observing that, under the statute, PSD permit applicability is not limited to NAAQS pollutants).

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[2] NAAQSs have been established for six pollutants: lead, ozone, carbon monoxide, two forms of particulate matter, sulfur dioxide, and nitrogen dioxide. 40 C.F.R. 50.4–50.18. Dozens of other air pollutants are regulated under the Act. See *infra*, p. 34 n.17.

The Title V operating permit program does not impose substantive requirements, but requires "major sources" (any source that emits or has the potential to emit one hundred tons per year of any air pollutant) to have operating permits that collect in one place all applicable emissions standards. 42 U.S.C. 7661a(a), 7661(2), 7602(j). 57 Fed. Reg. 32,250, 32,251 (July 21, 1992).

B. Regulatory Background. In *Massachusetts*, this Court held that greenhouse gases "without a doubt" and "unambiguous[ly]" fall within "the Act's sweeping definition of 'air pollutant,'" 549 U.S. at 528–29 (citing and discussing 42 U.S.C. 7602(g)). The Court also held that Section 202(a)'s "clear ... command" required EPA to make a "scientific judgment" as to "whether greenhouse gas emissions contribute to climate change," unless it found the science too profoundly uncertain to permit such a judgment. *Id.* at 533–34.

Endangerment Finding. On remand from *Massachusetts*, EPA determined that greenhouse gas pollution may reasonably be anticipated to endanger public health and welfare, and that vehicular greenhouse gas emissions contribute to that pollution. 74 Fed. Reg. 66,496, 66,499 (Dec. 15, 2009). See also 74 Fed. Reg. 18,886 (Apr. 24, 2009) (proposed finding). The Endangerment Finding rested on a massive foundation of scientific evidence developed over decades by thousands of scientists in a range of fields, and reflected in tens of thousands of peer-reviewed publications. EPA prepared a detailed technical support document (TSD) relying in part on comprehensive analyses incorporating thousands of peer-reviewed studies of current climate change research developed by the Intergovernmental Panel on Climate Change, the United States Global Change Research Program (USGCRP), and the National Research Council (NRC)—each of which was in turn subject to further peer review. TSD 6, D.C. Cir. Endangerment Joint Appendix (End.JA) 3354. The agency then put the TSD through "three rounds of technical review by ... 12 federal experts," "three rounds of internal EPA review," and "two rounds of public comment," and prepared an 11-volume response to the thousands of written comments it received. See Response to Comments (RTC) 1–10, End.JA 3566.

EPA found that:

- Atmospheric carbon dioxide (CO_2) and methane concentrations have increased by approximately 38% and 149%, respectively, since the Industrial Revolution, "almost all" due to anthropogenic emissions, and these concentrations are significantly higher than they have been for at least 650,000 years. 74 Fed. Reg. at 66,517.

- Warming of the climate system "is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level." *Id.*

- Average surface temperatures have risen by 1.3 ± 0.32° F over the past century (1906–2005), with the greatest warming occurring during the past 30 years, and the 20 warmest years on record all occurring since 1981. *Id.*

- Anthropogenic greenhouse gas emissions very likely caused most of the warming that occurred over the past 50 years. *Id.* at 66,517–18, 66,522–23.

- Climate models project an increase in global average temperatures of 2.0–11.5° F during the twenty-first century. *Id.* at 66,519; see also TSD 69, End.JA 3417 (citing projections for 2030 of between 2°–4° F).

- Reducing greenhouse gas emissions would reduce the pace and magnitude of the temperature rise. TSD 66, End.JA 3414.

Based on copious record evidence that warming temperatures will cause (and in some cases are already causing) increased risks of mortality and illness from reduced air quality, intensified heat waves, and more frequent and more intense storms, see 74 Fed. Reg. 66,497–99, 66,516–36; see also TSD ES4, 89–93, End.JA 3345, 3437–3441, the Administrator found that greenhouse gas pollution is "reasonably anticipated to endanger public health, for both current and future generations." 74 Fed. Reg. at 66,524.[3] The Administrator also found that climate change poses a variety of risks to public welfare, including increased droughts, sea level rise, harms to agriculture, more severe storms, and increased storm surge damage and flooding in coastal communities, *id.* at 66,497–99, 66,525,

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[3] The Administrator recognized that climate change will have some positive effects on health and welfare, but explained why adverse effects are likely to be preponderant. See, *e.g.*, 74 Fed. Reg. at 66,525 (increase in heat-related deaths, which already exceed cold-related deaths, likely to overwhelm reductions in cold-related deaths).

66,530–36, and will "fundamentally rearrange U.S. ecosystems," *id.* at 66,498. In addition to the harmful effects from greenhouse gases' heat-trapping characteristics and the resulting climate changes, increased atmospheric concentrations of CO_2 have already caused a marked increase in the acidity of ocean water, with potentially serious implications for coral reefs, shellfish and other aquatic life. TSD 38, 134, End.JA 3386, 3482.

Contribution Finding. The Administrator also found that emissions from new motor vehicles "cause or contribute" to greenhouse gas pollution. See 74 Fed. Reg. 66,537–41. In making this determination, the Administrator considered, among other things, motor vehicles' large share of both global and domestic greenhouse gas emissions. *Id.* at 66,539.

Administrative Reconsideration. EPA denied ten petitions seeking administrative reconsideration of the Endangerment Finding, and issued a 360-page response addressing the petitions' claims that the science underlying the finding was flawed. 75 Fed. Reg. 49,556 (Aug. 13, 2010).

Tailpipe Rule. Explaining that once an endangerment finding is made, "section 202(a) requires EPA to issue standards," EPA promulgated greenhouse gas emissions standards for light-duty motor vehicles on May 7, 2010. 75 Fed. Reg. 25,324, 25,398 (Tailpipe Rule). In developing the standards, EPA considered the range of statutory factors set out in Section 202(a)(2), including available technology, cost of compliance, and the time period necessary to implement the standards. *Id.* at 25,403–04. EPA found that the Rule would prevent emissions of nearly one billion metric tons of CO_2 equivalent

(CO_2e). *Id.* at 25,404, 25,519–20.[4]

EPA's Actions Regarding Stationary Sources. Recognizing that regulating greenhouse gas emissions from motor vehicles would by operation of law trigger PSD and Title V permitting, *supra* p. 5, EPA initiated two proceedings to address the application of those programs. First, in the Timing Decision, the agency determined that a pollutant is "subject to regulation" (and thus covered by the PSD and Title V requirements) when compliance with emission limitations for that pollutant is first required—in the case of greenhouse gases, January 2, 2011, the date that the first 2012 model year vehicles would be subject to greenhouse-gas emission standards under the Tailpipe Rule. 75 Fed. Reg. 17,004, 17,004–07 (Apr. 2, 2010). Second, in the Tailoring Rule, EPA phased in the permitting requirements starting with the largest greenhouse gas emitting sources, commencing with sources that have the potential to emit 100,000 tons CO_2e per year of greenhouse gases. 75 Fed. Reg. 31,514, 31,522–23 (June 3, 2010). EPA determined that these measures were necessary to avoid unworkable administrative burdens that would result from immediately subjecting smaller sources to permitting requirements, and would still cover sources responsible for the vast majority (about 86 percent) of stationary source greenhouse gas emissions. *Id.* at 31,543–45, 31,556, 31,571.

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[4] Carbon dioxide equivalent units (CO_2e) take account of greenhouse gases' differing heat-trapping potencies; for example, methane is 25 times more potent than carbon dioxide over a 100-year time-scale, and nitrous oxide is 298 times more potent. See, *e.g.*, 75 Fed Reg. at 25,421. EPA defined the pollutant "greenhouse gases" to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. 74 Fed. Reg. at 66,497.

C. This Litigation. Numerous parties petitioned the D.C. Circuit to review the Endangerment Finding, Tailpipe Rule, Timing Decision, and Tailoring Rule, and some also filed actions seeking review of EPA's 1978, 1980, and 2002 regulations confirming that the Act's PSD permit program applies to sources emitting any regulated air pollutant, not just sources emitting NAAQS pollutants. Petitioners in the latter proceeding argued that the advent of greenhouse gas regulation constituted new grounds authorizing belated judicial review of the old regulations, notwithstanding the Act's 60-day review period, 42 U.S.C. 7607(b)(1); *American Chemistry Council v. EPA*, D.C. Cir. No. 10-1167. The D.C. Circuit organized the petitions into four sets of consolidated cases, and heard oral argument over two days in February 2012.

A unanimous D.C. Circuit panel (Sentelle, C.J., and Rogers and Tatel, JJ.) denied the petitions challenging the Endangerment Finding, the Tailpipe Rule, and the 1978–2002 PSD regulations. The panel dismissed for lack of Article III standing the petitions challenging the Timing Decision and Tailoring Rule.

The court rejected arguments that EPA was obligated to consider various "policy concerns and regulatory consequences" before making an Endangerment Finding, reasoning that Section 202(a)(1) "requires EPA to answer only two questions: whether particular 'air pollution'—here, greenhouse gases—'may reasonably be anticipated to endanger public health or welfare,' and whether motor-vehicle emissions 'cause, or contribute to' that endangerment." Pet.App. 32a–33a. The court concluded that the agency had properly confined itself to the statutorily-required "'scientific judgment' about the potential risks greenhouse gas emissions pose to public health or welfare." *Id.* 33a (quoting *Massachusetts*, 549 U.S. at 534). The court rejected requests to "re-weigh the scientific evidence," *id.* 44a, and concluded that parties seeking administrative reconsideration had not "provided substantial support for their argument that the Endangerment Finding should be revised," *id.* 51a.

The D.C. Circuit next upheld the Tailpipe Rule. The court noted that petitioners did "not challenge the substantive standards," but focused "principally on EPA's failure to consider the cost of stationary-source permitting requirements triggered by the Rule." *Id.* 53a. It concluded that "plain text of Section 202(a) and precedent refute Petitioners' contentions." *Id.*

Turning to the challenges to the PSD permitting provisions, the court first addressed a jurisdictional question: whether petitioners could challenge EPA's decades-old interpretation that PSD applies to all regulated pollutants in light of the 60-day review limit in Section 307(b)(1) of the Act, 42 U.S.C. 7607(b)(1). The court noted that EPA's interpretation actually had been challenged in petitions for review of the 1978 regulations, see Pet.App. 61a (citing industry briefs in *Alabama Power*), and that EPA had "highlighted" (*id.*) its longstanding interpretation in regulations promulgated in 1980 and 2002. The court determined, however, that two petitioners—the National Association of Homebuilders (NAHB) and the National Oilseed Processors Association (NOPA)—could invoke Section 307(b)'s exemption for "grounds arising after" the 60-day period because, unlike "other Industry petitioners[]," at least some of their members would not have had ripe challenges to EPA's interpretation earlier. Pet.App. 66a.

On the merits, the D.C. Circuit found EPA's interpretation of the PSD permitting trigger to be "unambiguously correct" and "statutorily compelled." *Id.* 24a, 72a. The court explained that "given both the statute's plain language and the Supreme Court's decision in ***Massachusetts***," it had "little trouble concluding that the phrase 'any air pollutant' includes *all* regulated air pollutants, including greenhouse gases." *Id.* 73a.

The court considered the "alternative interpretations of the PSD permitting triggers" offered by the challengers, but concluded that none "cast[s] doubt on the unambiguous nature of the statute." *Id.* 77a. The court rejected, as inconsistent with statutory text, arguments that the PSD program is "focused solely on localized air pollution" (*id.* 81a–83a); that the phrase "any area to which this Part applies" in Section 165(a) imposes a "pollutant-specific situs requirement" limiting PSD permitting triggering solely to NAAQS pollutants (*id.* 83a–94a); and a third proposed interpretation, not pressed in the present petitions, based upon 42 U.S.C. 7476(a) (Pet.App. 94a–95a).

While the challengers advocated at length various theories by which the PSD program might be "construed" to exclude greenhouse gases, they advanced no arguments as to the Title V operating permit program. Observing that "none of petitioners' alternative interpretations applies to Title V," the D.C. Circuit held that they had "forfeited any challenges to EPA's greenhouse gas-inclusive interpretation of Title V." Pet.App. 78a.

The court next rejected the challenges to the Timing Decision and Tailoring Rule, holding that petitioners had "fall[en] far short" of demonstrating any of the three elements of standing under Article III. *Id.* 100a. The court explained that "neither the Timing nor Tailoring Rules caused the injury Petitioners allege: having to comply with PSD and Title V for greenhouse gases," and that both Rules "actually mitigate Petitioners' purported injuries." *Id.* 100a–101a.

The full D.C. Circuit denied petitions for rehearing en banc. Judge Brown dissented, expressing her view that ***Massachusetts*** was wrongly decided. *Id.* 615a–625a. Judge Kavanaugh, also in dissent but focusing on the PSD provisions, argued that "any air pollutant" in Section 169(1) should be read to mean only NAAQS pollutants. *Id.* 638a–661a. The panel members filed a joint concurrence responding to the dissenters' arguments, concluding that: "Here, Congress spoke clearly, EPA fulfilled its statutory responsibilities, and the panel, playing its limited role, gave effect to the statute's plain meaning." *Id.* 612a.

REASONS FOR DENYING THE PETITIONS

I. PETITIONERS' CHALLENGES TO THE ENDANGERMENT FINDING AND TAILPIPE RULE LACK MERIT AND ARE UNWORTHY OF FURTHER REVIEW

The D.C. Circuit's unanimous decision sustaining EPA's interpretation of Section 202(a) is unassailably correct, anchored in the plain language of that provision and this Court's *Massachusetts* ruling. So too is the court's disposition of challenges to the scientific record on which EPA based its actions. Petitioners' arguments graft requirements onto Section 202 that are not part of the statute Congress enacted, and their arguments concerning EPA's analysis of the record fail to establish that the agency or the D.C. Circuit committed any error, let alone error warranting this Court's review. No member of the full court, including the two judges who dissented from rehearing en banc, suggested that petitioners' attacks on the Endangerment Finding or Tailpipe Rule warranted further review. (Judge Brown's criticism on those points was based on her view that *Massachusetts* itself was wrongly decided. Pet.App. 615a–625a). Texas's request to overrule *Massachusetts* disregards core *stare decisis* principles.

A. Petitioners' Challenges to EPA's Interpretation of Section 202(a)(1) Are Unworthy of Further Review.

The Chamber of Commerce's argument that Section 202(a)(1) requires a "particular type of causal connection between air pollutants and endangerment"—one that "calls to mind" common-law foreseeability tests, Pet. 21, 23 (citing *Palsgraf v. Long Island R.R.*, 162 N.E. 99 (N.Y. 1928)), was not raised before the agency or the D.C. Circuit and is therefore forfeited. See *U.S. v. Jones*, 132 S. Ct. 945, 954 (2012). Regardless, this insubstantial argument is unworthy of review. Section 202(a) requires promulgation of standards when vehicle emissions "cause, or contribute to" air pollution which, in the Administrator's "judgment," "may reasonably be anticipated to endanger public health or welfare." This language would be a startlingly improbable way to codify common law concepts. To the contrary, Congress adopted the Section 202(a)(1) endangerment formulation to emphasize and reinforce the Administrator's duty to take precautionary action to prevent harm before it occurs, on the basis of probative but still uncertain scientific evidence. See *Ethyl Corp. v. EPA,* 541 F.2d 1, 24–25 (D.C. Cir. 1976) (en banc); *Massachusetts*, 549 U.S. at 506 n.7.

The Chamber's related suggestions that the impacts of climate change are too "remote" to constitute "public health" effects (Pet. 23–25) or that only "inhalational" effects can qualify as such (Pet. 17, 24; see also Pet.App. 622a–623a (Brown, J., dissenting)) are likewise meritless. Increased greenhouse gas concentrations result in warming and produce, among other things, intensified heat waves, exacerbated smog, exacerbated disease vectors, and more frequent and intense storms—all of which can cause death or illness. 74 Fed. Reg. at 66,497–99, 66,516–36. Other familiar forms of Clean Air Act-regulated pollution endanger public health by non-"inhalational" routes. For example, chlorofluorocarbons harm public health by depleting the ozone layer in the stratosphere, allowing cancer- and cataract-causing radiation from the sun to reach the Earth's surface. The most urgent human health effects from mercury emissions occur as a result of consuming fish contaminated by mercury emitted from smokestacks, transported through the air and deposited in water bodies, where it is transformed by microorganisms into methylmercury and concentrated through bioaccumulation in the aquatic food chain. See also *Ethyl Corp.*, 541 F.2d at 9, 45–46 (upholding regulation of fuel additives based in part on evidence of possible harms to health of children who ingest dust containing lead originating from auto emissions). The Chamber's assertion that the serious risks amply documented in the record are "beyond the bounds of what Congress intended for the agency to address" (Pet. 24) is forcefully contradicted by the Act's "broad language." See *Massachusetts*, 539 U.S. at 532. See also *id.* at 529 n.26 (greenhouse gases are "unquestionably" air pollution "agents" notwithstanding their characteristics as atmospheric pollutants).[5]

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[5] The "indirectness" argument is the opposite of one the Chamber urged—successfully—in previous Clean Air Act litigation: In a challenge to EPA's 1997 ozone NAAQS, the Chamber faulted the agency for failing to account for the (claimed) benefits of ground-level ozone in blocking ultraviolet (UVB) radiation, which causes skin cancer and cataracts. The Chamber characterized these UVB-shielding effects of ozone pollution as "direct health effects of ground-level ozone in the ambient air," Small Business Reply Br., D.C. Cir. No. 97-1441 at 7 (filed Aug. 6, 1998), and dismissed as "desperate" the contention that those effects were "too indirect to be counted." Small Business Opening Br., D.C. Cir. No. 97-1441 at 23 (filed March 23, 1998). The D.C. Circuit unanimously ruled that EPA must consider these UVB effects, *American Trucking*

The Chamber's labored argument (Pet. 26–27) that EPA erred by treating harms flowing from climate change as "health" dangers rather than "welfare" effects is particularly specious.[6] The premise that Section 202(a) contemplates some strict dichotomy is facially implausible, given that it mandates regulation when air pollution endangers "public health *or* welfare." In any event, it was plainly reasonable for EPA to consider effects such as death and illness from heat waves, increased smog, and new or exacerbated disease vectors as "health" risks. The Chamber's complaint does not warrant this Court's attention.

The Coalition for Responsible Regulation (CRR) insists (Pet. 7, 24–29) that EPA's Endangerment Finding and vehicle standards should be vacated based on the standards' supposed "futility" (or the absence of a rigorous "demonstration" of their "efficacy"). Yet it is not CRR's position that EPA should have promulgated *more* effective tailpipe standards (*no* party actually challenges the substance of EPA's emission standards). Nor is CRR a regulated party: none of the petitioners is regulated by the Tailpipe Rule (and the auto manufacturers support it).

Ass'ns. v. EPA, 175 F.3d 1027, 1051–53 (D.C. Cir. 1999), *rehearing denied in relevant part*, 195 F.3d 4, 10 (D.C. Cir. 1999), *rev'd in part on other grounds*, 531 U.S. 457 (2001).

[6] This contention is forfeited. It appeared below in a single, opaque sentence on page 58 of industry petitioners' lengthy opening brief, and the D.C. Circuit did not address it. See *Mogenhan v. Napolitano*, 613 F.3d 1162, 1165 n.1 (D.C. Cir. 2010) ("skeletal" arguments forfeited).

Contrary to CRR's suggestion, the emission reductions resulting from the vehicle standards are manifestly substantial: EPA projected the standards will reduce greenhouse gases by 962 million metric tons of over the lifetime of model year 2012–2016 vehicles. 75 Fed. Reg. at 25,490, Table III.F.1-2. Even if the standards had not been strengthened for later model years,[7] by 2050 they would have resulted in an estimated 22.8 percent emission reduction from the U.S. transportation sector and a 6 percent reduction in emissions from *all domestic sources* over that period. *Id.* at 25,489. "Judged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations." *Massachusetts*, 549 U.S. at 525.

CRR advances an "interpretation" of Section 202 whereby endangerment may be found only if the air pollution problem in question is due *solely* to the vehicle emissions and can be *entirely* resolved by vehicle standards. This bears no resemblance to the provision Congress enacted. Section 202(a)(1) states that EPA "shall" promulgate emissions standards (a) if air pollution may reasonably be anticipated to endanger public health or welfare and (b) if new vehicle emissions "contribute" to that pollution. See *Massachusetts*, 549 U.S. at 533–34.[8] The *content* of the vehicle standards is determined in accordance with Section 202(a)(2), which mandates emission reductions that are achievable considering manufacturers' need for lead time, the availability of technology, and compliance costs. Thus, Section 202(a) does not require that vehicle emissions must be the sole cause of the pollution problem, or that abatement of those emissions must fully cure it. The statutory criteria for endangerment and for the vehicle standards readily dispose of CRR's claims that the D.C. Circuit's construction affords EPA "unconstrained" discretion (Pet. 35) or precludes "meaningful" judicial review (Pet. 34–36).

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[7] In 2012, EPA and DOT issued more advanced standards for model years 2017–25, also with the auto industry's support, that will further reduce greenhouse gas emissions from vehicles sold in those years. See 77 Fed. Reg. 62,624 (Oct. 15, 2012).

[8] CRR's theories are at odds with the statutory text. Compare Pet. 20 ("Only an interpretation that requires a contribution to 'endangerment' is faithful to the Act's text and structure.") with Section 202(a)(1) (EPA "shall" prescribe standards when it finds that vehicle emissions "cause, or

The Section 202(a) framework—endangerment and contribution findings triggering a duty to regulate, and standards turning on cost and feasibility rather than on achieving a specific risk-reduction or health-based goal—is common in other key provisions of the Act, including the Section 111 new source performance standards. See *American Electric Power,* 131 S. Ct. at 2537–38. Such provisions rest on the perfectly rational *congressional* premise that reducing emissions that "contribute" to dangerous air pollution will reduce the danger.[9]

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contribute to, *air pollution* which may reasonably be anticipated to endanger public health or welfare.") (emphasis added).

[9] CRR claims the emissions reductions "would largely occur anyway as a result of the NHTSA fuel economy standards." Pet. 14; see Pet. 27 & n.5. But Section 202(a) imposes legal obligations "independent" from those under the fuel economy statute, see *Massachusetts,* 549 U.S. at 532, and the fact that EPA and NHTSA coordinated to make compliance easier is

EPA followed these statutory commands in all respects. First, EPA determined that greenhouse gas air pollution endangers the public health and welfare of present and future generations. Second, EPA determined that emissions of greenhouse gases from motor vehicles contribute to greenhouse gas air pollution, a finding that considered factors such as vehicles' "relative importance" as pollution sources. See 74 Fed. Reg. 66,537–41. (No party challenged that contribution finding in the D.C. Circuit.) Third, EPA determined the level of emissions reductions achievable in light of available automotive technology, lead-time, and manufacturers' compliance costs. See 75 Fed. Reg. at 25,403–04, 25,463, 24,519–20.

In an effort to rewrite Section 202(a), CRR (Pet. 17–18) misapplies the administrative law principle of reasoned explanation articulated in *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983). That principle requires an agency to consider relevant factors, but "the determination of what is relevant" comes from the statute. *Motor & Equip. Mfrs. Ass'n v. EPA*, 627 F.2d 1095, 1116 (D.C. Cir. 1979). Thus, *State Farm* explains that "an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider." 463 U.S. at 43. See also *American Trucking Ass'ns*, 531 U.S. at 465–68

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hardly a mark against them. Furthermore, EPA's vehicle standards are projected to result in 47 percent greater greenhouse gas reductions than projected under the NHTSA fuel economy standards over the lives of model year 2012–2016 vehicles. 75 Fed. Reg. at 25,490, Table III.F.1-2; *id.* at 25,635–36, Table IV.G.1-4.

(holding the Act did not permit EPA to consider costs in setting NAAQS, despite arguments that such consideration was not only "relevant," but vitally important to the national economy). Indeed, in *Massachusetts* this Court emphasized this very point, rejecting a "laundry list" of "policy" reasons as "divorced from the statutory text." 549 U.S. at 532–33. Nothing in Section 202(a)(2) permits EPA to withhold motor vehicle emissions standards because they alone will not fully solve the pollution problem, or requires the agency to measure the efficacy of potential standards before deciding whether endangerment exists.

CRR repeatedly invokes the D.C. Circuit's decision in *Ethyl*, but, as the panel noted, "[n]othing in *Ethyl* implied that EPA's authority to regulate was conditioned on evidence of a particular level of mitigation; only a showing of significant *contribution* was required." Pet.App. 57a. Indeed, *Ethyl* rejected arguments very like CRR's, holding that EPA had properly regulated lead from motor vehicles even though lead comes from "multiple sources" and airborne lead from automobiles "in and of itself, may not be a threat," and explaining that "no regulation could ever be justified" if the agency were barred from attacking cumulative harms incrementally. 541 F.2d at 30. See also *Massachusetts*, 549 U.S. at 524 (agencies generally approach "massive problems" by "whittl[ing] away at them over time"); 42 U.S.C. 7421(a)(1) (providing for revision of emissions standards "from time to time"). CRR's challenges are unworthy of further review.

B. Petitioners' Attacks on EPA's Analysis of the Scientific Record Lack Merit And Are Unworthy of Review.

Southeastern Legal Foundation asks the Court (Pet. 10–17) to review EPA's analysis of the climate science. Notwithstanding its high rhetorical pitch, SLF's attack is, in substance, tellingly indirect and circumscribed. Citing a few passages in the vast record, SLF asks the Court to brand "irrational" (Pet. 10) EPA's assignment of a 90–99 percent confidence level to the finding that human activities caused most of the warming that occurred in the second half of the twentieth century.[10]

EPA dealt candidly with uncertainties in the massive scientific record addressing the causes and effects of climate change. EPA's finding was based on a consideration of "the totality of scientific evidence, some of which was assessed as being virtually certain ... while other evidence was less certain." RTC 1-35, End.JA 3593; see also 74 Fed. Reg. at 66,497, 66,506. The appeals court carefully reviewed the scientific record, Pet.App. 39a–45a, and examined the few marginal objections petitioners did raise (mostly abandoned in SLF's petition here). See *id.* 42a (observing that "Industry Petitioners do not find fault with much of the substantial record EPA amassed in support of the Endangerment Finding").

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[10] SLF (Pet. 12 & n.8) cites post-decisional materials to suggest that subsequent developments have cast doubt upon the scientific basis for EPA's finding. Besides being improper in a record review case, see 42 U.S.C. 7607(d)(7), the claim is patently untrue. See, *e.g.*, NRC, *America's Climate Choices* at 17 (2011) (finding that increased concentrations of greenhouse gases "definitively" cause global warming); *id.* at 19 (confirming that United States is experiencing the impacts of climate change, including sea level rise and increasing frequency and severity of heavy rainfall, drought, and wildfires across multiple regions of the country), *available at* https://download.nap.edu/catalog.php?record_id=12781; NRC, *Advancing the Science of Climate Change* (2010) ("[C]limate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems.") (quoted in 75 Fed. Reg. at 49,558).

The issues SLF does raise are unworthy of further review. For example, SLF's claim (Pet. 13) to have "refut[ed]" EPA's physical understanding of climate change—based on the absence of a predicted "'hot spot' in the tropical upper troposphere"—was not timely raised in Petitioners' opening briefs below and was thereby forfeited. See *Catawba County v. EPA*, 571 F.3d 20, 38 (D.C. Cir. 2009). In any event, SLF's arguments disregard EPA's explanation that more recent and accurate data demonstrate warming consistent with modeled predictions. RTC 3-7, End.JA 3815–16. Similarly, SLF is wrong in arguing (Pet. 14–15) that short-term and regional climate variability (driven by complex but familiar climate dynamics) casts doubt on science's understanding of long-term, documented warming trends or on the models that predict them. Both basic principles of physics and climate models project long-term, large-scale responses of average global temperature to rising greenhouse gas concentrations—precisely what has been observed. See RTC 3-6, End.JA 3814–15. Further review is unnecessary.

Virginia's assertion (Pet. 27) that EPA "impermissibly delegated" its responsibility under Section 202(a)(1) to form its own "judgment" on endangerment is likewise unworthy of further review. The D.C. Circuit explained, Pet.App. 38a–39a, that the Administrator exercised her independent judgment and appropriately reviewed and referenced both primary scientific sources and syntheses of those sources. See, *e.g.*, 74 Fed. Reg. at 66,497, 66,510–12, 66,517–19. As the court observed: "This is how science works. EPA is not required to re-prove the existence of the atom every time it approaches a scientific question." Pet.App. 38a–39a.

Nor need this Court review the D.C. Circuit's unanimous rejection of Virginia's claim (Pet. 16) that EPA "misapplied" 42 U.S.C. 7607(d)(7)(B), which requires EPA to initiate a reconsideration proceeding if the objection a party raises could not have been raised during the public comment period and the objection is "of central relevance to the outcome of the rule." The reconsideration petitions principally claimed that the IPCC assessment report contained several items of flawed and unreliable information. EPA examined these claims carefully, see Pet.App. 50a, and the D.C. Circuit observed that the reconsideration petitions demonstrated no "pattern of flawed science," that only a few of the alleged IPCC shortcomings really were errors, and that EPA had not relied on them. *Id.* 51a–52a. The court also sensibly rejected Virginia's argument (Pet. 15–17) that EPA's detailed explanation for denying reconsideration was itself proof that reconsideration was required. *Id.* 52a–53a.

The Pacific Legal Foundation's contention that EPA was required to make the proposed Endangerment Finding available to the Science Advisory Board (SAB) faces fatal procedural barriers. This statutory objection was not timely raised during the public comment period, End.JA 4843, see 42 U.S.C. 7607(d)(7)(B), and improperly relies on non-record assertions in a declaration submitted with PLF's en banc petition. See *id.* 7607(d)(7)(A), 7607(e). In any event, the contention is plainly unworthy of this Court's review. The provision on SAB review is, by its terms, limited to instances in which (1) a "proposed criteria document, standard, limitation, or regulation" (2) "is provided to any other Federal agency for formal review and comment." See *id.* 4365(c)(1). The panel found that PLF "failed to respond" to EPA's demonstration, during the rulemaking, that the Endangerment Finding was not subject to interagency "formal review and comment" within the meaning of the SAB statute, see Pet.App. 49a; see also RTP 3-7, End.JA 4842–44. PLF now advances a strained and unsupported argument (Pet. 15) that the public comment process under the Clean Air Act itself constitutes a "formal" interagency review that triggers SAB review.[11] Its allegations of intra-circuit conflicts (*e.g.*, Pet. 23–25) were not persuasive to any member of full D.C. Circuit; PLF's en banc petition was denied without a recorded vote. Pet.App. 663a.

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[11] The D.C. Circuit's alternative conclusion (Pet.App. 48a–49a) that any error concerning the SAB provision was harmless under the Act's "substantial likelihood" standard for "alleged procedural errors," 42 U.S.C. 7607(d)(8), does not merit review either. Although PLF protests (Pet. 21–23) that that provision applies only to certain Clean Air Act violations, its text contains no such limitation, and the APA's "prejudicial error" standard, 5 U.S.C. 706, would apply in any event.

C. Pleas to Reconsider *Massachusetts* Ignore Statutory *Stare Decisis* and the *American Electric Power* Decision.

Texas's petition explicitly—albeit half-heartedly—asks the Court "to reconsider *Massachusetts*'s holding that carbon dioxide and other greenhouse gases unambiguously qualify as 'air pollutant[s]' within the meaning of the Act." Pet. 31. The Court should reject this plea under "[b]asic principles of *stare decisis*." See *U.S. v. Home Concrete & Supply, LLC*, 132 S. Ct. 1836, 1841 (2012).

"[A] difference of opinion within the Court ... does not keep the door open for another try at statutory construction," *Watson v. U.S.*, 552 U.S. 74, 82 (2007), and no intervening fact or legal development undermines this Court's decision. On the contrary, the body of scientific evidence of anthropogenic climate change and its harms has become even more robust since 2007, see, *e.g.*, *supra*, p. 23 n.10, and all three branches of the federal government, as well as States and regulated parties, have acted in reliance upon *Massachusetts*.

Indeed, while Texas insists (Pet. 31) that the Court did not foresee how *Massachusetts* would resonate beyond the Act's vehicle standards provision, Texas does not even cite the Court's unanimous 2011 decision in *American Electric Power* that power plant greenhouse gas emissions are also subject to regulation under Clean Air Act provisions such as Section 111. See 131 S. Ct. at 2537 ("[T]he Clean Air Act and the EPA actions it authorizes displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants."). As *American Electric Power* explained, "*Massachusetts* made plain that emissions of carbon dioxide qualify as air pollution subject to regulation under the Act." *Id.* (citing 549 U.S., at 528–529). The Court accepted arguments by major electric utilities (members of trade associations before the Court here) that power plants' greenhouse gas emissions are indeed subject to regulation under the Act. See, *e.g.*, AEP Pet'r Br. in No. 10-174, at 46 ("[T]he Clean Air Act delegates regulatory authority over carbon dioxide emissions to EPA, and thus displaces federal common law claims."); *id.* at 43 (maintaining that Act "speaks directly" to carbon pollution from stationary sources) (internal quotation marks and citations omitted).

Texas's desultory argument based on two constitutional decisions (Pet. 33) ignores this Court's longstanding emphasis that "*stare decisis* in respect to statutory interpretation has special force, for Congress remains free to alter what we have done." *Home Concrete & Supply*, 132 S. Ct. at 1841. Accord *John R. Sand & Gravel Co. v. U.S.*, 552 U.S. 130, 139 (2008); *Hohn v. U.S.*, 524 U.S. 236, 251 (1998); *Patterson v. McLean Credit Union,* 491 U.S. 164, 172–73 (1989). Indeed, since *Massachusetts,* Congress has considered but declined to adopt scores of legislative proposals that would have repealed, deferred, or otherwise curtailed EPA's authority to regulate greenhouse gas emissions.[12] Texas's plea to strip EPA of the statutory authority recognized in *Massachusetts* and recently reaffirmed in *AEP* cannot be reconciled with the values of stability and separation of powers that statutory *stare decisis* serves.

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[12] At least sixty-one such bills or resolutions have been introduced in Congress—and none has been enacted into law. See, *e.g.*, S. Amdt. 359 to S. Con. Res. 8, 113th Cong. (2013); H.R. 2081, 113th Cong. (2013); S.2365, 112th Cong. (2012); H.R. 3409, 112th Cong. (2012); S.J. Res. 26, 111th

II. EPA'S CONSTRUCTION OF THE PSD APPLICABILITY PROVISIONS WAS CORRECT AND DOES NOT MERIT FURTHER REVIEW

Many petitioners challenge the D.C. Circuit's ruling upholding EPA's long-standing interpretation that the PSD construction permit program applies to sources emitting threshold quantities of any regulated air pollutant.[13] There are substantial differences among their various theories, some of which have shifted even since the decision below. Some petitioners seek to exclude greenhouse gases entirely from the PSD program (*e.g.*, Texas Pet. 30; Chamber Pet. 28–29), while the ACC petitioners (Pet. 24 n.12) and Judge Kavanaugh's dissent (Pet.App. 646a) acknowledge that sources subject to PSD permitting because they emit other pollutants

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Cong. (2010); S. 1622, 111th Cong. (2009); H.R. 2846, 111th Cong. (2009); S. 570, 111th Cong. (2009).

[13] Whether EPA's decades-old interpretation is still open to challenge despite the 60-day limitation in 42 U.S.C. 7607(b)(1) turns on (1) whether the D.C. Circuit correctly ruled (Pet.App. 62a–67a) that the two trade associations, NAHB and NOPA, could avoid the statutory bar, and (2) whether that ruling also allows *other* parties to assert distinct challenges to the long-standing interpretation. *Cf.* EIMWG Pet. at ii (Question Presented No. 3). See *NRDC v. EPA*, 571 F.3d 1245, 1265 (D.C. Cir. 2009) (holding that the restriction is jurisdictional); *Motor & Equip. Mfrs. Ass'n v. Nichols*, 142 F.3d 449, 460 (D.C. Cir. 1998) (same).

must control their greenhouse gas emissions using the "best available control technology." Below, the ACC petitioners argued for a greenhouse gas-excluding interpretation based upon what they called a "pollutant-specific situs requirement" ostensibly flowing from the phrase "in any area to which this part applies" in Section 165(a). See Pet.App. 83a; Petitioners' Opening Br. in D.C. Cir. No. 10-1166 at 29–31. But now they refer to "the alternative interpretation advanced by this petition and Judge Kavanaugh," see ACC Pet. 24 n.12, even though Judge Kavanaugh did not even cite the statutory phrase ACC previously highlighted as operative and crucial.

None of petitioners' protean arguments warrants further review. As the D.C. Circuit held, EPA's decades-old reading of the Act is "unambiguously correct" and "statutorily compelled" (Pet.App. 24a, 72a) by the plain text of the PSD applicability provisions: Section 165(a) requires any "major emitting facility" being constructed in a PSD area to obtain a permit, 42 U.S.C. 7475(a), and Section 169(1) defines "major emitting facility" as a stationary source emitting 100 or 250 tons or more per year of "*any* air pollutant." *Id.* 7479(1) (emphasis added). Under Section 302(g), "air pollutant," "when used in this [Act] ... means *any* air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air," *id.* 7602(g) (emphasis added). That language cannot reasonably be limited to the six NAAQS pollutants. Moreover, this Court held in ***Massachusetts*** that the definition "without a doubt" and "unambiguous[ly]" includes greenhouse gases. 549 U.S. at 529. "Given all this," the appeals court had "little trouble concluding that 'any air pollutant' in the definition of 'major emitting facility' unambiguously means 'any air pollutant regulated under the [Act],'" including greenhouse gases. Pet.App. 77a.

The D.C. Circuit explained in careful detail why the various "alternative" interpretations of the PSD trigger offered by petitioners and Judge Kavanaugh are inconsistent with the statute. *Id.* 77a–95a. Each involves untenable departures from the text of the statute.[14] ACC and other petitioners now argue, in reliance on Judge Kavanaugh's dissent, that EPA *must* adopt different regulatory definitions of the statutory term "air pollutant" depending on the program at issue, and that "any air pollutant" in Section 169(1) *must* be read to mean "any NAAQS pollutant." See, *e.g.*, ACC Pet. 19–25; Pet.App.

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[14] Petitioners contend that the D.C. Circuit mistakenly assumed that *Massachusetts*, which involved only mobile sources, had resolved PSD's application to stationary sources of greenhouse gases. See, *e.g.*, UARG Pet. 18–20. That charge is unfounded. The D.C. Circuit recognized that the PSD coverage issue was separate and unaddressed by *Massachusetts*, and it entertained the possibility that the PSD provisions could be read to exclude regulated air pollutants such as greenhouse gases, notwithstanding 35 years of EPA regulations. Ultimately, however, the court found that the statutory text precluded that approach. In construing the PSD program, the D.C. Circuit properly took account of *Massachusetts'* holding as to the "unambiguous" meaning of the Act's "air pollutant" definition, just as this Court did in *American Electric Power*, 131 S. Ct. at 2537 (Section 111 applies to greenhouse gases because "*Massachusetts* made plain that emissions of carbon dioxide qualify as air pollution subject to regulation under the Act." (citing 549 U.S. at 528–29)).

640a–643a, 648a. But this argument violates basic principles of statutory construction. "Air pollutant" is a defined term expressly applicable *throughout the Act*. See 42 U.S.C. 7602 ("When used in this chapter"); *Massachusetts*, 549 U.S. at 532 (referring to "*the Clean Air Act*'s capacious definition of air pollutant") (emphasis added); *American Electric Power*, 131 S. Ct. at 2537 ("[E]missions of carbon dioxide qualify as air pollution subject to regulation under the Act."). "Statutory definitions control the meaning of statutory words." *Burgess v. United States*, 553 U.S. 124, 129–30 (2008) (quoting *Lawson v. Suwannee Fruit & S.S. Co.*, 336 U.S. 198, 201 (1949)). See also *Bilski v. Kappos*, 130 S. Ct. 3218, 3226 (2010) ("When a statute includes an explicit definition, we must follow that definition.") (citation and internal quotation marks omitted). As the Court concluded in *Massachusetts*, Congress would not have defined "air pollutant" in Section 302(g) "so carefully and so broadly, yet confer[red] on EPA the authority to narrow that definition whenever expedient." 549 U.S. at 529, n.26.

Contrary to petitioners' careful efforts to bury it, *e.g.*, UARG Pet. 20–21, Congress's use of the defined term "air pollutant" in Section 169(1)'s designation of PSD sources was no accident: Congress amended and expanded the definition of "air pollutant" to its current, broad form as part of the same 1977 legislation by which it enacted the PSD program. Pub. L. No. 95-95, § 301, 91 Stat. 685, 770 (1977).[15]

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[15] Prior to the 1977 amendments, Section 302(g) had defined "air pollutant" to mean "an air pollution agent or combination of such agents." Pub. L. No. 91-604, § 16(g), 84 Stat. 1676, 1710 (1970).

And in 1990, when Congress established a separate permitting program for hazardous air pollutants (which are non-NAAQS pollutants), Congress enacted a specific provision exempting these pollutants from PSD permitting. 104 Stat. 2399, 2537 (1990), codified at 42 U.S.C. 7412(b)(6) (PSD "shall not apply" to hazardous air pollutants); see also 42 U.S.C. 7412(g)(2). This exemption would have been unnecessary if PSD had been limited to NAAQS pollutants all along.

Although the appeals court did not—and did not need to—go beyond statutory text, the legislative history shows with exceptional clarity that Congress intended PSD permitting to apply to the full range of air pollutants, specifically including those that threatened to cause, to quote the committee that authored the provisions, "[w]orldwide weather modification." H.R. Rep. No. 95-294, at 138 (1977). The committee "recognized the strong need for a policy of preventing significant deterioration of air quality" for, among other reasons, "avoidance of unnecessary stratospheric and atmospheric modifications due to air pollution," *id.* at 105, and extensively quoted from a path-breaking National Academy of Sciences study of global warming, *Understanding Climate Change*. *Id.* at 138.

Judge Kavanaugh relied upon *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561 (2007), for the proposition that an agency may interpret a recurring statutory term differently depending on the context. Pet.App. 652a–653a; see also UARG Pet. 21. But that modest principle is not a license to ignore an unambiguous definition that expressly applies across a statute based upon generalized appeals to context. On the contrary, *Duke Energy* explained that any interpretive differentiation must stay "within the limits of what is reasonable, as set by the Act's common definition." 549 U.S. at 576.[16] Neither Judge Kavanaugh's dissent nor any of the petitions even attempts to show how the text of the Section 302(g) definition may "reasonably" be read to exclude numerous non-NAAQS pollutants that have long been regulated under the Act,[17] or how, notwithstanding this Court's parsing of the very same "unambiguous" definition in *Massachusetts*, the same text may now be read as excluding greenhouse gases. Congress's decision, in Section 169(1), to modify "air pollutant" with the "expansive" term "any," see *U.S. v. Gonzales,* 520 U.S. 1, 5 (1997), further emphasizes the intended breadth of the definition.

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[16] *Duke Energy* approved EPA's use of different regulatory definitions of the common, statutorily defined term "modification" employed in two different Clean Air Act programs (NSPS and PSD). The regulations provided different methods of measuring an emissions "increase," an undefined word within the common statutory term. The argument the Court rejected was that EPA's use of an hourly test for measuring an NSPS "increase" precluded the agency, in subsequent PSD rulemaking, from using an annual test for a PSD "increase." See 549 U.S. at 567–59, 574–76. There was no claim in *Duke Energy* that the text of the relevant statutory definition precluded the annual approach, and nothing in the Court's opinion (or any of petitioners' other cases) suggests that an agency, in interpreting an iterated statutory term to fit differing contexts, may stray from the boundaries fixed by the text of the term.

[17] A wide variety of regulated, non-NAAQS pollutants have been subject to PSD for decades. See, *e.g.*, 40 C.F.R. 51.166(b)(23)(i) (PSD applicability regulations for fluorides; sulfuric acid mist; hydrogen sulfide; total reduced sulfur; municipal waste combustor organics, metals and acid gases; and solid waste landfill emissions). Judge Kavanaugh's NAAQS-only gloss on "any air pollutant" would exclude all these pollutants, which fall into the category "any air pollutant" just as clearly as do greenhouse gases.

Petitioners (ACC Pet. 9, 24) and Judge Kavanaugh (Pet.App. 647a) wrongly conclude that Section 169(1) can be limited to NAAQS pollutants because the PSD program, they contend, is focused singularly on NAAQS attainment. The statute says otherwise. As the panel observed (Pet.App. 90a), Title I, Part C, Subpart 1, of the Act, containing the PSD provisions, is entitled "Clean Air," and opens with an expansive statutory statement of purpose: "to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate[d] to result from air pollution." 42 U.S.C. 7470(1). See also ***Massachusetts***, 549 U.S. at 506 (under the Act effects on welfare include "'effects on ... weather ... and climate'" (quoting 42 U.S.C. 7602(h)).

Furthermore, the PSD permit program's central substantive provision, the requirement in Section 165(a)(4) to install BACT, expressly applies to "each pollutant subject to regulation under this" Act, 42 U.S.C. 7475(a)(4), as ACC (Pet. 8, 24 nn.11 & 12) and Judge Kavanaugh (Pet.App. 646a) both acknowledge. If PSD really had the claimed "NAAQS-only" mission, Congress would hardly have required sources to install controls for all regulated pollutants.

The Section 165(a)(4) BACT provision highlights one of the more emphatic ways in which the statutory text refutes the NAAQS-only theory: As a matter of logic and ordinary understanding, if a "pollutant" is "subject to regulation under the [Clean Air Act]," it is necessarily included in the broader phrase "any air pollutant" in Section 169(1). See *City of Arlington v. FCC*, 133 S. Ct. 1863, 1874 (2013) (adhering to "the theorem that the whole includes all of its parts"). Judge Kavanaugh's analysis specifically depends upon the clearly untenable proposition that the category "each pollutant subject to regulation" in Section 165(a)(4) is "broader" (Pet.App. 646a) than "any air pollutant" in Section 169(1)—and that the former, but not the latter, includes greenhouse gases. Both ordinary meaning and the D.C. Circuit's canonical early decision construing the PSD provisions say the opposite: "that the § 169(1) definition of major emitting facility refers to a broader category of pollutants than does that of § 165." *Alabama Power*, 636 F.2d at 352 n.60.

But the flaws in the "NAAQS-only" theory do not end there: Section 165(a)(3) requires that PSD permittees demonstrate compliance not only with the NAAQS, but also with "*any other* applicable emission standard or standard of performance under" the Act. 42 U.S.C. 7475(a)(3) (emphasis added). These "other" emissions standards include new source performance standards, 42 U.S.C. 7411, which indisputably apply to non-NAAQS air pollutants, including greenhouse gases, as this Court recognized in *American Electric Power*, 131 S. Ct. at 2537. See also Pet.App. 612a.

The NAAQS-only arguments are marred by other logic errors. Petitioners and Judge Kavanaugh emphasize that while the Act's visibility provision defines "major stationary sources" by reference to threshold amounts of "any pollutant," 42 U.S.C. 7491(g), EPA's regulatory guidance limits the program to "visibility-impairing" pollutants. See Pet.App. 654a; UARG Pet. 22. But this merely reflects explicit statutory text limiting the scope of the visibility provisions to "any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area." 42 U.S.C. 7491(b)(2)(A); see also *id.* 7491(c)(1)–(2). No similar limitation on the term "any air pollutant" is found in Section 169(1). *Some* PSD provisions are expressly linked to the NAAQS (*e.g.*, Section 163(b)(4), cited by Judge Kavanaugh, Pet.App. 645a, specifying maximum allowable increases of NAAQS pollutants); however, numerous *other* pivotal PSD provisions (including Sections 160(1), 165(a)(3)(C), and 165(a)(4)) expressly apply to non-NAAQS pollutants.[18]

The three D.C. Circuit panel judges also correctly rejected (Pet.App. 610a–611a) Judge Kavanaugh's argument (Pet.App. 641a–642a) that a "NAAQS-pollutant-only" interpretation was justified by the interest in avoiding "absurd results" in the form of an unexpectedly large number of PSD permits. As the concurring judges explained, that argument depends on the plainly incorrect premise that "NAAQS pollutant" is a "plausible interpretation" of "any air pollutant." See Pet.App. 611a. Moreover, EPA found only that the administrative demands created by immediate application of PSD to a large number of sources led to absurd results; the agency never concluded that it would be absurd to apply PSD to non-NAAQS pollutants generally, or greenhouse gases in particular. To the contrary, EPA found that Congress clearly intended PSD to apply to all regulated pollutants, including greenhouse gases. See, *e.g.*, 75 Fed. Reg. at 31,517. In the Tailoring Rule, EPA responded to well-documented administrative issues by phasing in PSD and Title V permitting, focusing first on the largest industrial sources and committing to future evaluations of the permitting process before potentially extending permitting to smaller sources. *Id.* at 31,514–17, 31,535–40.

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[18] EPA *has* interpreted the Section 169(1) source definition to reach no more broadly than the substantive requirements of the PSD program. See Pet.App. 73a–74a (discussing EPA's longstanding regulatory limitation of the PSD program to regulated air pollutants, *i.e.*, those subject to substantive limitations under PSD provisions such as Section 165(a)(4)'s BACT requirement).

No party that sought to challenge EPA's authority to adopt the Tailoring Rule had standing to do so, and the D.C. Circuit thus did not reach the question of EPA's phase-in authority. See Pet.App. 106a. Even if that merits question were somehow before this Court (and if all of the reasons the agency gave for the Tailoring Rule were held invalid), the correct response would not be to read a textually unsupportable "NAAQS-only" limitation into Section 169(1), but to enforce the statute as written. See, *e.g.*, *American Trucking Ass'ns*, 531 U.S. at 466, 471 (rejecting an invitation to read ambiguity into the Act to avoid assertedly extreme economic burdens, because the statute "unambiguously" settled the matter); *Union Elec. Co. v. EPA*, 427 U.S. 246, 265–

66 (1976) (similar); *Griffin v. Oceanic Contractors Inc.*, 458 U.S. 564, 575 (1982) (even when an unambiguous statute might produce "'mischievous, absurd or otherwise objectionable'" consequences, the remedy is with Congress) (quoting *Crooks v. Harrelson*, 282 U.S. 55, 60 (1930)).

In sum, the D.C. Circuit correctly ruled that EPA's longstanding construction of the PSD applicability provisions was statutorily compelled, and further review is unwarranted.

Several petitioners seek review of EPA's interpretation that Title V applies to sources of greenhouse gas emissions. See Texas Pet. 28; SLF Pet. 20–21; Chamber Pet. i (Question Presented No. 3). However, as the D.C. Circuit correctly found, petitioners failed to advance any "alternative interpretations" regarding Title V and thus had "forfeited any challenges to EPA's greenhouse-gas inclusive interpretation" of that program's scope. Pet.App. 78a. Tellingly, the one petition that attempts to contest this finding is only able to cite arguments belatedly presented in reply briefs. SLF Pet. 21 & n.13. Judge Kavanaugh's dissenting opinion nowhere even mentions Title V. Review is unwarranted here as well.

III. THE D.C. CIRCUIT'S RULING THAT NO PETITIONER HAS STANDING TO CHALLENGE THE TAILORING RULE WAS CORRECT AND IS UNWORTHY OF REVIEW

Three petitions urge the Court to review the D.C. Circuit's ruling that no challenger to EPA's Tailoring Rule had Article III standing. Texas Pet. at 20–28; UARG Pet. 28–32; SLF Pet. 27–29.[19] But the D.C. Circuit's unanimous conclusion that these challenges fell "far short" of Article III's requirements rests on a straightforward and entirely correct application of familiar standing principles, and does not warrant review by this Court. Pet.App. 100a (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992)). The court explained, correctly, that "neither the Timing nor Tailoring Rules caused the injury Petitioners allege: having to comply with PSD and Title V for greenhouse gases." *Id.* 101a. That obligation, the court had explained already, stems directly from the statute. The Tailoring Rule, by restricting the number of sources subject to PSD and Title V, *eases* burdens on both regulated entities and permitting authorities. As a result, the court recognized that setting aside the Tailoring Rule would, "if anything," "significantly exacerbate Petitioners' injuries." *Id.* See *Gonzales v. Gorsuch*, 688 F.2d 1263, 1267 (9th Cir. 1982) (Kennedy, J.) (denying standing where "the requested relief will actually worsen the plaintiff's position").

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[19] Texas (Pet. 20) urges the Court to review the merits of the Tailoring Rule, which the D.C. Circuit did not reach. But see *Decker v. Nw. Envtl. Def. Ctr.*, 133 S. Ct. 1326, 1335 (2013) ("[W]e are a court of review, not of first view.") (internal quotation marks and citations omitted).

Petitioners suggest that they satisfy Article III requirements "when EPA's GHG program is considered as a whole." SLF Pet. 29. See also UARG Pet. 28–32. But such arguments ignore the principle that "[s]tanding is not dispensed in gross. Rather, a plaintiff must demonstrate standing for each claim he seeks to press." *Davis v. FEC*, 554 U.S. 724, 734 (2008) (citations and internal quotation marks omitted); see also *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332, 352 (2006); *FW/PBS, Inc. v. City of Dallas*, 493 U.S. 215, 235 (1990). Here, the D.C. Circuit heard and decided each of the claims for which petitioners established their standing to sue (including the claim that the issuance of vehicle standards does not trigger PSD permitting for major sources of greenhouse gas emissions). But no petitioner demonstrated an injury caused by the Tailoring Rule or redressable by its *vacatur*, and the court was therefore right to hold that petitioners lacked standing to challenge it.

Texas's standing theories (Pet. 22–23, 26) are utterly without merit. Texas appears to have largely abandoned its theory that vacating the Tailoring Rule would prompt congressional repeal. See Pet.App. 101a–103a. Texas now makes an unexplained assertion (Pet. 22) that vacating rules that *relax* regulatory burdens would somehow "redress the injury of onerous regulation." Alternatively, Texas claims (Pet. 23–26) that, although it *opposes* action to mitigate climate change, Texas has standing to seek *vacatur* of the Tailoring Rule based on the same loss of coastline that the Commonwealth of Massachusetts established in *Massachusetts v. EPA*. The D.C. Circuit held that this argument had not been properly presented under circuit precedent and court rule, see *Sierra Club v. EPA*, 292 F.3d 895, 901 (D.C. Cir. 2002); D.C. Cir. R. 28(a)(7), Pet.App. 104a–105a, and that Texas had failed to introduce any supporting evidence for it, Pet.App. 105a–106a.

Texas's plea for standing based on an injury it does not believe it is suffering and does not want to remedy shows scant respect for the "integrity of the judicial process," *New Hampshire v. Maine*, 532 U.S. 742, 749 (2001) (internal quotation marks and citation omitted), and is not worthy of discretionary jurisdiction. See *id.* (discussing rules prohibiting litigants from playing "fast and loose with the courts" or using "self-contradiction ... as a means of obtaining unfair advantage" (internal quotation marks and citations omitted)).

The D.C. Circuit's standing ruling represented the straightforward application of settled Article III requirements. No further review is required.

IV. THE CASE DOES NOT PRESENT LEGAL ISSUES WORTHY OF REVIEW, AND PETITIONERS' ASSERTIONS REGARDING ITS PRACTICAL IMPACT ARE UNFOUNDED

Attempting to compensate for the absence of legal issues warranting review, petitioners resort to magniloquent assertions (*e.g.*, Chamber Pet. 1) about the importance of the cases and the supposed practical effects of EPA's actions. But as the members of the D.C. Circuit panel put it, while "[t]he underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance," "the legal issues presented ... are straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent." Pet.App. 612a.[20]

Indeed, the relatively few challenges to the Endangerment Finding and Tailpipe Rule—to the extent they raise legal issues at all—are strained efforts that run directly against the plain language of Section 202(a) and this Court's interpretation of that provision in *Massachusetts*. Petitioners' few glancing criticisms of EPA's exercise of its "scientific judgment," *Massachusetts*, 549 U.S. at 533–34, are paradigms of uncertworthiness. Petitioners, moreover, do not direct any serious attack on the regulations actually before the Court, the motor vehicle emissions standards. No party challenged the substance of those standards, which have enormous environmental and consumer benefits. These issues clearly do not warrant further review.

Petitioners' various challenges to EPA's construction of the PSD applicability provisions all depend upon denying effect to the Clean Air Act's unambiguous text. The D.C. Circuit's reaffirmation of a longstanding, plain language interpretation of the PSD provisions does not merit this Court's review. Petitioners failed to present any challenge to EPA's construction of Title V below. Many of the petitions attempt indirectly to attack (gross mischaracterizations of) the Tailoring Rule, without attempting to show that the D.C. Circuit erred in ruling that no one had standing to challenge it.

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[20] This distinction is a longstanding one. Discussing certiorari jurisdiction before the House Judiciary Committee in 1922, Chief Justice Taft explained that a case that is "very important ... financially" or otherwise "important to the parties," may turn on a "principle of law ... which is not important because it is well settled," and that "[i]n such cases we reject the petition." *Jurisdiction of Circuit Courts of Appeals and United States Supreme Court: Hearing on H.R. 10479 Before the House Comm. on the Judiciary*, 67th Cong. 2 (1922).

With respect to stationary sources, no petitioner can credibly contend that the impact of greenhouse gas regulation as actually implemented is unreasonable or oppressive. Permitting is proceeding at a reasonable pace across the country and across industrial sectors. In the first two years of the program, fewer than 200 greenhouse gas-emitting sources, all of them large emitters, applied for PSD permits.[21] The majority of the PSD permits issued have been for industrial sources such as electric generating units and natural gas processing plants.[22] As with any PSD permit, each determination of BACT by state or federal permitting authorities requires consideration of cost, 42 U.S.C. 7479(3), and is subject to judicial review. EPA's actions on greenhouse gas permitting have been fact-based and measured, with careful attention to preserving administrability for permitting agencies. See, *e.g.*, 77 Fed. Reg. at

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[21] U.S. EPA, Greenhouse Gas Permitting Update, Office of Air Quality Planning and Standards, National Association of Clean Air Agencies Meeting, at 5 (Dec. 12, 2012), available at http://www.4cleanair.org/Documents/NACAADecember12MeetingGHGPermittingUpdate.pdf (GHG Permitting Update); *id.* at 6 (28 applications for Title V permits filed between July 1 and December 10, 2012). See also 77 Fed. Reg. 41,051, 41,058 (July 12, 2012) (44 greenhouse gas permits issued during first 15 months of program).

[22] GHG Permitting Update at 5.

41,053-59. No practical issue warrants intervention by this Court.

EPA, in short, is properly moving forward with the work of applying the Act to a dangerous form of air pollution. None of the issues raised in the petitions warrants further review.

CONCLUSION

The nine petitions should be denied.

Respectfully submitted.

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Appendix: Glossary of Abbreviations

GLOSSARY OF ABBREVIATIONS

AEP:	American Electric Power
ACC:	American Chemistry Council
Act:	Clean Air Act, 42 U.S.C. 7401-7671q
APA:	Administrative Procedure Act, 5 U.S.C. 551, *et seq.*
BACT:	Best available control technology
CAA:	Clean Air Act, 42 U.S.C. 7401-7671q
Chamber:	Chamber of Commerce of the United States of America
CO_2:	Carbon dioxide
CO_2e:	Carbon dioxide equivalent
Contribution Finding:	Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009)
CRR:	Coalition for Responsible for Regulation

DOT:	Department of Transportation
EIMWG:	Energy-Intensive Manufacturers Working Group on Greenhouse Gas Regulation
Endangerment Finding:	Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009)
End.JA:	Joint Appendix in D.C. Cir. No. 09-1322 (Endangerment)
EPA:	Environmental Protection Agency
GHG:	Greenhouse gases
IPCC:	Intergovernmental Panel on Climate Change
NAAQS:	National ambient air quality standards
NAHB:	National Association of Homebuilders
NHTSA:	National Highway Traffic Safety Administration
NOPA:	National Oilseed Processors Association

NRC:	National Research Council
NSPS:	New source performance standards
Pet.App.:	Petition Appendix in *Utility Air Regulatory Group v. EPA,* No 12-1146
PLF:	Pacific Legal Foundation
PSD:	Prevention of Significant Deterioration
RTC:	Response to Comments
RTP:	Response to Petitions
SAB:	Scientific Advisory Board
Section 111:	42 U.S.C. 7411
Section 165:	42 U.S.C. 7475
Section 169:	42 U.S.C. 7479
Section 202:	42 U.S.C. 7521
Section 302:	42 U.S.C. 7602
Section 307:	42 U.S.C. 7607
SLF:	Southeastern Legal Foundation

Tailoring Rule:	Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010)
Tailpipe Rule:	Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards Final Rule, 75 Fed. Reg. 25,324 (May 7, 2010)
Timing Decision:	Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004 (Apr. 2, 2010)
TSD:	Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act
UARG:	Utility Air Regulatory Group
USGCRP:	United States Global Change Research Program

OPPOSITION
BRIEF

Nos. 12-1146, 12-1152, 12-1153, 12-1248,
12-1253, 12-1254, 12-1268, 12-1269, 12-1272

JUL 22 2013

IN THE
Supreme Court of the United States

UTILITY AIR REGULATORY GROUP,
Petitioner,
v.
ENVIRONMENTAL PROTECTION AGENCY,
Respondent,
and eight related cases.

ON PETITIONS FOR WRITS OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF IN OPPOSITION FOR RESPONDENTS THE STATES OF NEW YORK, CALIFORNIA, CONNECTICUT, DELAWARE, ILLINOIS, IOWA, MAINE, MARYLAND, MASSACHUSETTS, MINNESOTA, NEW HAMPSHIRE, NEW MEXICO, NORTH CAROLINA, OREGON, RHODE ISLAND, VERMONT, WASHINGTON, AND THE CITY OF NEW YORK

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COUNTERSTATEMENT OF QUESTIONS PRESENTED

After this Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Environmental Protection Agency (EPA) determined that emissions of greenhouse gases endanger public health and welfare and that therefore greenhouse-gas emissions from cars and light trucks must be regulated under the Clean Air Act, 42 U.S.C. §§ 7521-7554. Under the Act, that determination then required new and modified major stationary emitters of greenhouse gases to obtain permits under the Act's program for Prevention of Significant Deterioration (PSD). To mitigate the burdens that would fall on permitting authorities and sources, EPA decided to phase in PSD permitting requirements starting with the largest emitters, while at the same time committing to consider at a later date how best to apply the statutory requirements to smaller stationary sources. The questions presented are:

1. Whether EPA's decision to proceed one step at a time to regulate stationary-source emitters of greenhouse gases—beginning with the largest emitters while continuing to study and develop feasible approaches for smaller sources—is consistent with the conclusion that the Clean Air Act's PSD provisions cover greenhouse-gas emissions.

2. Whether greenhouse gases are subject to regulation under the PSD program for stationary sources, as a result of EPA's prior determination that certain greenhouse gases are dangerous air pollutants

subject to regulation under the mobile-source provisions of the Clean Air Act.

3. Whether EPA properly concluded that greenhouse gases are subject to regulation under the mobile-source program, on the basis of its finding that elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger public health or welfare, and that motor-vehicle emissions contribute to this air pollution.

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INTRODUCTION

Petitioners challenge application of the Clean Air Act's PSD provisions to greenhouse-gas emissions, based primarily on EPA's reasoned decision to extend PSD permitting requirements gradually to stationary sources, beginning with the largest emitters. Petitioners claim that this incremental approach shows that greenhouse gases are not properly covered by the PSD program at all. This claim, along with the several related claims raised in the various petitions for certiorari, does not warrant this Court's review.

Petitioners' objection to incremental application of the PSD program addresses a regulatory regime that is transitional, and for that reason alone is not certworthy. By applying PSD permitting first to the largest stationary sources, EPA did not concede that the PSD program is unsuited to addressing greenhouse-gas emissions, as petitioners contend. Rather, EPA reasonably concluded that incremental application of PSD permitting to stationary sources would ease the burdens on both the sources and the States, which are primarily responsible for issuing permits.

Petitioners' challenge to the statutory PSD provisions' application to greenhouse-gas emissions is thus premised on an incorrect characterization of EPA's transitional approach. This Court's recent decisions in *Massachusetts v. EPA*, 549 U.S. 497 (2007), and *American Electric Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011) ("*Connecticut*"), confirm that greenhouse gases are air pollutants subject to regulation under the Clean Air Act and that the Act speaks directly to greenhouse-gas emissions from stationary sources. And, as the court of appeals correctly found, petitioners lack standing to challenge EPA's transitional approach directly. None of the questions raised by petitioners thus warrant this Court's review.

STATEMENT

1. Although greenhouse gases are a serious threat to the health and welfare of the citizens of state and city respondents, EPA in 2003 took the position that greenhouse-gas emissions were nonetheless not subject to regulation under the Clean Air Act. A group of States, local governments, and environmental organizations challenged EPA's refusal to regulate greenhouse-gas emissions from motor vehicles. In 2007, this Court held in *Massachusetts* that the Clean Air Act's broad definition of "air pollutant" unambiguously covered greenhouse gases, and that EPA accordingly had the authority—indeed, the obligation—"to regulate emissions of the deleterious pollutant" if it found that greenhouse-gas emissions posed a threat to public health or welfare. 549 U.S. at 528-29, 533.

2. Following this Court's decision in *Massachusetts*, EPA determined in the "Endangerment Finding" that six "well-mixed" greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) endanger public health and welfare. Endangerment and Cause or Contribute Findings for Greenhouse Gases, 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009). Citing a "very large and comprehensive base of scientific information,"

id. at 66,506, EPA found that emissions of greenhouse gases from the burning of fossil fuels, as well as from deforestation and other land-use changes, are transforming the chemistry of the Earth's atmosphere and changing its climate. *See id.* at 66,517-18, 66,522-23, 66,539-40. The agency further found that the increase in solar energy trapped inside the Earth's atmosphere will cause serious and far-reaching harms to public health and welfare, including more intense, frequent, and long-lasting heat waves; exacerbated smog in cities; longer and more severe droughts; more intense storms; and a rise in sea levels. *Id.* at 66,524-25, 66,532-33. EPA concluded that motor-vehicle emissions of greenhouse gases contribute to climate change and thus to the endangerment of public health and welfare. *Id.* at 66,498-99.

Pursuant to the statutory mandate that it establish motor-vehicle emission standards for "any air pollutant . . . which in [the EPA administrator's] judgment cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1), EPA promulgated a rule (the "Tailpipe Rule") establishing greenhouse-gas emission standards for cars and light trucks. Light-Duty Vehicle Greenhouse Gas Emission Standards, 75 Fed. Reg. 25,324 (May 7, 2010). The Tailpipe Rule, which applies to vehicles manufactured in model years 2012-2016, *id.* at 25,328, went into effect on January 2, 2011. Reconsideration of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004, 17,007 (Apr. 2, 2010) ("Timing Rule"). The

Rule is expected to reduce 960 million metric tons of carbon dioxide-equivalent emissions over the life of those vehicles and to yield net economic and social benefits ranging up to $2 trillion. 75 Fed. Reg. at 25,404.

3. The PSD program is a permitting scheme established by the Clean Air Act that regulates emissions from certain stationary sources. Administered largely by the States, it applies to those areas of the country designated as "attainment" areas because they are in compliance with at least one of the EPA-promulgated national ambient air-quality standards (NAAQS) for six defined pollutants. 42 U.S.C. §§ 7407(d)(1), 7471, 7475(a); 40 C.F.R. §§ 50.4–50.18. The PSD program requires permits for the new construction or modification of "major emitting facilities" in those areas, 42 U.S.C. § 7475(a)—*i.e.*, stationary sources that "emit, or have the potential to emit," either 100 tons per year (tpy) or 250 tpy of "any air pollutant," *id.* § 7479(1).[1] To obtain a PSD permit, a statutorily covered source must, among other things, also install the "best available control technology [BACT] for each pollutant subject to regulation" under the Clean Air Act. *Id.* § 7475(a)(4). Stationary sources may obtain permits from either a designated state permitting-

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[1] The 100-tpy threshold applies to only certain types of stationary sources, such as steel mills. *See* 42 U.S.C. §§ 7475, 7479(1). All other stationary sources are subject to PSD permitting only if they have the potential to emit over 250 tpy of "any air pollutant." *Id.* § 7479(1). States may exempt "nonprofit health or education institutions" from permitting requirements. *Id.*

authority or, if no such authority exists, from EPA itself. The permit authorizes the construction or modification and prescribes, *inter alia*, an emission rate to limit the amount of air pollution that the source may emit once it begins or resumes operation. *See id.* § 7475(a).

By operation of statute, and under an interpretation of the Clean Air Act that EPA has followed for more than three decades, *see, e.g.*, Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 45 Fed. Reg. 52,676 (Aug. 7, 1980), once a pollutant is regulated under the Clean Air Act, stationary sources of that pollutant must comply with the permitting requirements of the PSD program. *See* Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NRS), 67 Fed. Reg. 80,186, 80,240 (Dec. 31, 2002). Accordingly, the regulation of greenhouse-gas emissions under the Tailpipe Rule governing mobile sources brought stationary-source greenhouse-gas emissions within the scope of the PSD program, in two ways relevant here.[2] First, greenhouse-gas emissions are factored into the threshold determination of whether a source emits enough of "any air pollutant"—*i.e.*, 100/250 tpy—to qualify for the PSD program. 42 U.S.C. §§ 7475(a)(1), 7479(1). Second, once a source is subject to PSD permitting, it must comply with the program's BACT requirements for greenhouse-gas pollutants, just as it must for "each [other] pollutant subject to regulation" under the Clean Air Act. *Id.* § 7475(a)(4).

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[2] The Tailpipe Rule also operated to extend the distinct permitting program of Title V of the Clean Air Act to stationary sources emitting greenhouse gases. 42 U.S.C. §§ 7602(j), 7661(2), 7661a(a). The purpose of Title V is to collect all requirements applicable to a source in one permit. Once an air pollutant is "subject to regulation" under the Clean Air Act, a major stationary source must obtain a Title V permit, just like it must obtain a PSD permit. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514, 31,553-54 (June 3, 2010). The court of appeals found that petitioners had forfeited their arguments against Title V's application to greenhouse gases because none of their

4. When the greenhouse gases emitted by stationary sources became subject to the PSD permitting regime that regulates such sources, EPA confronted the following challenge. Because greenhouse-gas pollutants (particularly carbon dioxide) are emitted in much higher quantities than the pollutants previously regulated under the PSD program, the program's 100/250-tpy thresholds would bring emitters of greenhouse gases into the program in numbers far greater than emitters of other regulated pollutants. EPA therefore recognized the need for additional time and practical experience to determine how the States and EPA could handle the large number of newly covered sources while keeping permitting programs administrable.

EPA promulgated the "Tailoring Rule," 75 Fed. Reg. 31,514 (June 3, 2010), to respond to these concerns. The Tailoring Rule phases in permitting obligations for stationary sources under the PSD

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challenges were relevant to Title V and instead focused solely on the PSD program. Pet. App. 78a, *Utility Air Group v. EPA*, No. 12-1146. Petitioners have raised no independent challenge to Title V here.

program over several defined stages.[3] *See id.* at 31,544-45. The purpose of the Tailoring Rule was to "reliev[e] overwhelming permitting burdens" on state permitting authorities and sources, which would have resulted from immediate application of the PSD program nationwide, and to give EPA and the States additional time to study the practical effects of applying the PSD program to greenhouse-gas emissions. *Id.* at 31,516.

Under the Tailoring Rule, EPA committed to completing several discrete administrative actions by 2016 in an effort to bring into the PSD program greater numbers of stationary sources emitting greenhouse gases above the statutory thresholds. Under the first step, the PSD program was applied to the greenhouse-gas emissions of all entities already subject to PSD requirements for non-greenhouse-gas air pollutants. *Id.* at 31,523. Under the second step, which took effect on July 1, 2011, additional large sources of greenhouse-gas emissions—defined as newly built sources that have the potential to emit 100,000 tpy or modifications to existing sources that would increase emissions by 75,000 tpy—also became subject to the PSD program. *Id.* at 31,523-24.

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[3] EPA also issued the "Timing Rule," 75 Fed. Reg. 17,004, which clarified that greenhouse gases became a regulated pollutant under the PSD statute for permitting purposes on January 2, 2011, the first date on which the Tailpipe Rule's emission standards applied to new motor vehicles. *Id.* at 17,007. Petitioners "fail[ed] to make any real arguments against the Timing Rule" below, Pet. App. 95a, and raise no objections to it here.

EPA undertook these first two steps in a deliberate effort to regulate the largest greenhouse-gas emitters first. *Id.* at 31,516. Those sources were least burdened by the additional PSD requirements for greenhouse gases "because they may be expected to have the resources to comply with PSD's requirements and permitting authorities may be expected to accommodate those sources." *Id.* at 31,558. At the same time, these large sources produce about eighty-six percent of greenhouse-gas emissions from stationary sources above the statutory thresholds. *Id.* at 31,571. The States have been working with EPA to ensure that PSD permitting of these large sources is proceeding in an orderly fashion.

In the Tailoring Rule, EPA also committed to reassess the greenhouse-gas permitting burdens as States and EPA gain experience permitting larger numbers of greenhouse-gas-emitting sources, and to evaluate the use of streamlining tools to aid in permitting smaller sources. *Id.* at 31,573. EPA committed to complete a study by April 30, 2015, addressing the permitting obligations of smaller stationary sources, including whether regulatory changes—such as streamlined permitting options—might prove successful in reducing permitting workloads. EPA will issue a final rule regarding these sources by April 30, 2016. *Id.* at 31,525, 31,573, 31,608; 40 C.F.R. §§ 52.22(b)(2), 70.12(b)(2).

5. EPA's rulemaking for stationary sources of greenhouse gases received favorable comment from this Court in *Connecticut*, 131 S. Ct. at 2537, which was decided only two years ago. That case arose from a lawsuit filed by several of the state respondents

here and others, shortly after the petition for review was filed in *Massachusetts* and long before *Massachusetts* was decided by this Court. In *Connecticut*, the plaintiff States and others sought relief for stationary-source greenhouse-gas emissions by bringing federal common-law nuisance claims for injunctive relief against large power plants—the largest stationary emitters of carbon dioxide in the nation. By the time that case reached this Court, *Massachusetts* had been decided. Accordingly, the power plants and their supporting amici, many of whom are petitioners in these actions, argued that the States' federal common-law claims were displaced by Congress's comprehensive delegation of authority to EPA to regulate greenhouse-gas emissions from stationary sources—citing, as evidence of that delegation, the regulations challenged here. This Court agreed, holding that "the Clean Air Act and the EPA actions it authorizes displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants." 131 S. Ct. at 2537.

6. The petitions in this case challenge the regulations that resulted from the EPA actions authorized by the Clean Air Act. Petitioners filed multiple petitions in the District of Columbia Circuit challenging the Endangerment Finding, the Tailpipe Rule, the Timing Rule, the Tailoring Rule, and the application of the Clean Air Act's PSD permitting requirements to sources that emit major amounts of greenhouse-gas pollutants.[4] The court of appeals

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[4] State respondents California, Illinois, Iowa, Maine, Maryland, Massachusetts, New Mexico, New York, Oregon, and

issued a *per curiam* decision denying or dismissing all the petitions. It further denied en banc review, noting that the legal issues were "straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent." Pet. App. 612a, *Utility Air Group v. EPA*, No. 12-1146 (Sentelle, C.J., concurring in denial of rehearing en banc).

In the panel decision, the court first rejected challenges to the Endangerment Finding, holding that EPA's scientific judgment that greenhouse-gas emissions contribute to global warming and thereby threaten public health and welfare was fully supported by the administrative record and was consistent with the text and structure of the Clean Air Act and with this Court's decision in *Massachusetts*. Pet. App. 31a-53a. The court also rejected challenges to the Tailpipe Rule on the merits, rejecting petitioners' arguments that EPA had improperly failed to consider the impacts of the Rule on stationary-source permitting. Pet. App. 53a-60a.

Rhode Island intervened in support of respondent EPA in the three consolidated cases challenging the Endangerment Finding, the Tailpipe Rule, and the Tailoring Rule. Other respondents here were involved in one or two of these cases. Connecticut and Minnesota intervened in the cases challenging the Endangerment Finding; Delaware, Vermont, Washington, and New York City intervened in the cases challenging the Endangerment Finding and Tailpipe Rule; New Hampshire intervened in the cases challenging the Endangerment Finding and the Tailoring Rule; and North Carolina intervened in the case challenging the Tailoring Rule. Respondents join as to the arguments that address the issues in the case(s) in which each intervened below.

With respect to stationary-source issues, petitioners advanced divergent theories in challenging the application of the PSD program to greenhouse-gas emissions. Some petitioners argued, both below and now in their cert petitions, that greenhouse-gas emissions are completely exempt from regulation under the PSD program. *See* Pet. of Energy-Intensive Manufacturers Working Group ("EIM Pet.") at 38 (No. 12-1254); Pet. of Southeastern Legal Foundation, Inc. at 25 (No. 12-1268); Pet. of State of Texas ("Texas Pet.") at 18-19 (No. 12-1269), Pet. of Utility Air Regulatory Group ("UARG Pet.") at 23-24 (No. 12-1146). Others argued for a more limited exemption: they argued that only emissions of one of the six identified NAAQS pollutants could lead to PSD permitting obligations, but that any facilities thus subject to those obligations may be required to comply with BACT requirements to limit not just NAAQS pollutants, but greenhouse-gas emissions as well. *See* Pet. of American Chemistry Council ("ACC Pet.") at 23-24 & n.12 (No. 12-1248); *see also* Pet. App. 646a (Kavanaugh, J., dissenting in denial of rehearing en banc).

The court of appeals rejected both arguments, concluding that the PSD permitting requirements unambiguously apply to stationary sources that emit greenhouse gases. Pet. App. 67a-77a. The court's decision was based on the plain language of 42 U.S.C. § 7479(1), which extends the PSD program to emitters of "any air pollutant" over the statutory threshold of 100/250 tpy, as well as the plain language of § 7475(a)(4), which requires major emitting facilities to install BACT for "each pollutant subject to regulation" under the Clean Air Act. Pet. App.73a-75a. The court found that the language in both of these provisions clearly included greenhouse-gas pollutants in light of this Court's holding in *Massachusetts* that the statutory term "'air pollutant' . . . unambiguously encompasses greenhouse gases." Pet. App. 73a.

As for petitioners' argument that EPA lacked authority to phase in permitting requirements through the Timing Rule and Tailoring Rule, the court held that petitioners lacked standing to bring such challenges because EPA's phased approach mitigated rather than caused injury. Pet. App. 100a-101a. The court thus did not have jurisdiction to reach the merits of whether EPA was authorized to phase in the PSD permitting requirements for major sources of greenhouse gases. Pet. App. 95a-106a.

REASONS FOR DENYING THE PETITIONS

EPA's phased application of PSD permitting to major stationary sources of any regulated air pollutant, including greenhouse gases, does not warrant review. Petitioners challenge here only the beginning steps in a series of steps that EPA will take to accommodate practical concerns about the burdens of permitting such sources immediately. Thus, contrary to petitioners' characterization, these lawsuits do not identify any permanent departure from the PSD program's statutory emissions thresholds—but rather a transitional program that will be subject to further study and modification in the near future. Nor do these lawsuits properly raise any concerns about the applicability of PSD permitting to smaller sources of greenhouse-gas emissions, because EPA's and the States' treatment of those sources continues to be adapted to reflect their ongoing experience with permitting for greenhouse-gas emissions. Such time-limited and transitional administrative actions raise no issues important enough to merit this Court's immediate intervention in an ongoing process.

In any event, the court of appeals appropriately did not even reach the merits of petitioners' challenge to EPA's authority to phase in permitting requirements because it correctly found that petitioners lack standing. That standing ruling follows well-established precedents and raises no issue meriting this Court's review. EPA's regulation of stationary sources of greenhouse gases is otherwise unremarkable. The Clean Air Act's PSD provisions unambiguously require permitting for sources that emit more than threshold amounts of any regulated air pollutant, including greenhouse gases, and the court of appeals' opinion is consistent with this Court's recent rulings in *Massachusetts* and *Connecticut*.

Finally, petitioners' remaining arguments—specifically those concerning the Endangerment Finding and the Tailpipe Rule—allege only errors in EPA's factual findings or misapplications by the court of appeals of a properly stated rule of law. The few petitioners that press these arguments do not persuasively explain why this Court should ignore its general rule that it "rarely grant[s]" certiorari on these grounds. Sup. Ct. R. 10. Indeed, no member of the court of appeals, including the judges who dissented from the denial of rehearing en banc, would have ruled in petitioners' favor on these arguments.

I. EPA's Step-by-Step Program for Imposing Permitting Requirements on Stationary Sources Presents No Question Warranting This Court's Review.

1. Petitioners urge this Court to find that the Tailoring Rule's departure from the PSD statute's emissions thresholds demonstrates that the PSD program was never meant to cover greenhouse-gas emissions. That argument mischaracterizes EPA's rulemaking. EPA did not determine that it would permanently depart from the PSD statute's emissions thresholds, nor that it would forever be infeasible for PSD permits to be issued to all sources covered by the statute.

Instead, EPA determined only that, in implementing the unambiguous statutory language that major emitters of "any air pollutant," 42 U.S.C. § 7479(1), be subject to PSD permitting, immediate application of current PSD requirements to all stationary sources emitting more than 100/250 tpy of greenhouse gases would be too burdensome on those sources and on the States that would issue PSD permits. *See* 75 Fed. Reg. at 31,572. EPA thus adopted a step-by-step approach that restricted the PSD program's initial application only to those sources that emit more than 75,000/100,000 tpy of greenhouse gases—a limitation that EPA determined (and no party disputes) was necessary to mitigate significant burdens on state permitting agencies, yet still encompasses eighty-six percent of the greenhouse-gas emissions for stationary sources. *Id.* at 31,567-72. At the same time, EPA committed to a further rulemaking by April 30, 2016, to address the permitting obligations of smaller sources, with an eye toward reducing the burdens on the States and regulated entities—such as with streamlined permitting requirements, exemptions for *de minimis* emitters, or some combination of those approaches. *See* 40 C.F.R. § 52.22(b)(2)(ii); 75 Fed. Reg. at 31,525.

Thus, the current disparity between the stationary sources covered by the PSD program under the Tailoring Rule, and the sources covered by the PSD program's statutory language, is not, as petitioners contend, a confession by EPA that greenhouse-gas emissions are categorically unsuited to regulation under the PSD program. Instead, it is merely a temporary accommodation to certain practical obstacles in applying an existing regulatory scheme to a new class of pollutants. There is no need for this Court to review EPA's reasoned approach to this transitional situation.

2. Petitioners also directly challenge EPA's authority to phase in a complex regulatory program, rather than implement it all at once, through the Tailoring Rule. As a threshold matter, the court of appeals did not reach the merits of this claim because it found that petitioners lacked standing to bring it. As the panel correctly concluded, the Tailoring Rule benefits petitioners, rather than injures them, by reducing the burdens of the PSD program. Petitioners have not identified any persuasive reason that this jurisdictional issue merits the Court's further review.[5]

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[5] Texas argues, for the first time, that it has standing because there is "'some possibility' that the requested relief will

In any event, EPA's decision to phase in permitting requirements in light of undisputed administrative burdens is well grounded. As this Court recognized in ***Massachusetts***, EPA need not "resolve massive problems" such as greenhouse-gas emissions "in one fell regulatory swoop," and may "instead whittle away at them over time, refining [its] preferred approach as circumstances change and as [the agency] develop[s] a more nuanced understanding of how best to proceed." 549 U.S. at 524. In particular, decisions from this Court and the D.C. Circuit have acknowledged that administrative necessity may justify an agency's reasonable judgment that an administrative program may be extended to its full scope gradually over time, rather than all at once, in order to ease burdens on both regulatory authorities and regulated entities.[6]

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prompt the injury-causing party to reconsider the position that allegedly harmed the litigant." Texas Pet. at 27 (emphasis omitted) (quoting *Massachusetts*, 549 U.S. at 518). But Texas did not make this argument in the court of appeals, and this Court does not typically consider arguments that were neither raised nor addressed below, *Travelers Cas. & Surety Co. v. Pac. Gas & Elec. Co.*, 549 U.S. 443, 455 (2007). Moreover, even in its petition, Texas fails to explain what action the "injury-causing party" (*i.e.*, EPA) would take that would alleviate the States' injuries.

[6] *See, e.g., Nat'l Cable & Telecomms. Ass'n. v. Brand X Internet Servs.*, 545 U.S. 967, 1002 (2005) (upholding decision to move toward regulating certain entities incrementally); *Grand Canyon Air Tour Coalition v. FAA*, 154 F.3d 455, 477-78 (D.C. Cir 1998), *cert. denied*, 526 U.S. 1158 (1999) (upholding agency decision to adopt multistep timetable for reducing aircraft noise from sightseeing tours in Grand Canyon National Park); *cf. Ala. Power v. Costle*, 636 F.2d 323, 358-59 (D.C. Cir. 1979) (recognizing

EPA's step-by-step approach reasonably serves both the purposes of the Clean Air Act and the interests of the States. And it also serves—or in any case does not impair—the interests of the covered parties. The Tailoring Rule's temporary 75,000/100,000 tpy emissions thresholds, though significantly higher than the statutory thresholds, cover *eighty-six percent* of greenhouse-gas emissions from stationary sources. *See* 75 Fed. Reg. at 31,571; ACC Pet. at 24, n.12 (relying on this fact in support of its interpretation of the statutory scheme). At the same time, limiting the population of regulated stationary sources as a temporary measure relieves the States from the burden of responding to potentially tens of thousands more permitting applications than they are currently equipped to handle. *See* 75 Fed. Reg. at 31,534. And it mitigates any potential burdens on the covered sources by phasing in their permitting obligations over time. EPA's phased approach thus maintains the workability of PSD permitting while covering the lion's share of greenhouse-gas emissions from stationary sources.

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that EPA could invoke administrative necessity if PSD permitting burdens became overwhelming).

II. EPA's Application of PSD Requirements to Major Sources of Greenhouse-Gas Emissions Accords with *Massachusetts* and *Connecticut* and with the Plain Language of the Clean Air Act.

1. EPA's regulation of greenhouse-gas emissions from stationary sources under the PSD permitting program is entirely unremarkable in light of this Court's decisions in *Massachusetts* and *Connecticut*. PSD permits are required for new and modified stationary sources emitting major amounts of "any air pollutant," and sources in the PSD program must install BACT "for each pollutant subject to regulation" under the Clean Air Act. 42 U.S.C. §§ 7475(a)(4), 7479(1). *Massachusetts* found that the Clean Air Act's general definition of "air pollutant" unambiguously encompassed greenhouse gases. 549 U.S. at 528-29. And *Connecticut* found it "equally plain that the [Clean Air Act] 'speaks directly' to emissions of carbon dioxide" from stationary sources. 131 S. Ct. at 2537. The court of appeals' decision that the language of the PSD statute unambiguously applies to any regulated air pollutant, including greenhouse gases, was a straightforward application of the statute and this Court's precedents.

Accepting petitioners' argument here that the PSD program does not cover greenhouse gases would be inconsistent with *Connecticut*'s holding that EPA's authority to regulate greenhouse-gas emissions from stationary sources displaces federal common law. *Connecticut* recognized that Congress's delegation to EPA of "the decision whether and how to regulate carbon-dioxide emissions from power plants" precluded the States from bringing federal common-law claims to limit greenhouse-gas emissions from those sources. *Id.* at 2538. In recognizing this displacement, the Court cited EPA's authority and plans for rulemaking under the New Source Performance Standards (NSPS) program in section 111 of the Act, 42 U.S.C. § 7411, and further referenced EPA's "phasing in" of permitting requirements under the Tailoring Rule.[7] *Connecticut*, 131 S. Ct. at 2533, 2537.

Indeed, the parties in *Connecticut* specifically cited the PSD program as an example of EPA's delegated authority. *See* Reply Brief for Tennessee Valley Authority as Resp. Supporting Pets. 17-18, *Connecticut*, 131 S. Ct. 2527 (No. 10-174) ("Carbon dioxide . . . is therefore addressed by the CAA's provisions for the prevention of significant deterioration (PSD) of air quality."). And certain petitioners here appeared as amici to likewise urge this Court to find displacement based on what they then acknowledged to be the Clean Air Act's "comprehensive" delegation of authority to EPA to regulate greenhouse-gas emissions from stationary sources. *See, e.g.*, American Chemistry Council et al., as Amici Curiae in Support of Pets. at 27-28, *Connecticut*, 131 S. Ct. 2527 (No. 10-174).

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[7] This Court primarily relied on the NSPS program's regulation of existing power plants because that program was most directly applicable to the power plants that were the defendants in the *Connecticut* litigation. By contrast, PSD permitting requirements apply only to new or modified facilities. However, it would make little sense to construe the PSD program more narrowly than the NSPS program, as Amici States of Kansas, Montana, and West Virginia suggest (Br. at 7 n.2), given that Congress added the PSD program specifically in response to concerns that the pre-existing NSPS program inadequately limited pollution from stationary sources. *See Envtl. Defense Fund v. Duke Energy Power Corp.*, 549 U.S. 561, 567-68 (2007).

Petitioners now reverse course and ask this Court to declare that Congress did not intend major sources of greenhouse-gas emissions to be regulated under the PSD program. *See e.g.*, Pet. of Chamber of Commerce ("Chamber Pet.") at 29-31 (No. 12-1272); Texas Pet. at 18-19; EIM Pet. at 38. But *Massachusetts* and *Connecticut* confirmed EPA's authority to regulate greenhouse-gas emissions from stationary sources as the flip side to limiting the States' ability to pursue their own remedies against stationary sources under federal common law. If, as petitioners contend, the Clean Air Act does not delegate to EPA the statutory authority to regulate greenhouse-gas emissions from stationary sources, then EPA's statutory authority cannot displace federal common-law remedies for global-warming harms caused by power plants and other major stationary sources. Petitioners cannot simultaneously argue that EPA's authority under the Clean Air Act displaces the States' invocation of federal common-law nuisance claims, while arguing that EPA does not actually have relevant regulatory authority.

2. Contrary to the arguments of certain petitioners, the regulation of greenhouse gases under the PSD program would hardly require an unprecedented expansion of the Clean Air Act. *See e.g.*, EIM Pet. at 23-29. For one thing, as petitioners acknowledge, the Act specifically authorizes EPA to "tak[e] into account energy . . . and economic impacts and other

costs," *see, e.g.*, *id.* at 28 (citing 42 U.S.C. § 7479(3)), a built-in protection against any unreasonable burdens that might arise in the future.

Moreover, the recent practical experience of the States belies any concern that applying PSD-permitting requirements to greenhouse-gas emissions will radically alter the regulatory landscape. The PSD permits that the States have issued under the Tailoring Rule have focused primarily on improving the efficiency of facilities, not on transforming them altogether. For example, a new natural-gas-fired power plant in St. Charles, Maryland, will meet the BACT requirement for greenhouse gases by, *inter alia*, using high-efficiency combined cycle turbines fueled by pipeline-quality natural gas.[8] These turbines will reduce the cost of energy while at the same time lowering the facility's costs for capital, operation, and maintenance. Similarly, the PSD permit for a replacement cement kiln in Ravena, New York, requires the facility to meet its BACT emission limit for greenhouse gases by, *inter alia*, undertaking certain measures to optimize the design of the kiln for energy efficiency, which will cut greenhouse-gas pollution by forty percent while reducing the facility's cost of energy.[9] These permits demonstrate that extending the PSD program to greenhouse gases fits well within the existing regulatory structure to appropriately reduce emissions that would otherwise contribute to serious harms.

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[8] *See* Md. Pub. Serv. Comm'n, Environmental Review of the Proposed Modification to the CPV St. Charles Project (Draft), Case No. 9280, Doc. 39 (Jan. 26, 2012), *available at* http://webapp.psc.state.md.us/Intranet/home.cfm (search cases).

[9] N.Y. State Dep't of Envtl. Conserv., State Environmental Quality Review (SEQR) Findings Statement 13-14 (July 19, 2011), *available at* http://www.dec.ny.gov/docs/permits_ej_operations_pdf/laffindings.pdf.

3. Given the plain language of the statute and the long-standing application of the PSD program to all air pollutants regulated under the Clean Air Act, there is no merit to certain petitioners' claim that the PSD program should be limited to emitters only of the six identified NAAQS pollutants, rather than of "any air pollutant." *See, e.g.*, ACC Pet. at 24; Chamber Pet. at 28. The court of appeals' decision—that EPA's application of the PSD program to sources of any regulated air pollutant was the "only plausible reading," Pet App. 74a—was correct and unexceptional. *See* Pet. App. 70a-77a.

When Congress wanted to limit a program in the fashion proposed by petitioners, it knew how to do so. The "nonattainment new source review program" (NNSR) establishes permitting rules and regulations for new or modified emissions sources in nonattainment areas that are more stringent than under the PSD program and that are specifically aimed at improving air quality until the NAAQS are met. *See* 42 U.S.C. §§ 7501-7509. As relevant here, the NNSR statute specifically limits its application to the six identified NAAQS pollutants—in contrast to the PSD statute's broader reference to "any air pollutant." For example, NNSR permitting obligations apply to "an area which is designated 'nonattainment' *with respect to that pollutant.*" *Id.* § 7501(2) (emphasis added); *id.* § 7502(c)(5). Similarly, the NNSR statute requires sources to obtain emission offsets only "of the relevant air pollutant" to timely "ensur[e] attainment of the applicable" NAAQS. *Id.* § 7501(1). The expressly narrower scope of the NNSR program thus supports a broader interpretation of the scope of the PSD statute.

Petitioners' alternative interpretation not only contradicts the plain language of the statute—it would also upend the States' more than three-decades-long application of the PSD program to "any air pollutant regulated under the [Clean Air Act]." *See* Pet. App. 70a (quotation marks omitted). The States have enacted both statutes and regulations reflecting this understanding. *See, e.g.*, Ala. Admin. Code § 335-3-14-.04(2)(ww) (pollutants covered under PSD permitting include non-NAAQS pollutants, such as a pollutant subject to a standard promulgated under the NSPS program); 6 N.Y.C.R.R. § 231-4.1(b)(44) (pollutants subject to PSD requirements include, *inter alia*, "any contaminant that otherwise is subject to regulation under the Clean Air Act" except hazardous air pollutants regulated separately). And both EPA and the States have regulated a broad range of non-NAAQS pollutants under the PSD program, including fluorides, hydrogen sulfide, metals, municipal-waste combustor organics, solid-waste landfill emissions, sulfuric-acid mist, and total-reduced sulfur. *See* 40 C.F.R. § 51.166(b)(23)(i) (establishing significance levels for pollutants subject to PSD). Petitioners' novel interpretation of the PSD program unnecessarily threatens well-established programs regulating airborne pollutants across the country.

III. Petitioners' Remaining Arguments Do Not Merit This Court's Review.

The other arguments raised by petitioners concern only alleged "erroneous factual findings or the misapplication of a properly stated rule of law," Sup. Ct. R. 10, and thus do not present questions worthy of certiorari.[10]

First, petitioners' challenges to EPA's Endangerment Finding essentially ask this Court to second-guess the "scientific judgment" that *Massachusetts*, 549 U.S. at 533-34, ordered the agency to reach. *See e.g.*, Chamber Pet. at 22-24; Pet. for Coalition for Responsible Regulation ("CRR Pet.") at 19 (No. 12-1253). But a "court must generally be at its most deferential" when the agency is "making predictions, within its area of special expertise, at the frontiers of science." *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103 (1983). Here, EPA conducted a rigorous, thorough, and balanced review of an extensive scientific record and properly focused on the factors set forth in the statute. As required by the Clean Air Act, 42 U.S.C. § 7521(a)(2), EPA determined, based on a substantial record, that motor-vehicle greenhouse-gas emissions "contribute to" climate-change harms. Pet. App. 41a-42a; 74 Fed. Reg. at 66,499. And EPA further determined that global warming caused by greenhouse-gas emissions results in public-health harms, such as more premature deaths from heat waves and more respiratory illnesses from smog, as well as adverse welfare effects that are occurring now. Pet. App. 42a (citing 74 Fed. Reg. at 66,497-98); *see also* 74 Fed. Reg. at 66,525, 66,533. The court of appeals correctly concluded that, under the deferential standard of review applicable to agencies' scientific judgments, the record amply supported the Endangerment Finding. Pet. App. 39a-45a.

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[10] Numerous other issues are raised in the nine certiorari petitions. On those issues, state and city respondents join in the arguments made in the other briefs opposing certiorari.

Second, petitioners' challenges to the Tailpipe Rule here also present no question worthy of review. For example, contrary to Coalition for Responsible Regulation's argument, the Tailpipe Rule did not fail to "meaningfully address" the climate-related harms documented in the Endangerment Finding. CRR Pet. at 19-23. EPA identified substantial climate-related benefits attributable to the Tailpipe Rule—such as the avoidance of 962 million metric tons of carbon dioxide equivalent pollution from light duty vehicles. *See* 75 Fed. Reg. at 25,490, Table III.F.1-2. Indeed, the Tailpipe Rule will produce large reductions in greenhouse-gas emissions from one of the largest and fastest-growing source categories. *See* 75 Fed. Reg. at 25,326 ("Mobile sources emitted 31 percent of all U.S. [greenhouse gases] in 2007 . . . and have been the fastest-growing source of U.S. [greenhouse gases] since 1990."). Petitioners also argue that EPA should have considered emissions reductions from other sources, such as the fuel economy standards passed by the National Highway Traffic Safety Administration. CRR Pet. at 27-28; Chamber Pet. at 27-28. This Court rejected a similar argument in *Massachusetts*, based on the fact that EPA is under an independent statutory duty to promulgate standards. *See* 549 U.S. at 532. The court of appeals was thus correct in holding that this argument is foreclosed by *Massachusetts*. Pet. App. 55a. Further review is not warranted.

CONCLUSION

The petitions for writs of certiorari should be denied.

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REPLY
BRIEF

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In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

REPLY BRIEF OF PETITIONERS THE CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, STATE OF ALASKA, AND AMERICAN FARM BUREAU FEDERATION

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REPLY BRIEF

This case presents questions of fundamental doctrinal importance for the administrative state and enormous practical importance for the economy. In the rulemakings below, EPA asserted a new regulatory jurisdiction over essentially every energy-consuming building and activity in the nation, all the way down to houses of worship, neighborhood bakeries, and private homes. Never before has an agency erected such a "burdensome, costly, far-reaching program," with such "massive real-world consequences." App. 133a (Kavanaugh, J., dissenting). What is more, EPA promulgated its far-reaching program based on a claimed authority to discard thresholds codified by statute and replace them with "regulatory" thresholds of the agency's choosing.

Rather than disputing this case's importance, the government attempts to defeat certiorari by arguing the merits. It contends above all that this case is controlled by *Massachusetts v. EPA*, 549 U.S. 497 (2007). But that simply is not true. This Court was plain in *Massachusetts* that EPA was not required to regulate GHGs, so long as it provided "reasons * * * ground[ed] * * * in the statute" for declining to do so. *Id.* at 535. In any event, surely this Court and not the D.C. Circuit is best positioned to determine the meaning and limits of its own decisions.

The government also attempts to pitch this case as a challenge to EPA's handling of the scientific record. But that too is unavailing. Petitioners' quarrel is not with EPA's scientific expertise or empirical assertions—it is with EPA's ill-founded statutory constructions and assumption of unprecedented authority over the American public and economy.

Absent intervention by this Court, hundreds of billions and possibly trillions will be drained from the American economy based on novel legal theories marking "a significant shift of power from the Legislative Branch to the Executive Branch." App. 152a-153a (Kavanaugh, J., dissenting). Such extraordinary doctrinal innovations with such vast real-world consequences should not be given a "greenlight," *id.*, until this Court has an opportunity to fully consider the merits of the questions presented.

I. This Case Presents Urgent Questions of Exceptional Practical and Doctrinal Importance.

EPA's rulemakings below generated what quite likely are the costliest regulations ever promulgated based on EPA's belief that it can take a red pencil to plain statutory text. Every judge below recognized that this case is exceptionally important.

Nine petitions brought on behalf of over 80 petitioners have sought review of the decision below; ten amicus briefs have been filed in support; and three respondents have asked the Court to intervene. All of these petitions and supporting briefs emphasize the unprecedented scope and burdens of EPA's rulemakings, and a majority emphasize EPA's unprecedented assertion of authority to re-write statutory thresholds. Although the petitioners' perspectives vary, they represent a consensus in favor of review shared by 19 states, industry associations representing almost every sector of the economy, and numerous public policy groups.

Review now is especially needed in light of the expanding repercussions of the decision below. *See, e.g.*, *Texas* v. *EPA*, __ F.3d __, 2013 WL 3836226 (D.C. Cir. July 26, 2013) (requiring Texas and Wyoming to immediately adhere to EPA's GHG rules). For instance, on July 12, 2013, the D.C. Circuit held that EPA may not defer regulations governing "biogenic carbon dioxide" emissions—including, remarkably, "emissions" produced from the decomposition of dead trees—even if EPA were to conclude that such a rule could increase the amount of carbon dioxide in the atmosphere. *See Ctr. for Biological Diversity* v. *EPA*, __ F.3d __, 2013 WL 3481511 (D.C. Cir. July 12, 2013). Judge Kavanaugh reluctantly concurred on grounds that the circuit precedent established in the case below compels this counterintuitive result. Judge Kavanaugh noted that because EPA construed the CAA in an "admittedly absurd" way, the nation is left with "a statute that is a far cry from what Congress intended or enacted." *Id.* at *11 (Kavanaugh, J., concurring). He lamented that EPA is now required to "mak[e] it up as it goes along" and "[t]hat is not how the administrative process is supposed to work." *Id.*

If this Court is ever to have a timely, effective say in the foundational questions this petition presents—for the Clean Air Act, for administrative law, for the nation's economy—now is the time to take up those questions.

II. The Government's Merits Arguments Miss the Mark.

The government's opposition does not dispute the massive real-world consequences of EPA's regulatory program, or the fact that EPA took the extraordinary leap of unilaterally rewriting the statute's emissions thresholds for stationary pollution sources. App. 137a. Rather than responding to the core reasons for granting review, the government argues the merits. According to the government, this case "represents an unexceptional application of settled" law. U.S.Opp. 18. Nothing could be further from the truth.

1. As the petition explains, EPA chose in the rulemakings below to discard its own proposal to "conduct a single rulemaking comprehensively addressing the propriety of regulating GHG" and to proceed instead "in piecemeal fashion." Pet. 8. EPA thus set the stage for its fundamental mistake of failing to consider section 202(a)(1) in the context of the Clean Air Act as a whole. *See* Pet. 20-21. This interpretive failure not only runs afoul of basic principles of statutory construction, it led to EPA rewriting plain statutory text and thus posing the profound separation of powers questions spotlighted in the dissents below. *See, e.g.*, App. 131a (Brown, J., dissenting).

Rarely if ever has the Court confronted so conspicuous a departure from its centuries-old jurisprudence admonishing that proper statutory construction involves reading language in context and considering statutes as a whole. It is a basic interpretive principle that one must "read[] the *whole* statutory text, considering the purpose and context of the statute." *Dolan* v. *USPS*, 546 U.S. 481, 486 (2006) (emphasis added). After all, "[a] provision that may seem ambiguous in isolation is often clarified by the remainder of the statutory scheme." *United Savings Ass'n* v. *Timbers of Inwood Forest Assoc.*, 484 U.S. 365, 371 (1988); *see also United States* v. *Boisdoré's Heirs*, 49 U.S. (8 How.) 113, 122 (1850) ("In expounding a statute, we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy."). Accordingly, when an agency acts contrary to this canon, its decision fails at *Chevron* step one and is entitled to no deference. *See FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132-33 (2000); *MCI Telecomms. Corp.* v. *Am. Tel. & Telegraph, Co.*, 512 U.S. 218, 231 (1994); *see generally Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837, 843 n.9 (1984) ("traditional tools of statutory construction" employed at step one).

2. The government contends that EPA's rulemaking decisions were "compelled by the statutory text and by this Court's decision in *Massachusetts*." U.S.Opp. 18. According to the government, there was after *Massachusetts* little interpretive work left for EPA; instead, all EPA needed to do was "form a scientific judgment based on the available evidence" about greenhouse gases. *Id.* at 19.

In fact, there was plenty of legal work left for the agency. Section 202(a)(1) authorizes EPA to establish "standards applicable to the emission of any air pollutant" from motor vehicles only upon finding that the pollutant can "reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). What causation standard this statutory language establishes is a pure legal question. *See, e.g.*, *Lombardi* v. *Sec'y of Health & Human Servs.*, 656 F.3d 1343, 1350 (Fed. Cir. 2011) ("the appropriate standard of causation is a legal determination"); *Otal Invs. Ltd.* v. *M.V. Clary*, 494 F.3d 40, 59 (2d Cir. 2007) (same); *Head* v. *Glacier Nw. Inc.*, 413 F.3d 1053, 1063 (9th Cir. 2005) (same).

This legal question was left unaddressed and unresolved both in the 2003 EPA final rule reviewed in *Massachusetts* and in *Massachusetts* itself. Indeed, in the *Massachusetts* briefing the Commonwealth assured the Court that a decision in its favor would not foreordain the outcome on remand. *See, e.g.*, Br. for Petitioner, at 3, 2006 WL 2563378 ("Petitioners ask this Court to correct EPA's legal errors and to remand the case to the agency with directions to apply the correct legal standard to this matter; that is all. A judgment in favor of petitioners will not mandate regulation of air pollutants associated with climate change."). The *Massachusetts* Court thus had reason to expect that its holding that GHGs are "air pollutants" under the Act would not produce "extreme measures." 549 U.S. at 531.

Unfortunately, the Court's expectation that EPA would refrain from "extreme measures" on remand was not fulfilled. Quite remarkably, EPA sidestepped the causation question and then embraced a construction that produced absurd and far-reaching results. Had EPA read the statute with more care and sought to avoid absurd results, it would have found that the agency's reliance on non-exposure-related health effects distant in time and proximity from the relevant emissions cannot be squared with the statutory text. It would also have found that its interpretation of the Act is at odds with the statute's structure and consistent application in past EPA rulemakings. *See* Pet. 21-28.

Nor is *American Electric Power Co.* v. *Connecticut*, 131 S. Ct. 2527 (2011), contrary to petitioners' interpretation. Petitioners do not contest that greenhouse gases fall within section 302(g)'s broad definition of "air pollutant" and so can potentially be regulated under the Act. *American Electric Power* thus correctly held that federal common law claims are displaced. *See id.* at 2537. What petitioners do vigorously contest is whether EPA has lawfully interpreted the applicable causation standard under a single Clean Air Act provision; namely, section 202(a)(1). That question was not at issue in *American Electric Power*.

The opposition contends in response that "EPA's interpretation of the undefined term 'reasonably * * * anticipated to endanger,' is controlling unless it is contrary to Congress's clearly expressed intent or otherwise unreasonable." U.S.Opp. 23. But EPA's rulemakings below never articulated an affirmative standard of causation in their discussion of "reasonably * * * anticipated to endanger." Despite the petition's heavy emphasis on this issue, *see* Pet. 21-28, the opposition fails to point out any such interpretation of the Act by the agency. *See* U.S.Opp. 23 (citing final rule sections that do not articulate an affirmative causation standard). Undoubtedly, this Court often affords deference to agency interpretations of statutes. But deference is not appropriate where, as here, "the agency itself" has failed to articulate a "position on the question." *Bowen* v. *Georgetown Univ. Hosp.*, 488 U.S. 204, 212 (1988).

3. The opposition next suggests that this Court's *Massachusetts* remand "would have been a pointless exercise if the causal links between greenhouse gas emissions, climate change, and harm to the public health or welfare were as a matter of law too indirect to support and endangerment finding." U.S.Opp. 23. But surely there is nothing "pointless" in asking lower courts or administrative agencies (here, EPA)

to make new determinations in remand proceedings. Under *Massachusetts*, EPA was obliged to interpret, for the first time in the context of GHG emissions, "reasonably * * * anticipated to endanger"; and then to apply that interpretation to "the causal links between greenhouse gas emissions, climate change, and harm to the public health or welfare"; and then to explain its ultimate decision to regulate or not based on "reasons grounded in the statute." 549 U.S. at 535. Nonetheless, EPA's remand inexplicably failed to address any of these critical questions.

4. The opposition suggests, lastly and in a footnote, its puzzlement with the petition's emphasis on discrepancies between the statutory definition of welfare effects and EPA's analysis of harms to public welfare. *See* U.S.Opp. 23 n.9. But there is nothing puzzling or opaque in this argument. As the petition explains, rather than pursuing an inquiry "framed by the CAA, EPA chose to organize its endangerment analysis for welfare around an invented six-part scheme lacking a discernible relation to principles drawn from the Act." Pet. 26.

In short, petitioners' quarrel is not with EPA's scientific expertise or fact-finding, much less with *Massachusetts*. If *Massachusetts* makes anything clear it is that EPA should have hewed closely to the text of the Clean Air Act instead of veering from the statute in a quest for a preferred policy outcome. Even apart from the enormous practical importance of the rulemakings below, EPA's omission of an attentive reading of the Act, coupled with its embrace of a construction producing absurd results, warrants the Court's review.

III. This Petition Offers An Excellent Vehicle For Resolving The Questions Presented.

This petition is brought by our nation's largest business association, by its largest organization of farmers, and by the state (Alaska) that contains the nation's largest oil field and is most acutely attuned to potential climate change impacts on arctic regions. The petition has drawn specific support from a diverse coalition of *amici*, including prominent professors of administrative law and Nobel Prize-winning economists. Although all of the petitions challenging EPA's rulemakings make important points, this one uniquely focuses on key arguments for why EPA's Clean Air Act interpretation is flawed; namely, that EPA improperly interpreted the statute's "reasonably anticipated to endanger" language and that EPA and the D.C. Circuit misunderstood and misapplied *Massachusetts* v. *EPA*, 549 U.S. 497 (2007), and *FDA* v. *Brown & Williamson*, 529 U.S. 120 (2000). Moreover, this petition focuses on the Endangerment Rule and not solely on EPA's downstream rulemakings. This petition is accordingly one of a handful that does not necessarily require the Court to grapple with standing issues.

1. In an effort to limit this Court's ability to reach the central interpretive questions presented, the environmental respondents (but not the government) contend that petitioners "forfeited" arguments going to the meaning of "reasonably * * * anticipated to endanger." E.R.Opp. 15-16. In fact, petitioners raised the central question of what "reasonably * * * anticipated to endanger" means, both before the agency and in the D.C. Circuit, expressly claiming that EPA's rules must be vacated

for failing to satisfy the statute's requirement that health effects be directly and distinctly tied to the motor vehicle emissions to be regulated. *See* Final Joint Opening Br. at 57-58 (09-1322, D.C. Cir. Nov. 14, 2011) (explaining that the "health-related findings in the Endangerment Rule, addressing asserted future public health risks from climate change, run afoul of the Act" because endangerment to the public health requires "direct" effects); Final Joint Reply Brief at 32 (09-1322, D.C. Cir. Nov. 14, 2011) (rebutting EPA's argument that "climate change will create future public health effects and that such effects need not be direct to qualify"); App. 322a ("Several commenters argue that EPA may only consider the health effects from direct exposure to pollutants in determining whether a pollutant endangers public health.") These arguments are more than sufficient to preserve petitioners' right to advance the arguments and authorities adduced in the petition. *See, e.g.*, *Lebron* v. *Nat'l R.R. Passenger Corp.*, 513 U.S. 374 (1995) ("Our traditional rule is that '[o]nce a federal claim is properly presented, a party can make any argument in support of that claim; parties are not limited to the precise arguments they made below'") (quoting *Yee* v. *Escondido*, 503 U.S. 519, 534 (1992)).

Similarly, the environmental respondents mischaracterize our argument regarding "reasonably anticipated" endangerment of public health. They suggest, incorrectly, that we contend "only 'inhalational' effects," and not other types of emissions exposures set forth in the petition, can give rise to endangerment of public health. *Compare* E.R.Opp. 16 ("only 'inhalational' effects") *with* Pet. 24 (referring to "inhalational *or other exposures* to a pollutant") (emphasis added). In fact, our argument holds that motor vehicle "emissions" can be "reasonably anticipated" to "endanger public health" under section 202(a)(1) in those instances where people's exposures to the emissions can be "reasonably anticipated" to cause health problems. The petition thus emphasizes that "EPA could lawfully find endangerment of health" by identifying "exposure-related effects of pollutants" involving not just "inhalation" but also "skin exposures, ingestion, and the like." Pet. 25.

2. This petition affords an exceptionally good vehicle for review. While focusing on EPA's failure to articulate a standard of causation and establish that the standard was satisfied, it also argues that the term "air pollutant" need not have the same meaning across the Clean Air Act, *see* Pet. 28-29, and challenges EPA's decision to ignore *Brown & Williamson*'s admonition that in an "'extraordinary case'" an agency must "'hesitate before concluding that Congress'" intended an "'implicit delegation'" of a novel and potent regulatory authority. Pet. 30 (quoting 529 U.S. at 143, 159). When EPA realized that its regulations created absurd results imposing unprecedented impacts on the United States economy, it should have stayed its hand, as *Brown & Williamson* requires.

3. Finally, as noted above, nothing in *Massachusetts* compelled EPA's decision on remand. If, however, *Massachusetts* does indeed require a nullification of statutory text to avoid absurd results, then it is the offending portions of *Massachusetts*, not the plain terms of the Clean Air Act, that should be revisited. *See* Pet. 30-31.

* * *

Agencies' authority to interpret and then apply statutes entrusted to their care has always been understood as limited by plain statutory text, read in light of applicable construction canons. In the endangerment rulemaking below and with the D.C. Circuit's blessing, however, EPA effectively eviscerated this crucial limitation. EPA declined to read section 202(a)(1)'s "reasonably * * * anticipated to endanger" language in light of its plain meaning and past agency practice. It declined to read the Clean Air Act as a whole. It declined to revisit its preferred statutory construction on finding that it produced what the agency itself recognized were absurd results. Ultimately, EPA discarded and rewrote plain statutory text. Contrary to the government's assurances, practically nothing is "unexceptional" about these far-reaching EPA rulemakings. If the Court is to have a say in the foundational separation-of-powers issues and pivotal interpretive questions posed by the rulemakings, review in this case should be granted.

CONCLUSION

The petition should be granted.

Respectfully submitted,

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AMICUS
CURIAE
BRIEF

RECORD
AND
BRIEFS

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MAY 24 2013
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No. 12-1272

In the
Supreme Court of the United States

CHAMBER OF COMMERCE
OF THE UNITED STATES, ET AL.,
PETITIONERS,
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
RESPONDENTS.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the D.C. Circuit

MOTION FOR LEAVE TO FILE BRIEF AS *AMICI CURIAE* AND BRIEF OF ADMINISTRATIVE LAW PROFESSORS AND THE JUDICIAL EDUCATION PROJECT AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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MOTION FOR LEAVE TO FILE *AMICI CURIAE* BRIEF IN SUPPORT OF PETITIONERS

Pursuant to Rule 37.2(b), the administrative law professors listed in appendix A, together with the Judicial Education Project, respectfully request leave to submit a brief as *amici curiae* in support of the petition for writ of certiorari filed by the Chamber of Commerce of the United States, the State of Alaska, and the American Farm Bureau Federation. As required under Rule 37.2(a), *amici* timely provided notice to all parties' counsel of their intent to file this brief more than 10 days before its due date. Petitioners and most respondents, including the United States, have consented to the filing of this brief. (The letters granting consent have been submitted with this brief.) Certain respondents did not respond to *amici*'s request for consent[*] and, therefore, *amici* are filing this motion.

Amici law professors have taught and written extensively on administrative law as well as constitutional and environmental law. Together with the Judicial Education Project, they seek to assist the

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[*] Parties who did not respond include American Iron and Steel Institute and Gerdau Ameristeel US Inc.; Association of Global Automakers; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation and Glass Packaging Institute; Georgia; Georgia Coalition for Sound Environmental Policy; Mississippi; Missouri Joint Municipal Electric Utility Commission; Pacific Legal Foundation; Peabody Energy Co. and National Mining Association; South Carolina Public Service Authority; Utah; and Virginia.

Court by highlighting the foundational constitutional and administrative law principles at stake in this extraordinary case. As explained below, *amici* urge the Court to grant review because the decision below raises exceptionally important questions concerning administrative agencies' authority to rewrite plain, unambiguous statutory text. The Court's intervention is also needed to clarify the scope and meaning of its decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007).

The greenhouse gas programs adopted by the Environmental Protection Agency ("EPA") have taken on unprecedented legal forms and real-world consequences far beyond those contemplated in *Massachusetts*, to the point where "the bedrock underpinnings of our system of separation of powers are at stake." Pet.App. 152a (Kavanaugh, J., dissenting). Moreover, although EPA has acknowledged that its interpretation of the Clean Air Act leads to absurd consequences that Congress could never have intended, the court below believed that it had no option but to affirm EPA's interpretation and unprecedented assertion of authority to rewrite the statute. In doing so, the lower court departed from settled principles of administrative law, including the principles recognized in *Chevron USA, Inc. v. Natural Resource Defense Council, Inc.*, 467 U.S. 837 (1984).

Amici seek leave to submit this brief in support of the petition filed by the Chamber of Commerce, *et al.* because that petition articulates the three issues that *amici* perceive as central to this case: (1) The Clean Air Act can and should be construed to avoid the statutory absurdity created by EPA; (2) If the Act can *not* be construed to avoid absurdity, EPA must refrain from regulating greenhouse gases, pending congressional authorization; and (3) If absurdity cannot be avoided, and if *Massachusetts* commands the "must regulate" position inferred by EPA and by the court below, the Court should overrule *Massachusetts*.

Alternatively, given the multiple petitions and the extraordinary importance of the case (recognized by all judges of the court below), this Court's recent practice suggests that it may wish to entertain petitions and argument from several parties. In that event, *amici* seek leave to submit this brief to urge that the grants of petitions and the allotted argument time should fairly reflect the full range of positions urged by the several petitioners.

For these reasons, and because *amici* are well-equipped to help the Court evaluate the parties' arguments, the Court should grant this motion for leave to file a brief as *amici curiae*.

Respectfully submitted,

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QUESTION PRESENTED

Whether this Court, in light of the unprecedented agency and judicial decisions following *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497 (2007), should overrule or, at a minimum, substantially clarify and limit its holding and opinion in that case?

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INTEREST OF *AMICI CURIAE*[1]

Amici curiae have a strong interest in the exceptionally important administrative and constitutional law issues presented by this case. *Amici* law professors, who are listed in Appendix A, have taught and written extensively on administrative law as well as constitutional and environmental law. *Amicus* Judicial Education Project ("JEP") is a non-profit educational organization in Washington, D.C. JEP is dedicated to defending the Constitution as envisioned by its Framers — a federal government of enumerated, limited powers. JEP educates citizens about these constitutional principles, with a focus on the judiciary's role in our democracy.

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[1] Counsel for all parties received notice of *amici*'s intent to file this brief 10 days before its due date; because some respondents did not consent, *amici* are submitting a motion for leave to file this brief. No counsel for any party authored this brief in whole or in part, and no person or entity, other than *amici*, their members, or their counsel, made a monetary contribution intended to fund the preparation or submission of this brief. *Amici* law professors received no compensation for offering the views reflected herein. Counsel of record represented certain petitioners in the proceedings below, but is solely representing *amici* before this Court.

INTRODUCTION AND SUMMARY OF ARGUMENT

For all its high salience, *Massachusetts v. EPA*, 549 U.S. 497 (2007), was litigated and decided as a case about the proverbial statutory mousehole — the scope of EPA's discretion in making an "endangerment finding" under a single provision of a single title of the Clean Air Act. Petitioners in *Massachusetts* assured the Court that the mousehole contained nothing but a mouse. *See* Br. for Petitioner, at 3, *Massachusetts v. EPA*, 549 U.S. 497 (2007), 2006 WL 2563378. The Court's decision gave petitioners what they had asked, and no more: a remand, with instruction for EPA "to exercise discretion within defined statutory limits." *Massachusetts*, 549 U.S. at 533; *id.* at 534–35. The Court recognized that an affirmative endangerment finding under section 202(a)(1) would compel the regulation of greenhouse gas emissions from new motor vehicles. But such standards had governed the automobile industry for decades; no "extreme measures" or "counterintuitive" results would ensue. *Id.* at 531 (distinguishing *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000)).

What has since emerged from section 202(a)(1) is a full-scale elephant — an extra-statutory program for the regulation of greenhouse gas emissions from *stationary* sources that bids to become the most intricate, comprehensive, and expensive regulatory venture in the agency's history. According to EPA and the court below, the pachyderm was spawned, and its nurture is commanded, by the language of the Clean Air Act and by *Massachusetts*. The animal cannot be accommodated within the structure and language of the Clean Air Act, but no worries: EPA claims discretion to effectively re-write unambiguous, non-discretionary, *numerical* regulatory thresholds, specified in its governing statute, to avoid any absurdity. Pet.App. 704a–13a (*Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 75 Fed. Reg. 31,514, 31,517–18 (June 3, 2010) ("Tailoring Rule")).

The maxim that Congress "does not . . . hide elephants in mouseholes," *Whitman v. Am. Trucking Ass'n, Inc.*, 531 U.S. 457, 468 (2001), is only one of the principles of interpretation and administrative law to be brushed aside by EPA and the court below. EPA's position that extreme measures — re-christened "absurd results" for purposes of litigation — *will* in fact occur if the statute were enforced as written casts *Massachusetts*, or at any rate EPA's reading of the decision, in a very different light. And the notion that those consequences can be avoided, and ordinary canons of interpretation trumped, by resort to an "absurdity doctrine" that permits an agency to revise numerical statutory thresholds is unheard of. EPA's positions and their cavalier treatment by the court below raise urgent separation of powers concerns. They well-nigh compel review.

REASONS FOR GRANTING THE PETITION

I. EPA's Rules And The Decision Below Violate Bedrock Principles of Administrative Law.

The Court should grant review because EPA's greenhouse gas regulations violate bedrock principles of administrative law. Contrary to EPA's conclusions, no "canon" of construction permits an administrative agency to rewrite a statute, and EPA's claimed authority raises grave constitutional concerns. The Court should also grant review because the lower court's standing determination reflects growing confusion among the lower courts over agencies' ability to immunize their decisions from judicial scrutiny by regulating through partial waivers and exemptions.

A. EPA Failed to Ground its Actions in the Structure of the Statute.

The most startling of EPA's actions, not directly reviewed below, is the "Tailoring Rule" and its revision of "major" emitting sources, from the statutorily prescribed 250/100 tons per year ("tpy") to EPA's hand-picked 100,000/75,000 tpy for CO_2 emissions. The revision is warranted, EPA avers, because the application of the statutory thresholds with respect to CO_2 would entail "absurd" consequences that Congress cannot conceivably have intended — the coverage of tens of thousands and indeed millions of sources that have never before been subject to the Clean Air Act's permitting requirements. Pet.App. 778a–82a.

The court below suggests that the "absurdity" is a scarecrow fabricated by plaintiffs, or maybe by Judge Kavanaugh. *See, e.g.*, Pet.App. 133a; Pet.App. 26a–30a; Pet.App. 105a ("what he [Judge Kavanaugh] considers absurd results"). Not so: *EPA* itself termed the consequences "absurd." Indeed, EPA *relied* on "absurd[ity]" to justify the Tailoring Rule, and it deliberately *created* the absurdity through a carefully sequenced series of decisions. EPA reasons as follows:

(1) Pursuant to *Massachusetts*, EPA *must* make an endangerment finding under section 202(a)(1) on scientific grounds alone and *must not* consider downstream statutory consequences. Pet.App. 969a–74a.

(2) An endangerment finding having been made, EPA *must* (and did) issue a greenhouse gas emission standard for automobiles.

(3) The regulation of greenhouse gas emissions from automobiles triggers the regulation of stationary sources with respect to such pollutants. Pet.App. 700a–04a.

(4) Because applying the statutory thresholds of the PSD program and Title V would violate the intent of Congress, EPA may revise the thresholds. Pet.App. 704a–13a.

Step (2) is commanded by the mandatory ("shall") language of section 202(a)(1). Steps (1), (3), and (4), in contrast, are not.

As for Step (1), the endangerment finding is committed to the agency's discretion, as circumscribed by the Act. *Massachusetts* did not hold that EPA had to make such a finding. 549 U.S. at 534 ("We need not and do not reach the question whether on remand EPA must make an endangerment finding . . ."). Instead, the Court instructed EPA to "ground its reasons for action or inaction in the statute." *Id.* at 535. This no doubt constrained EPA's discretion, but contrary to the assertions of the agency and the court below, residual discretion remained. Insofar as the agency or the court below assumed that EPA had no latitude in exercising its discretion, they erred. That Congress proscribes the factors an agency may consider in exercising its judgment does not excuse the agency from actually exercising judgment in the discharge of its statutory responsibilities. A constrained choice is still a choice. Moreover, *Massachusetts* made clear that it did not decide "whether policy concerns can inform EPA's actions in the event that it makes such a finding," let alone whether the EPA could — or is even compelled — to interpret the remainder of its statutory obligations in light of the legal obligations such interpretations would entail.

As for Step (3), several petitioners argue forcefully that the language of the PSD program permits a less categorical interpretation than EPA's. *Amici* express no view on the correct interpretation of the Clean Air Act's pertinent provisions, discussed at length in the opinions below. *Amici* instead respectfully draw the Court's attention to the interpretive principles that should guide the analysis on Steps (1) and (3).

EPA has a duty to construe its organic statutes so as to avoid resort to extravagant canons. *Environmental Def. v. Duke Energy*, 549 U.S. 561, 576 (2007). That duty extends to interpreting the statute *as a whole*. *Pilot Life Ins. Co. v. Dedeaux*, 481 U.S. 41, 51 (1987). An interpretation of an individual clause that produces absurdity in another part of the statute is not a permissible interpretation. *Kloeckner v. Solis*, 133 S. Ct. 596, 606–07 (2012).

The agency's freedom to choose its own procedures, *see Mobil Oil Expl. & Prod. Se. Inc. v. United Distrib. Cos.*, 498 U.S. 211, 230 (1991) (citing *Vermont Yankee Nuclear Power Corp. v. NRDC, Inc.*, 435 U.S. 519 (1978)), provides no license to dispense with canons of statutory coherence and integrity. Especially if the absurd consequences are as ineluctable as EPA makes them out to be, the agency had a duty to consider them at the front end. Eager to tip over the first of its regulatory dominoes, however, EPA explicitly declined to consider those consequences. That refusal and the appellate court's acceptance, Pet.App. 28a–30a, constitute reversible error.

B. EPA's "Canons" Do Not Permit Administrative Revisions of Unambiguous Statutory Standards.

At Step (4), EPA invokes three "canons" in defense of its re-write of the statutory thresholds: the absurdity, administrative necessity, and one-step-at-a-time canons. As proffered by EPA, each canon violates basic principles of statutory interpretation. In their proper application, moreover, the canons are mutually exclusive.

Absurdity. The absurdity canon permits the judicial correction of scrivener's and drafter's errors. But the absurdity must be of a kind that no reasonable person could intend, and it "must be reparable by changing or supplying a particular word or phrase whose inclusion or omission was obviously a technical or ministerial error." Antonin Scalia & Bryan A. Garner, *Reading Law: The Interpretation of Legal Texts* 238 (2012); *cf. Appalachian Power v. EPA*, 249 F.3d 1032, 1043 (D.C. Cir. 2001) (per curiam) (applying the canon). The provisions at issue here were no "error" but a deliberate legislative compromise. *See Sierra Club v. EPA*, 719 F.2d 436, 445 (D.C. Cir. 1983). No reason exists to think that Congress meant anything but what it said.

Under a related doctrine of absurdity *avoidance*, courts and agencies may choose a permissible reading of a statute over what may be its most natural reading. *See, e.g.*, *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 218–22 (2009); *Public Citizen v. U.S. Dep't of Justice*, 491 U.S. 440, 454 (1989); *id.* at. 470–71 (Kennedy, J., concurring). Judge Brown's and Judge Kavanaugh's dissents below are sensibly read as applications of that maxim. In contrast, no legitimate theory and no case supports EPA's *refusal* to construe the Act to avoid absurdity.

EPA's flagship "absurdity" case is *United States v. Ron Pair Enterprises, Inc.*, 489 U.S. 235 (1989). *See* Pet.App. 819a–28a. *Ron Pair* does acknowledge the existence of "rare cases" in which the results of a literal application are demonstrably at odds with the drafters' intentions. That recitation, needed to cover cases of drafting error, is one thing. The *holding* of *Ron Pair* is another: the judicial analysis must begin with the language of the statute — and must end there when the language is unambiguous. *Ron Pair*, 489 U.S. at 241; *cf. Zuni Pub. Sch. Dist. No. 89 v. Dep't of Educ.*, 550 U.S. 81, 119 (2007) (Scalia, J., dissenting) (explaining his "fifth vote" in *Ron Pair* as "reaffirming this Court's adherence to statutory text").

The closest this Court has come in the post-*Chevron* era to endorsing an agency-engineered departure from an arguably unambiguous statute is *Zuni Public School District No. 89 v. Department of Education*. There, the Secretary of Education had adopted a method of calculating federal financial assistance to local school districts, at variance with the literal terms of the statute (the federal Impact Aid Act), that in her judgment better reflected the purposes of Congress. The Court sustained the Secretary's action on that basis.[2] Significantly, EPA has not relied and cannot rely on *Zuni*. That case dealt with a (linguistically defined) method of calculation, not (as here) express numerical thresholds. And the Court *rejected* the notion that the agency could unilaterally revise obvious statutory commands. *Zuni*, 550 U.S. at 93.

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[2] Justice Breyer's majority opinion stressed the paradoxical results of a literal interpretation and, considering dictionary definitions, found the statute's technical terms ambiguous. *Zuni*, 550 U.S. at 91–93; *id.* at 107 (Kennedy, J., concurring). Justice Stevens would have sustained the Department's action based on the canon of absurdity. *Id.* at 107 n.3 (Stevens, J., concurring) (quoting *Church of the Holy Trinity v. United States*, 143 U.S. 457 (1892))). Strikingly, though, even Justice Stevens' concurring opinion does not help EPA here: "[T]his is a quintessential example of a case in which the statutory text was obviously enacted to adopt the rule that the Secretary administered both before and after the enactment of the rather confusing language found in [the statute;] . . . [we have]

Nor does *Massachusetts* help EPA. The majority held that greenhouse gases fit within the Clean Air Act's "capacious" definition of air pollutants, and it concluded that a broadly worded statute, intended to forestall regulatory obsolescence, may entail applications that the enacting Congress did not foresee. 549 U.S. at 532. Even "dynamic" statutory interpretation, however, provides no warrant for an administrative agency to divine what Congress might have said about an unanticipated application and what regulatory program it might have enacted if it had thought about the matter; and then to mobilize that hypothetical, inchoate intent against the text of the statute.

EPA's proposed "remedy" powerfully reinforces the urgency of adhering to conventional canons. Superficially, EPA's modification is relatively simple: 100/250 tpy means 100,000/75,000 tpy for CO_2. But it is also unbounded: on EPA's theory, virtually any number would do. Moreover, EPA's modification would grant the agency discretion to cover or exempt entire industries as it sees fit — a discretion that the statute forecloses. *Alabama Power Co. v. Costle*, 636

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evidence of congressional intent with respect to the precise point at issue." *Id.*at 106.

F.2d 323, 354 (D.C. Cir. 1979) (per curiam) (interpreting sections 165 and 169 of the Clean Air Act and noting that the statute "does not give the agency a free hand authority to grant broad exemptions."). Still worse, EPA reserves the right and in fact promises to revise the revision, subject to further revision. Pet.App. 933a–37a. Today's absurdity may become tomorrow's inexorable command, or maybe not. The statutory commands having been obliterated, meaningful judicial review is forever held at bay.

Administrative Necessity. EPA attempts to justify its position on the ground that the statute as written is impossible to administer. Pet.App. 704a–09a. Courts have on rare occasions recognized an agency's ability to cope with the administrative impossibility of adhering strictly to statutory commands. *Morton v. Ruiz*, 415 U.S. 199, 230–31 (1973); *Alabama Power*, 636 F.2d at 358 (quoting *In re Permian Basin Area Rate Cases*, 390 U.S. 747, 777 (1968)). But EPA's Tailoring Rule falls far outside the scope of permissible agency action.

Congress did envision an exemption from the permitting requirements under the PSD and Title V programs. It wrote that exemption into the statute: 100/250 tpy (for PSD) and 100 tpy (for Title V). 42 USC § 7479. In other words, Congress clearly expressed its intent to create that exemption *and no others*. *See Merrill Lynch, Pierce, Fenner & Smith Inc. v. Dabit*, 547 U.S. 71, 87–88 (2006) (existence of specific statutory "carve-outs . . . makes it inappropriate for courts to create additional, implied exceptions"); *Sierra Club*, 719 F.2d at 453 (same).

Where Congress intended to grant EPA discretion to exempt certain sources due to resource constraints (for non-major sources in Title V), it provided that authority. In so doing, it *prohibited* EPA from exempting any major source from Title V. 42 USC § 7661(a). Exemptions for a significant portion of an industry from statutory requirements are impermissible even where a statute permits their "modification." *MCI Telecomms. Corp. v. AT&T Co.*, 512 U.S. 218, 231–32 (1994). The injunction applies more strictly yet where, as here, the statute specifically precludes such steps.

Further, categorical exemptions from statutory commands are a highly disfavored method of addressing administrative necessity. *See, e.g.*, *Alabama Power*, 636 F.2d at 356–61. Courts will look to the statute for flexibility that would render the exemptions unnecessary. *Id.* at 358. That is not the option EPA chose here; it is the option it rejected both in its Endangerment Rule and in its interpretation of section 165.

Alternatively, or in addition, agencies may change their own regulations to avoid absurdity. *See Nat'l Ass'n of Broadcasters v. FCC*, 740 F.2d 1190, 1205 (D.C. Cir. 1984). The administrative necessity upon which EPA bases its Tailoring Rule — permitting requirements exceeding its regulatory capabilities — exists as a result of EPA's policy of subjecting major sources of any regulated pollutant to PSD and Title V permitting. In its Timing Rule, EPA explicitly declined to revisit those regulations. Pet.App. 598a (*Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by*

Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004, 17,006 (Apr. 2, 2010)).

EPA relies extensively on pre-*Chevron* cases. *See* Pet.App. 823a–28a. Its efforts to justify the Tailoring Rule within the *Chevron* framework, *id.*, are futile: post-*Chevron* cases demonstrate an increased judicial reluctance to accept administrative necessity arguments. *See Mova Pharm. Corp. v. Shalala*, 140 F.3d. 1060, 1068 (D.C. Cir. 1998); *Public Citizen v. FTC*, 869 F.2d 1541, 1557 (D.C. Cir. 1989) (when faced with absurd results, agencies are on better ground taking minor interpretative liberties, rather than re-writing statutory commands).

More troubling even than EPA's failure to consider regulatory options short of *de facto* statutory amendment is the fact that EPA's plan does not even envision full compliance with Congress's statutorily expressed intent. EPA states that it cannot determine whether it will eventually be able to fully comply with the statutory requirements established for PSD and Title V. Pet.App. 974a–79a. In that situation, EPA will create a *permanent* exception from the requirements and claim "absurd results" as justification. *Id.* All along this path to nowhere in particular, EPA will compare the costs and benefits of covering additional sources without reference to any intelligible statutory objective, let alone the text. That is impermissible.

One Step at a Time. EPA invokes a never-before-seen "one-step-at-a-time" doctrine. Pet.App. 989a–93a. The only authority cited by EPA is *Massachusetts'* unremarkable assertion that "[a]gencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop." 549 U.S. at 524. The proposition appears in a discussion of *jurisdiction* — specifically, the majority's rejection of the contention that EPA's failure to regulate greenhouse gas emissions from new mobile sources lacked an adequate causal connection to petitioners' alleged injuries. It has nothing to do with EPA's regulatory authority or the *Massachusetts* Court's views of that authority. It falls far short of supporting the authority EPA claims here — not the undisputed authority to implement a statute in an orderly fashion but the authority to periodically *revise* that program, in the exercise of a discretion the statute unmistakably withholds.

C. EPA's Claim of Authority Raises Grave Separation of Powers Concerns.

EPA avers that its "canons" are "intertwined" so as to "form a comprehensive basis for EPA's tailoring approach." Pet.App. 843a. Not so: The canons are mutually exclusive.

If the coverage of major sources as defined by the Clean Air Act is "absurd" with respect to greenhouse gases, then it *will remain* "absurd" and there is nothing "administrative" or "step-by-step" about the Tailoring Rule; it is simply a statutory re-write. Alternatively, a straightforward application of the statute as written is *not* absurd, and its phase-in is a matter of administrative economy. In that case, "absurdity" is entirely beside the point — and EPA has embarked on a regulatory program that would entail precisely the "extreme measures" disavowed in *Massachusetts*. 549 U.S. at 531.

The conjunction of made-up canons would permit EPA to make or break, coddle or cajole, cover or exempt entire industries at will. Courts have consistently viewed that form of discretion with great suspicion. Notably, many of the "administrative necessity" cases relied on by EPA caution that the doctrine is no warrant for exempting select industries from regulatory commands. *Envtl. Def. Fund, Inc. v. EPA*, 636 F.2d 1267, 1282 (D.C. Cir. 1980); *Alabama Power*, 636 F.2d at 401. Claims of such authority have been rejected even when proffered by an agency with circumscribed jurisdiction, in a rapidly changing market environment, and for respectable reasons. *MCI Telecomms.*, 512 U.S. at 231–32. The FCC's claim of authority invalidated there fell far short of EPA's claimed authority to administer an industrial policy for the entire economy.

Perhaps no "extreme" economic consequences would occur if the decision below were to stand: EPA's statutory re-write is tailored to avert them. And even on EPA's extravagant theory, one could argue, there would remain a limitation on the agency's discretion — not the statute or the courts, but rather the pain threshold of Congress. That limit depends crucially on the ability of industries to absorb the costs of EPA's greenhouse gas regime without visible dislocations (such as plant closures or direct job losses): should such consequences occur, Congress would intervene. EPA has been careful to avoid such outcomes, and it will likely continue to do so. *See* Philip A. Wallach, *U.S. Regulation of Greenhouse Gas Emissions*, Brookings Governance Studies (October 26, 2012), *available at* http://www.

brookings.edu/research/papers/2012/10/26-climate-change-wallach.

That train of thought, however, should be resisted. The power to exempt is the power to govern. One can imagine a constitutional system that empowers administrative agencies to stick-build a regulatory empire until the legislature stops them. Under *our* system, agency action requires an affirmative legal basis. *See, e.g.*, *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988).

D. The Court of Appeals' Standing Determination Warrants Independent Review and Reversal.

The court below dismissed industry petitioners' standing in two paragraphs. Their alleged injury, the court wrote, occurred "not because of anything EPA did . . . but by automatic operation of the statute." Pet.App. 88a. According to the court, the injury at issue was neither caused by EPA's Tailoring and Timing Rules nor redressable by a favorable decision. *Id.* The holding is in error.

Had EPA issued a rule to implement the stationary source requirements to greenhouse gas emitters in accordance with the statutory text, there would be no question about the regulated industries' standing. *Cf. Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561–62 (1992). The standing problem perceived by the court below emerges where an agency *exempts* a covered (or coverable) entity from a (potentially) applicable prohibition or mandate: in those cases, the complained-of regulation looks separable from the source of the injury — that is, the "automatic" operation of the statute.[3]

In the lower courts, there is growing confusion over the proper standing analysis in this context. *See, e.g.*, *Grocery Mfrs. Ass'n v. EPA*, 693 F.3d 169 (2012). The position of the court below, however, is not and should not be the law. For example, in analogous "competitor standing" cases, the Court has held that firms have standing to challenge agency action in favor of someone else (provided, of course, that the complaining firms meet the requirements of imminent and particularized injury). *See, e.g.*, *Association of Data Processing Serv. Orgs., Inc. v. Camp*, 397 U.S. 150, 157 (1970); *see also, e.g.*, *Sherley v. Sebelius*, 610 F.3d 69, 72 (D.C. Cir. 2010); *Honeywell Int'l Inc. v. EPA*, 374 F.3d 1363, 1369 (D.C. Cir. 2004) (per curiam). In contrast, under the panel's reasoning, an agency could virtually always immunize its regulations by means of partial waivers and exemptions. That perplexing position should be rejected.

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[3] As in *Massachusetts* the petitions for review here were "authorized" under 42 U.S.C. § 7607(b)(1). *See* 549 U.S. at 498. That means petitioners have "standing if there is some possibility that the requested relief will prompt the injury-causing party to reconsider the decision that allegedly harmed" the petitioners. *Id.* Under *Massachusetts*, "meeting all the normal standards for redressability and immediacy" is not required. *Id.*

II. There Is No *Stare Decisis* Obstacle to Overruling *Massachusetts v. EPA.*

Several petitioners urge this Court to reject EPA's aggressive reading of *Massachusetts* on the grounds of Judge Kavanaugh's dissent: *Massachusetts* does not command an extension of greenhouse regulation to the PSD program. While that may well be a sensible position, it also means that global warming policy will be improvised in a partnership between EPA and the court of appeals—one endangerment finding, one industry, one EPA invention at a time. Petitioners Chamber of Commerce *et al.*, as we understand them, urge a position close to Judge Brown's dissent and, in the alternative, ask that *Massachusetts* be overruled. That may well be the most compelling disposition.

A. Overruling *Massachusetts v. EPA* Would be Consistent With Sound Principles and Precedents.

"The doctrine of *stare decisis* protects the legitimate expectations of those who live under the law, and, as Alexander Hamilton observed, is one of the means by which exercise of 'an arbitrary discretion in the courts' is restrained." *Hubbard v. United States*, 514 U.S. 695, 716 (1995) (Scalia, J., concurring) (quoting The Federalist No. 78 at 471 (Hamilton) (C. Rossiter ed. 1961)). The Court applies *stare decisis* more rigidly in statutory than in constitutional cases. *See, e.g.*, *Glidden Co. v. Zdanok*, 370 U.S. 530, 543 (1962); *Illinois. Brick Co. v. Illinois*, 431 U.S. 720, 736 (1977). In statutory as well as constitutional cases, however, *stare decisis* is a policy or presumption, not an ironclad rule.

Helvering v. Hallock, 309 U.S. 106, 119 (1940). Of course, a court that decides to overrule precedent "must give reasons, and reasons that go beyond mere demonstration that the overruled opinion was wrong (otherwise the doctrine would be no doctrine at all)." *Hubbard*, 514 U.S. at 716 (Scalia, J., concurring). But where a statutory decision was plainly in error, and where additional reasons counseled overruling and no countervailing considerations (such as reliance) compelled respect, the Court has not hesitated to overturn its statutory precedents.[4] Three commonly cited reasons for overruling apply in this case.

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[4] The presumption of (statutory) *stare decisis* is potent in constraining the judicial "discretion" Hamilton had in mind — that is, the room for judgment (and error) that any legal system will entail. It is far less potent in cases of clear judicial error. *Cf.* Caleb Nelson, *Stare Decisis and Demonstrably Erroneous Precedents*, 87 Va. L. Rev. 1, 8 (2001) (in antebellum America, "when convinced of a precedent's error, most courts and commentators did not indulge a presumption against overruling it.").

There is no meaningful reliance here. Congress has not legislated in reliance on *Massachusetts*, and regulated industries complain about their inability to rely on anything at all, should EPA's improvised program go forward. EPA, in a fashion, has "relied" on *Massachusetts*. But its interpretation of the decision merits no deference, and its legitimacy is precisely what is at issue in this case. This Court's decision in *American Electric Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011), relied on *Massachusetts* only to extent of affirming EPA's general authority to regulate greenhouse gases. *Cf. id* at. 2537–39 (explicitly noting EPA's delegated discretion to regulate or not to regulate).

First, overruling may be warranted when a precedent was decided on erroneous premises. *See, e.g., Monell v. N.Y. Dep't of Soc. Servs.*, 436 U.S. 658, 696 (1978); *Leegin Creative Leather Prods. v. PSKS, Inc.*, 551 U.S. 877, 906 (2007) (overruling *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911)). *Massachusetts* assumed, explicitly but erroneously, that EPA's regulatory jurisdiction over greenhouse gases would have no "extreme consequences," *Massachusetts*, 549 U.S. at 531; and that an affirmative endangerment finding under section 201(a)(1) would prompt the regulation of greenhouse gases from automobiles but nothing else. *Id.* ("EPA has not identified any congressional action that conflicts in any way with the regulation of greenhouse gases *from new motor vehicles*.") (emphasis added); *id.* at 533 ("If EPA makes a finding of endangerment, the Clean Air Act requires the Agency to regulate emissions of the deleterious pollutant *from new motor vehicles*.") (emphasis added). Petitioners assured this Court, confidently but misleadingly, that nothing more was at stake. *See, e.g.*, Br. for Petitioner, at 3, *Massachusetts v. EPA*, 549 U.S. 497 (2007), 2006 WL 2563378 ("Petitioners ask this Court to correct EPA's legal errors and to remand the case to the agency with directions to apply the correct legal standard to this matter; that is all. A judgment in favor of petitioners will not mandate regulation of air pollutants associated with climate change."). None of the opinions in *Massachusetts* provide any indication that this Court suspected the extreme, counterintuitive, and absurd consequences now at issue. Those consequences provide ample reason to revisit *Massachusetts*. "Judges often decide cases on the basis of predictions about the effects of the legal rule. We can examine these effects . . . and improve on the treatment of the earlier case." Frank H. Easterbrook, *Stability and Reliability in Judicial Decisions*, 73 Cornell L. Rev. 422, 423 (1988).

Second, overruling may be appropriate when a precedent has prompted confusion and proved "unworkable," *Patterson v. McLean Credit Union*, 491 U.S. 164, 173 (1989); *Payne v. Tennessee*, 501 U.S. 808, 827–28 (1991); or when it was "badly reasoned," *Holder v. Hall*, 512 U.S. 874, 936 (1994) (Thomas, J., concurring). The maxim applies in statutory as well as constitutional cases. *See, e.g.*, *Swift & Co. v. Wickham*. 382 U.S. 111, 116 n. 1 (1965). Particularly instructive is *Hubbard v. United States*, 514 U.S. 695 (1995), which overruled *United States v. Bramblett*, 348 U.S. 503 (1955). Writing for the majority, Justice Stevens said that *Bramblett*, while "not completely implausible," was "nevertheless unsound" and warranted overruling on account of intervening legal developments. *Hubbard*, 514 U.S. at 706. Justice Scalia concurred on different grounds, noting "that so many Courts of Appeals have strained so mightily to discern an exception that the statute does not contain . . . demonstrates how great a potential for mischief federal judges have discovered in the mistaken reading of [the statutory provision at issue], *a potential we did not fully appreciate when* Bramblett *was decided*." *Hubbard*, 514 U.S. at 716 (Scalia, J., concurring) (emphasis added).

The *Massachusetts* Court may or may not have appreciated the difficulties of accommodating greenhouse gas regulation under a statute built for very different purposes. *Cf.* Arnold W. Reitze, Jr., Air Pollution Control Law: Compliance & Enforcement 427 (2001). This case removes any doubt on that score, and it poses a stark choice: allow *this* exception, and many others will follow. Especially on a matter of such undoubted consequence, one statutory re-write or exception is one too many.

Third, the fact that a decision "unsettles" the law may argue in favor of overruling. *Continental T. V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 47 (1977); *FEC v. Wisconsin Right to Life, Inc.*, 551 U.S. 449, 502 (2007) (Scalia, J., concurring in part and concurring in judgment); *Helvering*, 309 U.S. at 119. *Massachusetts* unsettles and collides with several more embracing and sounder doctrines.

Massachusetts is in tension, if not irreconcilable conflict, with *Chevron USA, Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984). The majority opinion strongly suggests and, under the D.C. Circuit's interpretation holds, that greenhouse gases are *unambiguously* air pollutants for all purposes of the Clean Air Act. As noted by Judge Kavanaugh, however, EPA itself has consistently maintained that the term "air pollutant" carries different meanings in different parts of the Clean Air Act, depending on its context. Pet.App. 149a–51a (Kavanaugh, J., dissenting). The agency has merely disavowed that position for purposes of greenhouse gas regulation. It is entirely possible — and sometimes plausible — that the same term, used throughout a statute, nonetheless carries different meanings. *See, e.g.*, *Robinson v. Shell Oil Co.*, 519

U.S. 337, 343 (1997); *General Dynamics Land Sys., Inc. v. Cline*, 540 U.S. 581, 595 (2004). But it is impossible for an *unambiguous* statutory term to do so. Thus, unless EPA's earlier position is to be discarded, *Massachusetts* should be overruled to the extent it holds that the term "air pollutant" is unambiguous.

Furthermore, *Massachusetts* casts grave doubt on precedents holding that special caution is warranted with respect to statutory interpretations that generate substantial expansions of an agency's regulatory authority. *Whitman*, 531 U.S. at 468 (citing *MCI Telecomms.*, 512 U.S. at 231); *Brown & Williamson*, 529 U.S. at 161. While *Massachusetts* distinguished *Brown & Williamson* on the grounds, *inter alia*, that a ruling in petitioners' favor would entail no "extreme" and "counterintuitive" measures, EPA's PSD and Title V regulations will encompass sources and industries that have never been subject to regulation. At the same time, EPA claims authority to exempt many of those sources by means of a unilateral re-write of unambiguous standards. For reasons discussed above, that claimed authority is a *very* major consequence. *Cf. MCI Telecomms.*, 512 U.S. at 231. To the extent *Massachusetts* warrants that reach, it should be overruled.

Finally, *Massachusetts* gives rise to a highly unorthodox consequence: climate change regulation on demand. The language of section 201(a)(1) ("in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare") is sprinkled liberally throughout the Clean Air Act. *E.g.*, 42 U.S.C. § 7408(a)(1)(A); *id.*

§ 7411(b)(1)(A). Almost always, the language serves as a *mandatory* trigger for regulation. One endangerment finding having been made, it is hard to see — on the theory of EPA and the court below — how EPA could decline to regulate in response to pending petitions for greenhouse gas controls from sea to shining sea. *See, e.g.*, Center for Biological Diversity, Petition to Establish National Pollution Limits for Greenhouse Gases (filed Dec. 2, 2009); Institute for Policy Integrity, Petition for Rulemakings (filed Feb. 19, 2013).[5] Those petitions, of course, are not before the Court. But they are matters of public record, and they are "not before the Court" in the same way in which the PSD program and Title V were "not before the Court" in *Massachusetts*: they are dominoes yet to be arrayed and tipped over.

B. Separation of Powers Concerns Strongly Counsel Overruling.

In this extraordinary case, the common reasons for overruling are powerfully reinforced by separation of powers concerns. The construction of a nationwide regulatory system of unprecedented proportions ought to be left to Congress, not to an agency's extra-statutory, unguided improvisation. But the case also raises a more subtle but equally disturbing separation of powers question.

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[5] For example, the latter petition requests regulation under Section 115, which would compel EPA to require any states containing sources of international air pollution — in the case of greenhouse gases, *all* states — to revise their SIP so as to "prevent or eliminate" the danger to foreign health and welfare. 42 U.S.C. § 7415(a), (c), (b).

Massachusetts can be understood as an attempt to force political accountability: it held Congress to the dynamic, forward-looking statute that it wrote. If Congress does not like the result, it can, should, and surely will change the statute. In a system of bicameralism and separated powers, however, that line of reasoning is problematic. Judicial decisions often change the baseline against which Congress legislates. So here: pre-*Massachusetts*, separation-of-powers impediments cut against regulation; post-*Massachusetts*, they cut the other way.

Massachusetts appeared to require no action at all — no regulation, and not even an endangerment finding. And yet, EPA can say (as it has already said) that its greenhouse gas rulemaking cascade is compelled by the inexorable commands of the statute, as interpreted by this Court. Congress, for its part, cannot stop the momentum — not because the constitutional impediments have broken down but, paradoxically, because they are working as intended. In short, barring this Court's timely intervention, a regulatory elephant will march forward — and nobody will know whence it came.

If "accountability" means anything, it means citizens' ability to ask, *who is responsible* — and, at the end of the day, to get a tolerably clear answer. To the considerable extent that *Massachusetts* threatens that bedrock foundation of our government, it should be overruled.

CONCLUSION

The Court should grant the petition.

Respectfully submitted,

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AMICUS
CURIAE
BRIEF

No. 12-1272

IN THE

Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA. STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

On Petition for a Writ of Certiorari
to United States Court of Appeals
for the District of Columbia Circuit

BRIEF *AMICUS CURIAE* OF THE INSTITUTE FOR TRADE, STANDARDS AND SUSTAINABLE DEVELOPMENT IN SUPPORT OF PETITIONERS

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LIST OF ABBREVIATIONS

APA	Administrative Procedure Act
AR3	Third IPCC Assessment Report
AR4	Fourth IPCC Assessment Report
CAA	Clean Air Act
CCSP	U.S. Climate Change Science Program
CRR	Coalition for Responsible Regulation
EPA	U.S. Environmental Protection Agency
EPA-IQA	EPA Information Quality Act Guidelines
EPA-OIG	EPA-Office of the Inspector General
EPA-PRH	EPA Peer Review Handbook
EPA-PRPM	EPA Peer Review Policy Memo
GHG	Greenhouse Gases
HISA	Highly Influential Scientific Assessment
IAC	InterAcademy Council

IQA	Information Quality Act
IPCC	Intergovernmental Panel on Climate Change
ISI	Influential Scientific Information
NAS	National Academies of Science
NRC	National Research Council
OMB	Office of Management and Budget
OMB-PRB	OMB Peer Review Bulletin
RFC	Request for Correction
RTC	Response to Comment
RTP	Response to Petition
SAP	Synthetic Assessment Product
TSD	Technical Support Document
UN	United Nations
UNEP	United Nations Environment Program
USGCRP	United States Global Change Research Program
WMO	World Meteorological Organization

INTEREST OF *AMICUS*

The Institute for Trade, Standards and Sustainable Development (ITSSD) respectfully submits this Brief as *Amicus Curiae* in support of Petitioners in *Chamber of Commerce of the United States, et al., v. Environmental Protection Agency, et al.*, No. 12-1272, focusing on the issue of inadequate .compliance by EPA with information-based standards.[1]

ITSSD is a nonprofit legal research and educational organization; its Advisory Board consists of scientists and engineers. ITSSD analyzes and reports on the growing influence of domestic, foreign and intergovernmental environment, health, safety and other regulations grounded in sustainable development concepts.

Amicus' interest in this case stems from EPA's disregard for the procedural due process requirements intended to ensure the quality of agency-disseminated third-party-developed scientific data.

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[1] Pursuant to Supreme Court Rule 37.6, counsel for *amicus* certifies that no counsel for any party authored this brief in whole or in part and that no person or entity other than amicus made a monetary contribution intended to fund the brief's preparation or submission. Timely notice of intent to file was provided and the parties have consented to the filing of this *amicus* brief.

SUMMARY OF ARGUMENT

In *Coalition for Responsible Regulation, Inc. ("CRR") v. EPA*, 684 F.3d 102 (D.C. Cir. 2012) the D.C. Circuit Court erroneously ruled that EPA's Final Greenhouse Gas ("GHG") Endangerment Findings ("Final Endangerment Findings") and subsequent promulgation of economically significant regulations governing mobile and stationary GHG emissions sources were not arbitrary or capricious. 684 F.3d 102, 113.

The D.C. Circuit Court did not examine carefully whether EPA's evaluation of the United States Global Change Research Program/Climate Change Science Program ("USGCRP/CCSP"), National Research Council ("NRC") and Intergovernmental Panel on Climate Change ("IPCC") assessments upon which the Administrator's Final Endangerment Findings primarily relied satisfied Information Quality Act ("IQA") requirements and applicable IQA-implementing agency guidelines. Had the Court done so, it would have discovered that EPA's noncompliance with these standards undermined the credibility of the Administrator's Final Endangerment Findings.

EPA embraced and disseminated these non-EPA assessments as its own, and there was interagency agreement that they were properly characterized as highly influential scientific assessments ("HISAs") subject to the Office of Management and Budget ("OMB")/EPA IQA-implementing guidelines' highest and least discretionary peer review, transparency and independence/conflict-of-interest standards ("peer review standards"). EPA, however, mischaracterized these assessments as merely "influential scientific information" ("ISI"), subject to lower standards. EPA's summary review of the USGCRP/CCSP NRC and IPCC assessments, its reliance upon such bodies' flawed peer review processes, and its improper substitution of general Administrative Procedure Act ("APA") notice-and-comment procedures for specific IQA administrative reviews of Petitioners' Requests for Correction ("RFCs"), failed to satisfy these higher standards, and undermined the scientific basis for the Administrator's Findings.

ARGUMENT

This Court should grant review in this case, as it did in *Massachusetts v. EPA*, 549 U.S. 497, 505-506 (2007), because of "the unusual importance of the underlying issues."

The case at bar involves, among other issues, EPA's disregard for procedural due process. EPA ignored its legal obligation to ensure that affected members of the public can transparently review and submit comments which the agency must consider, about the quality of third-party-developed scientific data that the agency utilizes as the basis for promulgating economically significant regulations with national impact.

Agency adherence to such data quality rules and procedures is indispensable where scientific assessments and the major regulations that are based on them are premised on a "dramatically expanded" hazard-based precautionary principle. This precautionary principle formulation engenders drastically altered paradigms of scientific risk evaluation, economic cost-benefit analysis, and legal burdens and standards of proof. *See* First Round of OMB Comments to USEPA on Proposed Findings, Dkt. No. EPA-HQ-OAR-2009-0171-0124 (April 22, 2009), at 1-2; *CRR v. EPA*, 684 F.3d at 115, 121-123, *citing Ethyl Corp. v. EPA*, 541 F.2d 1, 28 (D.C.Cir.1976) and *Lead Indus. Ass'n, Inc. v. EPA*, 647 F.2d 1130, 1155 (D.C.Cir.1980). *See also* L.A. Kogan, *Revised U.S. Deep Seabed Mining Policy Reflects UNCLOS and Other International Environmental Law Obligations* LexisNexis (Jan. 2013), at 13-22, 33-37, n.67-83, 85, 105, 189-204 and articles cited therein (explaining the negative impact that rules based on a "dramatically expanded" precautionary principle, including those governing GHG emissions, would have on legal standards and burdens of proof.).

The D.C. Circuit Court Committed Reversible Error by Not Examining Carefully Petitioners' IQA Claims

Petitioners initiated this action pursuant to 42 U.S.C. §7607(b) for review of *EPA's Denial of Petitions to Reconsider the Final GHG Endangerment and Cause or Contribute Findings; Final Rule* ("Denial of Petitions"), 75 Fed.Reg. 49556 (8/13/10). Petitioners were also entitled under APA §702 and the IQA, 44 U.S.C. §3516 (note), to a review of EPA's prior denial of their RFCs, which had sought substantiation of agency methodologies employed in peer reviewing the HISAs underlying the Administrator's Final Endangerment Findings and subsequent rulemaking.

a. The D.C. Circuit Court Accepted EPA's IQA Compliance Claims

The Administrator relied upon the major climate assessments prepared by the USGCRP/CCSP, NRC and IPCC as the primary scientific basis for her Final Endangerment Findings. EPA Br. Document #1324992 (8/8/11) ("EPA Br.") at 29. EPA then used these findings to support its subsequent promulgation of mobile and stationary source GHG emissions regulations.

EPA asserts that it followed its IQA-implementing guidelines, purportedly relying on information that was, and is, "accurate, reliable, and unbiased." EPA Br. at 90. That information included major USGCRP, NRC and IPCC assessments. *Id.*, at 29. EPA conceded that "[t]he guidelines may apply to a subsequent dissemination of the information in which EPA adopts, endorses, or uses the information to formulate or support a regulation, guidance, or other Agency decision or position." *Id.*, at 90, citing *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* (Oct. 2002) ("EPA-IQA Guidelines") ("EPA-IQA") at §5.3, at 16.

EPA, also asserted that "Petitioners cannot support the conclusion[s]" that the IPCC assessments underlying EPA's Endangerment Finding "relied on 'unscientific,' non-peer-reviewed studies" (so-called "gray literature") and a flawed "IPCC[] peer review process" that led to IPCC assessment errors. EPA Br. at 90-92. EPA denied that "the various investigations of the CRU emails…[were]…as a general matter, directed at the IPCC process; they were, instead, limited to a review of practices at the CRU and by a particular researcher in the United States." *Id.*, at 92. According to EPA, "[t]he overall conclusion of the independent investigations" was that "***while some IPCC procedures could be improved, any procedural deficiencies did not cast doubt on either the work performed by the CRU or the IPCC's use of that work.***" [emphasis added]. *Id.*, at 92, citing, Muir Russell, *The Independent Climate Change E-mails Review* (July 2010), available at <http://www.cce-review.org/pdf/FINAL%20REPORT.pdf>. These self-serving conclusions notwithstanding, had EPA properly complied with applicable OMB/EPA IQA-implementing guidelines for HISAs, EPA would have likely identified and perhaps helped the IPCC to address these errors sooner.

EPA also claims that the public notice-and-comment process it utilized to facilitate review of the Endangerment Findings "provided for the thorough consideration of the information relied upon by EPA", and met guidelines requirements "by providing an opportunity for correction of any information that does not comply with the Guidelines." EPA Br. at 90, citing EPA IQA Guidelines, §8.5, at 32.

The D.C. Circuit Court accepted EPA's argument that Petitioners had failed to show that the Administrator's Endangerment Findings should be revised or overturned. It reasoned that the errors Petitioners associated with non-peer-reviewed studies incorporated in

IPCC assessments were few and isolated, and that EPA's Findings did not rely on them. *CRR v. EPA*, 684 F.3d at 125. The Court also noted that IPCC report development procedures permitted the use of gray literature and that the errors Petitioners identified had been corrected *post hoc*. *Id*.

EPA's assertions, claims and averments on which its arguments were based are untrue, as discussed below.

b. EPA Did Not Adhere to Applicable OMB/EPA IQA Implementing Guideline Standards

i. EPA Improperly Categorized the Technical Support Document ("TSD") as ISI to Utilize Lower OMB/EPA Peer Review Standards

OMB/EPA IQA-implementing guidelines required EPA to ensure that all publicly disseminated ISI that also qualify as HISAs is peer reviewed. EPA, however, intentionally mischaracterized HISAs as ISI to avoid the higher and more demanding IQA peer review standards applicable to HISAs, thus contravening the letter and spirit of the OMB/EPA IQA-implementing guidelines. Virginia Br., Document #1309185 (5/20/11) at 32-33, 36-37.

EPA ignored the distinct and well-defined peer review standards applicable to publicly disseminated ISI and HISAs. See *OMB's Final Information Quality Bulletin for Peer Review* ("OMB-PRB") (12/16/04); *United States Environmental Protection Agency Peer Review*

Handbook 3d ed. ("EPA-PRH") (2006); *Peer Review and Peer Involvement at the U.S. Environmental Protection Agency Memorandum* ("EPA Peer Review Policy Memo" – ("EPA-PRPM")) (1/31/06). These guidelines provide that "all influential scientific and technical work products [ISI] used in decision making will be peer reviewed". EPA-PRH, §§2.2.1-2.2.2, 1.2.10; OMB-PRB, at 12. EPA's 2006 Peer Review Policy Memo, which explains §4.2 of EPA's IQA Guidelines, explicitly states that ISI, including HISAs, as defined in OMB-PRB §§ 1.5, I.7, "should be peer reviewed in accordance with the Agency's [PRH]." *See* EPA-PRPM, at 1; EPA Office of the Science Advisor, *Peer Review Program*, <http://www.epa.gov/peerreview/> (last viewed 5/7/13).

ISI are "scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions". OMB-PRB, §I.6; *OMB Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies* ("OMB-IQA Guidelines"), 67 FR 8452, 8460 (2/22/02), at §V.3.ii.9; EPA-PRH, §2.2.2; EPA-IQA, §6.2.[2] HISA is "[ISI] that the agency

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[2] Scientific work product is "considered [ISI] if it "support[s] a regulatory program or policy position and it: "support[s] top Agency actions (*i.e.*, rules, substantive notices, policy documents, studies, guidance; *and/or* its preparation demands ongoing Administrator and extensive cross-Agency involvement; *and/or* it addresses issues that could potentially result in major cross-Agency policies"; *and/or* it

(continued...)

or the Administrator determines to be a scientific assessment that...(i) could have a potential impact of more than $500 million in any year, or (ii) is novel, controversial, or precedent-setting or has significant interagency interest". OMB-PRB, §III.1; EPA-PRH, §2.2.4. Since similar factors are used "in determining if a scientific assessment is [influential or] highly influential", OMB/EPA IQA-implementing guidelines instruct EPA officials to treat scientific assessments that meet the criteria of both as highly influential (i.e., as HISAs). EPA-PRH, §2.2.3, §2.2.4; OMB-PRB, §III.2; EPA-PRPM, at 1; EPA-PRH (2012) at Figs. 1-2; OMB-PRB, at 2.

External peer review of ISI intended to support important decisions is *preferred*, while external peer review of HISAs is *expected*. EPA-PRPM, at 1. An ISI that also "meets the definition of a [HISA]", is subject to "additional peer review procedures (EPA-PRH, §2.2.2) that impose relatively higher peer reviewer independence/conflict-of-interest and

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[2](...continued)

addresses highly novel or controversial issues; *and/or* "it could significantly advance the Administrator's priorities"; *and/or* it "ha[d] an annual effect on the economy of $100 million or more". EPA-IQA, §6.2; EPA-PRH, §2.2.3; Final Endangerment Findings, 74 FR 66497, 66545. ISI deemed already subjected to 'adequate peer review' based on various factors need not be further peer reviewed. OMB-PRB, §II.2; EPA-PRH, §2.3.2.

transparency standards intended to further ensure data quality.[3]

EPA, in the case at bar, invoked the lower OMB/EPA peer review standards applicable to ISI and, most critically, interpreted them as not requiring EPA's peer review of the USGCRP/CCSP, NRC and IPCC assessments upon which the Administrator primarily based her Final Endangerment Findings. Instead, EPA relied on syntheses of such assessments that "[had] undergone their own peer-review processes" (*EPA Technical Support Document ("TSD") For Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act* ("Final TSD") (12/7/09), §1, p. 2; EPA Br. at 56), which EPA then publicly disseminated via the TSD in summarized form. See *EPA's Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act* ("Final Endangerment Findings"), 74 FR 66496, 66497 at n. 1.

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[3] Peer reviewers of ISI cannot participate in work product development, but may engage in its peer review. OMB-PRB, §II.3.c. For ISI, "[a]gencies are encouraged to rotate membership on standing panels." *Id.* Peer reviewers of HISAs who are scientists cannot participate in work product development, and can engage in its peer review only if employed by the sponsoring agency for only that purpose. OMB-PRB, §III.3.c. Only premier government scientists lacking management or policy responsibilities, possessing special expertise and employed by a different Cabinet-level agency are eligible for exemption from this bar. *Id.* For HISAs, "[a]gencies shall avoid repeated use of the same reviewer on multiple assessments." *Id.* Peer review report requirements for HISAs are more extensive than for ISI. ISI reports must: a) describe the nature of their review, findings and conclusions; b) include a verbatim copy of reviewers' comments, the reviewer group's views as a whole, and reviewers' names and organizational affiliations; c) be disseminated in final version along with all related peer review materials on the agency's website; and d) "be discussed in the preamble to any related rulemaking and included in the administrative record for any related agency action." *Id.*, § II.5. HISA reports must also, in addition to these requirements; e) include a short paragraph on the credentials and relevant experiences of each peer reviewer; f) include a written response explaining reviewers' agreement/disagreement with report views, agency response actions, and how those actions satisfy the report's concerns; and g) be subject to public review and comment. *Id.*, §III.5-6.

EPA also indirectly referred to the TSD as if it constituted ISI. EPA claimed that the TSD Satisfied agency IQA guidelines requiring that "analytic results for influential information have a higher degree of transparency", because it comprehensively referred to the USGCRP/CCSP, IPCC, and NRC assessment literature, and "clearly indicate[d] assumptions (e.g., emissions scenarios), analytical methods, and statistical procedures where that information was necessary in describing the conclusions". See *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: EPA's Response to Public Comments, Volume 1: General Approach to the Science and Other Technical Issues* ("EPA-RTCs, Vol. 1") (4/17/09), Response 1-63; *see also* EPA-RTCs, Vol. 1, Response 1-75 (explaining how "EPA ha[d] acted consistently with...Section

6.4 of EPA's Guidelines", addressing "dissemination of influential scientific information regarding human health, safety or environmental risk assessments.")[4]

EPA diverted the D.C. Circuit Court's attention away from the relied-upon third-party syntheses of other third-parties' assessments which EPA had not peer reviewed, toward EPA's TSD summaries of them, effectively permitting EPA to evade OMB's/EPA's peer review standards applicable to HISAs. Indeed, the Court even cited to the EPA's TSD. *CRR v. EPA*, 684 F.3d at 121. ("Scientific studies upon which EPA relied place high confidence in the assertion that global mean surface temperatures over the last few decades are higher than at any time in the last four centuries. Technical Support Document for the Endangerment Finding (TSD), at 31."). *Id*.

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[4] EPA also referred to the TSD as ISI in its written response to a formal EPA investigation. *See* EPA Office of Inspector General, *Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes* ("EPA-OIG Report") (9/26/11), at pp. 61-62. The D.C. Circuit Court failed to adjudicate the admissibility of this report before issuing its ruling. Order No. 09-1322 (6/26/12).

ii. EPA's "Deemed Dissemination" of the Major HISAs Subjected Them to OMB/EPA Guidelines' Highest Peer Review Standards

EPA acknowledged that its IQA Guidelines may apply to disseminated information that EPA "adopts, endorses, or uses...to formulate or support a regulation, guidance, or other Agency decision or position". EPA Br. at 90. Agency-disseminated information includes influential "information prepared by an outside party in a manner that reasonably suggests that the agency agrees with the information...[such that it appears] the information represent[s] agency views." OMB-PRB at p. 9; OMB-IQA Guidelines, 67 FR 8452, 8454.

"[T]he Administrator [relied] on the major assessments of the USGCRP, IPCC, and NRC as the primary scientific and technical basis of her endangerment decision." Final Endangerment Findings, 74 FR 66496, 66510; EPA Br. at 12. And, the U.S. government accepted these assessments as "essentially represent[ing] the U.S. government's view of the state of knowledge on [GHGs] and climate change." 74 FR at 66511; EPA Br. at 31. But, EPA failed to treat them as HISAs under its guidelines.

EPA ignored the fact that these assessments qualified as HISAs. First, their conclusions are novel, controversial and precedent-setting, and the Final Endangerment Findings they support triggered EPA's promulgation of mobile and stationary source GHG emissions regulations that will have wide-ranging and significant national economic impacts of more than $500 million annually. OMB-PRB, §III.1; EPA-PRH, §2.2.4; *see* Margo Thorning, *Impact of CAA GHG Regulations on U.S. Investment and Job Growth*, Testimony Before the Subcommittee on Energy and Power, Committee on Energy and Commerce, U.S. House of Representatives (2/9/11) ("Thorning Testimony"), available at: <http://democrats.energycommerce.house.gov/sites/default/files/image_uploads/Thorning_Testimony.pdf> (last viewed 5/15/13).

Second, each of the sixteen TSD-summarized USGCRP/CCSP Synthetic Assessment Products ("SAPs"), including the two for which EPA served as "lead" agency developer, are "classified as 'highly influential.'" *See, e.g.* CCSP (2008b) *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems*, A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. Gamble, J.L., ed., U.S. Environmental Protection Agency, Washington, D.C., USA (Sept. 2008) ("SAP4.6/CCSP2008b") at 2, available at: <http://downloads.globalchange.gov/sap/sap4-6/sap4-6-final-report-all.pdf> (last viewed 5/18/13); CCSP (2009b) *Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region*, A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [J.G. Titus (Coordinating Lead Author), U.S. Environmental Protection Agency, Washington D.C., USA (Jan. 2009) ("SAP4.1/CCSP2009b") at 2, available at: <http://downloads.globalchange.gov/sap/sap4-1/sap4-1-final-report-all.pdf> (last viewed 5/18/13).

Third, EPA agreed with OMB's determination that "the underlying peer-reviewed scientific assessments of the NRC, IPCC, USGCRP identified and discussed in the TSD [as opposed to the TSD itself]...have the impacts or characteristics required to meet the OMB [-PRB]'s definition of a highly influential scientific assessment". EPA-OIG Report, at 61-62.

Contrary to EPA's assertions, therefore, these major HISAs should have been subjected to OMB's/EPA's highest and least discretionary peer review standards for HISAs, but were not.

iii. EPA's Reliance on USGCRP/CCSP and IPCC Peer Review Process Failed to Satisfy OMB/EPA's HISA Peer Review, Standards

EPA avoided peer reviewing the seven NRC TSD-summarized assessments, and instead, merely relied upon the National Academies of Sciences' ("NAS") reputation and NRC's relationship with NAS to focus only on NRC's peer review processes. *See* Final TSD, Table 1.1, at 172; OMB-PRB, §IV.i; EPA-PRH, §2.2.10.

EPA did not peer review the sixteen TSD-summarized USGCRP/CCSP assessments or the thirteen TSD-summarized IPCC assessments, focusing, instead, on each of these organizations' internal peer review processes. *See* Final TSD, §1(b), Box 1.1; OMB-PRB, §IV.ii; EPA-RTCs Vol. 1, 1-14-to-1-15, 1-20, 1-25. However, these processes were subsequently shown to be flawed.

A. USGCRP/CCSP Peer Review Process

The Administrator's Endangerment Findings primarily relied on sixteen TSD-summarized USGCRP/CCSP-developed SAPs addressing different focus-areas. Final TSD, at Box 1.1, 165-166. Yet these SAPs failed to satisfy OMB's/EPA's peer review standards for HISAs.

Each SAP contains a virtually identical statement that "[t]he CCSP Interagency Committee relies on Environmental Protection Agency certifications regarding compliance with Section 515 and Agency guidelines as the basis for determining that this product conforms with Section 515...of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554)." *See, e.g.*, SAP4.6/CCSP2008b, at 2; SAP4.1/CCSP2009b, at 2. These statements demonstrate *prima facie* that EPA had 'certified' to other federal agencies vis-à-vis the Committee that the two SAPs for which EPA served as "lead" agency developer satisfied such requirements.

EPA failed to substantiate in the administrative record, as required by OMB-PRB,§VII, how its review of each individual SAP met IQA statutory and OMB/EPA IQA-implementing guideline HISA standards. Additionally, it failed to demonstrate; 1) whether the USGCRP/CCSP peer review process described by EPA had actually been followed; 2) that the CCSP Interagency Committee had actually scrutinized EPA's certifications on more than a pro forma basis; 3) that the fourteen TSD-summarized SAPs for which other federal agencies served as "lead" developers[5] satisfied such standards; and 4) that the CCSP Interagency Committee had reliably scrutinized other federal agencies' certifications on more than a pro forma basis.

The administrative and judicial records do not speak to any of these issues; nor does EPA's brief. They address only how these organizations' peer review processes are supposed to operate, not how they actually operated. Thus, EPA failed to demonstrate that its reliance on such processes was justified and that its review of these assessments satisfied OMB/EPA's HISA peer review standards.

B. IPCC Peer Review Process

IPCC science generally, and specifically, was central, if not pivotal, to EPA's ascertainment of endangerment. *See* EPA Br., Document No. 1324992, at 31-35 (reflecting EPA acceptance of the following IPCC findings: 1) GHGs cause warming; 2) Atmospheric GHG levels are increasing due to human activity; 3) The climate is warming; 4) Recent warming is attributable to GHG increases; and 5) Climate warming threatens human health and welfare.). Two or more of the thirteen TSD-summarized IPCC assessments were cited in each of the sixteen TSD-summarized USGCRP/CCSP SAPs and seven TSD-summarized NRC reports upon which the Administrator's Endangerment Findings were based. Final TSD, §1(b) p. 4; Box 1.1; pp. 169-171; Final Endangerment Findings, 75 FR 49556, 66510-66511

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[5] These agencies include the U.S. Departments of Agriculture, Energy, Interior, Transportation and Commerce/National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration. *See* United States Global Change Research Program, Resource Library, available at: <http://www.globalchange.gov/about/agencies> (last viewed 5/18/13).

This strongly suggests that EPA had not been overly selective in choosing from among the IPCC's many findings, and had decided, instead, to embrace IPCC climate science broadly. The D.C. Circuit Court apparently concurred with EPA's approach. *See CRR v. EPA*, 684 F.3d at 120. See also *EPA's Response to the Petitions to Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, Volume 3: Process Issues Raised by Petitioners* ("EPA-RTPs, Vol. 3") (8/13/10), §3.2.1-3.2.3 (addressing Petitioners' claims that because "the USGCRP and NRC assessments regularly cite and rely on data, resources and conclusions in the IPCC reports", said assessments "are not separate and independent of the available science").

EPA claims that its review of IPCC peer review processes was sufficient to ensure the quality of the IPCC assessments (EPA-RTPs Vol. 3, Response (3-3) at 13) ring hollow. The findings of a United Nations ("UN") Secretary General and IPCC Chair-commissioned report that had specifically evaluated the IPCC's peer review processes and the EPA's Inspector General's Report raise serious questions about the credibility of the Administrator's Final

Endangerment Findings. InterAcademy Council, *Climate Change Assessments Review of the Processes and Procedures of the IPCC* ("IAC-2010 Report") (10/1/10), available at: <http://www.interacademycouncil.net/24026/26050.aspx> ("IAC-2010 Report") at iii, 59-65; EPA-OIG Report at 39. They indicate that the Third and Fourth IPCC Assessment Reports ("AR3", "AR4") had been developed amidst numerous systemic IPCC process and procedure failures in the critical areas of peer review, reviewer independence/ conflict-of-interest, lead author selection, assessment scoping, and assessment communication transparency, which required correction, the very failures the IQA and OMB's/EPA's IQA-implementing guidelines are meant to guard against. *See* IAC-2010 Report, at iii, 59-65; EPA-OIG Report, at 39.

The D.C. Circuit Court overlooked numerous systemic IPCC process and procedure failures which the IAC-2010 Report revealed. The report found that, although "the IPCC has heightened public awareness of climate change, raised the level of scientific debate, and influenced the science agendas of many nations...***some fundamental changes to the process and the management structure are essential.***" [emphasis added]. *See* IAC-2010 Report at 59 [emphasis added]. Although the report's findings were publicly released only after EPA had issued its Denial of Petitions for Reconsideration (August 2010), EPA had been aware of its existence and its broad focus since as early as February 27, 2010 – when it was first publicly announced. *See EPA's Response to the Petitions to Reconsider the Endangerment and Cause or*

Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, Volume 2: Issues Raised by Petitioners on EPA's Use of IPCC (Aug. 13, 2010) ("EPA-RTPs, Vol. 2"), Comment/Response (3-3) at 13.

The IAC-2010 Report disclosed that established IPCC processes for flagging, critically assessing and listing unpublished or non-peer-reviewed sources were often ignored, leading to AR4 lead-author review errors. IAC-2010 Report, at xiii-xiv, 16-17, Box 2.1, 22. The Report also revealed that 16%, 41%, and 64% of the approximately 14,000 IPCC references that Working Groups ("WG") I, II and III, respectively, cited in AR3 consisted of non-peer-reviewed journal articles. IAC-2010 Report at 16, citing the findings of Bjurström, A., and M. Polk, *Physical and Economic Bias in Climate Change Research: A Scientometric Study of IPCC Third Assessment Report*, Climatic Change (2010), §3.2, available at: <http://gaia.jhuapl.edu/sites/default/files/Bjurstrom_IPCC_bias.pdf> (last viewed 5/7/13).

These authors estimate that AR4 reflects roughly similar rates of reliance upon non-peer-reviewed "gray" literature. *See* Roger Pielke Jr., Blog, *Gray Literature in the IPCC TAR, A Guest Post by Andreas Bjurström* (3/5/10) available at: <http://rogerpielkejr.blogspot.com/2010/03/gray-literature-inipcc-tar-guest-post.html> (last viewed 5/7/13). This estimate appears reasonable, especially with respect to WG-III whose AR3 contribution had relied *mostly* on gray literature. Two of the three editors of WG-III's AR4 report (Metz and Davidson) had been lead-authors in WG III's AR3 report strongly suggesting that no significant change in the use of non-peer-reviewed sources had taken place. *See* IPCC (2001) *Climate Change 2001: Mitigation*, A Report of Working Group III of the Intergovernmental Panel on Climate Change ("IPCC AR3 WG-III Report"), at §10.4.2.2, available at: <http://www.ipcc.ch/ipccreports/tar/wg3/index.php?idp=437> (last viewed 5/17/13); IPCC (2007) Climate Change 2007 *Mitigation of Climate Change*, Contribution of Working Group III to the Fourth Assessment Report of the IPCC, B. Metz, eds., Cambridge University Press ("IPCC AR4 WG-III Report"), available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4_wg3_full_report.pdf> (last viewed 5/17/13). These systemic peer review process flaws go beyond the specific errors previously identified by Petitioners. *See* RTPs, Vol. 2, Comments/Responses 2-17, 2-19.

The IAC-2010 Report also found that the IPCC lacks institutional and scientific independence. As an intergovernmental subsidiary panel of the World Meteorological Organization ("WMO") and the United Nations Environment Program ("UNEP"), the IPCC is overseen by WMO and UNEP and must report to the UNEP, the WMO, the UN Framework Convention on Climate Change, and the UN General Assembly. *See* IAC-2010 Report at 44.

Indeed, the WMO Secretary-General and UNEP Executive Director signed the Forewords to the AR3 and AR4 assessments. *See* IPCC (2001), *Climate Change 2001: The Scientific Basis*, Contribution of Working Group I to the

Third Assessment Report of the Intergovernmental Panel on Climate Change, Foreword, M. Noguer, et al., Cambridge University Press, available at: <http://www.grida.no/climate/ipcc_tar/wg1/pdf/WG1_TAR-FRONT.pdf> (last viewed 5/17/13); IPCC (2007), Climate Change 2007: *The Physical Science Basis*, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Foreword (Solomon, S., et al., eds.), Cambridge University Press, available at: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-frontmatter.pdf> (last viewed 5/7/13).

The IAC-2010 Report, furthermore, expressed concern about the "lack of a conflict-of-interest and disclosure policy for IPCC leaders and Lead Authors". IAC-2010 Report at 52-53. The IPCC "does not have a conflict-of-interest or disclosure policy for its [own] senior leadership (i.e., IPCC Chair and Vice Chairs), Working Group Co-chairs and authors, or the staff of the Technical Support Units". *Id.*, p. 52. Rather, "IPCC Secretariat. . . professional staff members . . .are employees of WMO and/or UNEP and are subject to their disclosure and ethics policies." *Id.* However, the report also revealed that "WMO and UNEP have not established conflict-of-interest or disclosure policies for experts who serve on most WMO and UNEP assessment teams." *Id.* This strongly suggests that IPCC senior leadership was not subject to any conflict-of-interest rules at all.

Given "the nature of the IPCC's task (i.e., in presenting a series of expert judgments on issues of great societal relevance)", the Report's authors emphasized the need for the IPCC to "pay special attention to issues of independence and bias to maintain the integrity of, and public confidence in, its results." *Id.*, at p. 53. These systemic independence/conflict-of-interest flaws go beyond the specific errors previously raised by Petitioners. *See* EPA-RTPs Vol. 2, Comments/Responses 2-25, 2-30.

IPCC peer review processes, moreover, suffered from transparency failures. The author selection process lacked formal criteria which rendered the AR4 susceptible to political influence. IAC-2010 Report at 14-15. And, IPCC leaders and spokespersons often strayed into policy advocacy in violation of the organization's mandate. IAC-2010 Report at 54-55. These systemic transparency flaws go beyond the specific errors previously raised by Petitioners. *See* EPA-RTPs Vol. 2, Comments/Responses 2-17, 2-18, 2-25.

These numerous systemic IPCC process and procedure failures raise serious doubts about the quality of the IPCC assessments and the USGCRP/CCSP and NRC assessments that cite them, upon which the Administrator's Final Endangerment Findings primarily rely. *See* EPA-RTCs Vol. 1, Responses 1-14-to-1-15, 1-20. EPA was well aware of these failures and the need for their immediate correction, but continues to express confidence in the IPCC and its forthcoming AR5. *See* Intergovernmental Panel on Climate Change 32d Sess., *Review of* *the IPCC Processes and Procedures Report by the Inter Academy Council, Compilation of Comments Received from Governments, Comments by the Government of the United States* (10/14/10-10/16/10), at 1, 4-6; EPA Br. at 29-35, 53-56, 62, 64, 66, 72. Such misplaced reliance on flawed IPCC processes, however, severely undermined the Administrator's ability to satisfy the IQA's statutory mandate and the OMB/EPA IQA-implementing guidelines' peer review standards for HISAs. It thus damages the credibility and reliability of the Administrator's scientific findings and weakens the legal justification underlying EPA's sweeping GHG emissions regulations. *See also* Virginia Petition, No. 12-1152, at 21-26.

iv. EPA's Notice-and-Comment Procedure Failed to Provide a Transparent Public Review of Petitioners' IQA Claims

EPA states that it addressed Petitioners' IQA-based RFCs in a transparent notice-and-comment rulemaking procedure. EPA Br. at 90; EPA-RTCs Vol. 1, Comment/Response 1-61; EPA-PRH, §8.5. This is not true because EPA did not publicly and transparently discuss the scientific underpinnings of the IPCC, USGCRP/CCSP and NRC assessments. Texas-Virginia Opening Brief, Doc. #1309185 (5/20/11), at 11, 31-36; Texas-Virginia Reply Brief (10/17/11), at 14-17. EPA's administrative mechanism did not allow "affected persons to seek and obtain correction of [contested] information maintained and disseminated by the agency that does not comply with [the] OMB guidelines", especially information "supporting regulations in the context of rulemaking." 44 U.S.C. §3516, note; OMB-IQA Guidelines, 67 FR 8452, 8457-8459; OMB-PRB, at 11, §§II.2-II.3, §III.3; OMB, Administrator, Office of Information and Regulatory Affairs ("OIRA"), Memorandum, Information Quality Guidelines – Principles and Model Language (Sept. 5, 2002) at 2 ("agencies must provide well-established procedural safeguards that allow affected persons to contest information quality on a timely basis", especially "[i]n cases where the agency disseminates a study, analysis or other information prior to the final agency action. . ."). EPA also did not adequately consider public comments on the adequacy of its internet-accessible peer review plans for HISAs. OMB-PRB, §V.1-§V.3.

EPA's treatment of Petitioners' RFCs as comments on a public rulemaking (EPA-RTCs Vol.1, Comment/Response 1-61) conflated the notice-and-comment and peer review procedures, ignoring important distinctions between them. APA notice-and-comment (stakeholder) procedures do not constitute adequate peer review because they do "not assure that qualified, impartial specialists in relevant fields have performed a critical evaluation of the agency's draft product". OMB-PRB, at 28.

Public comment "does not necessarily draw the kind of independent, expert information and in-depth analyses expected from the peer review process...[which]...is limited to consideration of specified technical issues", and therefore "does not substitute for peer review". *Id.* at 4; EPA-

PRH, §1.2.8. Unlike stakeholder involvement which is concerned with the outcome of an agency's technical work product or regulatory position, peer review is concerned with the scientific quality and technical credibility of the work product supporting a policy or decision. EPA-PRH, §1.2.9. Consequently, contrary to EPA assertions and the D.C. Circuit Court's conclusion, EPA denied Petitioners the meaningful administrative review of their RFCs to which the IQA entitles them. 44 U.S.C. §3516 (note), P.L. 106-554 (2000), §515(b)(2)(B).

The D.C. Circuit's failure to examine closely whether EPA provided administrative measures sufficient to permit adequate public review of the scientific quality and technical credibility of the major assessments, arguably constitutes reversible error. This failure allowed EPA to violate the letter and spirit of the IQA and OMB/EPA's IQA-implementing guidelines, and denied Petitioners judicial review of EPA's rejection of their RFCs. As a result, the Administrator was permitted to base her Endangerment Findings on outside-party-developed scientific assessments that were fatally infected by flawed processes and procedures.

Had the Court conducted a more careful review it would have concluded that EPA had not complied with IQA standards. If EPA's IQA noncompliance had been discerned and subjected to a more rigorous and informed scientific and judicial review at an earlier stage, the Administrator would likely have been prevented from reaching the kind of sweeping

Endangerment Findings that led to EPA's promulgation of very broad and extremely costly and burdensome GHG emissions regulations of national impact.

EPA's Final Endangerment Findings should be overturned and revised.

CONCLUSION

For the foregoing reasons, the petitions should be granted and the Final Endangerment Finding reversed and remanded for further proceeding in accordance with law, including rehearing.

Respectfully submitted,

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May 24, 2013

AMICUS
CURIAE
BRIEF

No. 12-1272

In The
Supreme Court of the United States

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CHAMBER OF COMMERCE OF THE
UNITED STATES OF AMERICA, *et al.*,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

◆

On Petition For Writ Of Certiorari
To The United States Court Of Appeals
For The District Of Columbia Circuit

◆

~~MOTION FOR LEAVE TO FILE AMICUS CURIAE BRIEF AND~~ AMICUS CURIAE BRIEF OF MOUNTAIN STATES LEGAL FOUNDATION IN SUPPORT OF PETITIONERS

◆

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MOTION FOR LEAVE TO FILE AMICUS CURIAE BRIEF

Pursuant to Supreme Court Rule 37.2(b), Mountain States Legal Foundation ("MSLF") respectfully moves for leave to file the accompanying amicus curiae brief in support of Petitioners.

In support of this motion, MSLF declares that it has requested consent to the filing of an amicus curiae brief from counsel to each of the 126 parties to this case. MSLF also notified counsel for each party of its intent to file an amicus curiae brief as required by Supreme Court Rule 37.2(a). As of May 23, 2013, MSLF has received consent to file an amicus curiae brief from 112 parties.[1] Due to the large number of

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[1] Chamber of Commerce of the United States of America, State of Alaska, American Farm Bureau, Environmental Protection Agency, Alliance of Automobile Manufacturers, Alpha Natural Resources, Inc., Association of Global Automakers, American Chemistry Council, American Frozen Food Institute, American Fuel and Petrochemical Manufacturers, American Iron and Steel Institute, American Petroleum Institute, Brick Industry Association, Center for Biological Diversity, City of New York, Clean Air Implementation Project, Coalition for Responsible Regulation, Inc., Collins Industries, Inc., Collins Trucking Co., Commonwealth of Kentucky, Commonwealth of Massachusetts, Commonwealth of Virginia, Competitive Enterprise Institute, Conservation Law Foundation, Corn Refiners Association, Environmental Defense Fund, Freedom Works, Georgia Agribusiness Council, Inc., Georgia ForestWatch, Georgia Motor Trucking Association, Glass Association of North America, Glass Packaging Institute, Great Northern Project Development, L.P., Independent Petroleum Association of America, Indiana Cast Metals Association, Indiana Wildlife Federation, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Langdale Chevrolet-Pontiac,

(Continued on following page)

Inc., The Langdale Company, Langdale Farms, LLC, Langdale Ford Co., Langdale Fuel Co., Langboard, Inc. – MDF, Langboard, Inc. – OSB, Louisiana Department of Environmental Quality, Michigan Environmental Council, Michigan Manufacturers Association, Mississippi Manufacturers Association, Missouri Joint Municipal Electric Utility Commission, National Association of Home Builders, National Association of Manufacturers, National Cattlemen's Beef Association, National Federation of Independent Business, National Mining Association, National Oilseed Processors Association, National Wildlife Federation, Natural Resources Council of Maine, Natural Resources Defense Council, North American Die Casting Association, Ohio Environmental Council, Pacific Legal Foundation, Peabody Energy Co., Portland Cement Association, The Science and Environmental Policy Project, Sierra Club, South Coast Air Quality Management District, Southeast Trailer Mart, Inc., Southwestern Legal Foundation, Inc., Specialty Steel Industry of North America, State of Alabama, State of California, State of Connecticut, State of Delaware, State of Florida, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of Michigan, State of Minnesota, State of Nebraska, State of New Hampshire, State of New Mexico, State of New York, State of North Carolina, State of North Dakota, State of Oklahoma, State of Oregon, State of South Carolina, State of South Dakota, State of Texas, State of Utah, State of Vermont, State of Washington, Tennessee Chamber of Commerce and Industry, United States Representative Michele Bachmann, United States Representative Kevin Brady, United States Representative Paul Broun, United States Representative Phil Gingrey, United States Representative Steven King, United States Representative Jack Kingston, United States Representative Tom Price, United States Representative Dana Rohrabacher, United States Representative John Shimkus, United States Representative Lynn Westmoreland, Utility Air Regulatory Group, Wetlands Watch, Wild Virginia, Western States Petroleum Association, West Virginia Manufacturers Association, Wisconsin Manufacturers and Commerce.

parties involved in this case, MSLF has not received consent from each party; however, no party has explicitly withheld consent.

MSLF is a non-profit, public interest legal foundation organized under the laws of the State of Colorado. MSLF is dedicated to the defense and preservation of individual liberty, the right to own and use property, limited and ethical government, and the free enterprise system. MSLF and its members have a keen interest in this case because of the widespread economic consequences that result from the Environmental Protection Agency's ("EPA") regulation of greenhouse gas emissions. Based upon that interest, MSLF also participated as an amicus curiae in the proceedings below.

In the instant case, the EPA abused its authority by choosing to regulate greenhouse gas emissions under the Clean Air Act ("CAA"), even though the EPA admitted absurd results would flow from its decision. In so doing, the EPA conferred upon itself unlimited power over the Nation's industries and, as a result, the Nation's economy. To make matters worse, the D.C. Circuit upheld the EPA's seizure of power by misconstruing this Court's decision in *Massachusetts v. E.P.A.*, 549 U.S. 497 (2007).

MSLF urges this Court to grant the Petition to ensure that separation of powers are preserved. This Court should also grant the Petition to review the ruling of the D.C. Circuit, which allows agencies to unilaterally expand their powers and re-write statutory limitations without an express grant of authority from Congress.

WHEREFORE, MSLF respectfully requests that this Court grant it leave to participate as amicus curiae and to file the accompanying amicus curiae brief in support of Petitioners.

DATED this 24th day of May 2013.

Respectfully submitted,

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QUESTIONS PRESENTED

The EPA promulgated a series of four broad-ranging and interconnected rules to control emissions of greenhouse gases. In proposing the last rule in the sequence, EPA acknowledged that it would create a result "so contrary to what Congress had in mind – and that in fact so undermines what Congress attempted to accomplish with the [statute's] requirements – that it should be avoided under the 'absurd results' doctrine." *Coalition for Responsible Regulation, Inc. v. Environmental Protection Agency,* 2012 WL 6621785, *15 (D.C. Cir. 2012) (Kavanaugh, J., dissenting from denial of rehearing *en banc*) (citing 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009)). EPA nonetheless finalized the rule and then, in an attempt to cure the absurdity, rewrote codified limitations in the CAA.

The questions presented are:

1. Whether, once an agency has identified absurd results produced by its construction of a complex statutory scheme as a whole, the agency may deem the identified absurdity irrelevant to the construction of some individual provisions within the scheme and a justification for rewriting others.

2. Whether EPA's determination that greenhouse gases "may reasonably be anticipated to endanger public health or welfare" and otherwise are regulable under section 202(a)(1) of the CAA, 42 U.S.C. § 7521(a)(1), was "not in accordance with law" or was "arbitrary, capricious, [and] an abuse of discretion." *Id.* § 7607(d)(9)(A).

QUESTIONS PRESENTED – Continued

3. Whether EPA incorrectly determined that all "air pollutants" regulated by the agency under the CAA's motor vehicle emissions provision, 42 U.S.C. § 7421(a)(1), must also be regulated under the Act's Prevention of Significant Deterioration of Air Quality ("PSD") and Title V Programs when emitted from stationary sources.

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AMICUS CURIAE BRIEF OF MOUNTAIN STATES LEGAL FOUNDATION IN SUPPORT OF PETITIONERS

Pursuant to Supreme Court Rule 37.2, MSLF respectfully submits this amicus curiae brief, on behalf of itself and its members, in support of Petitioners.[1]

◆

IDENTITY AND INTEREST OF AMICUS CURIAE

MSLF is a non-profit, public interest legal foundation organized under the laws of the State of Colorado. MSLF is dedicated to bringing before the courts those issues vital to the defense and preservation of individual liberties, the right to own and use property, the free enterprise system, and a limited and ethical government.

MSLF has members residing or doing business in every state. Federal regulation of greenhouse gas emissions has an adverse effect on all individuals, businesses, and industries in the United States. Since its creation in 1977, MSLF and its attorneys have worked to ensure that federal agencies do not act outside the scope of their congressionally granted powers, in order to ensure a limited and ethical government. The D.C. Circuit's decision in this case allows a serious and unprecedented expansion of federal agency power and conflicts with this Court's rulings. Accordingly, MSLF respectfully submits this amicus curiae brief in support of Petitioners.

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[1] Pursuant to Supreme Court Rule 37.2(a), notice of MSLF's intent to file this amicus curiae brief was received by counsel of record for all parties at least 10 days prior to the due date of this brief. MSLF has received consent to file an amicus curiae brief from 112 of the 126 parties. No party has explicitly withheld consent. The undersigned further affirms that no counsel for a party authored this brief in whole or in part, and no person or entity, other than MSLF, its members, or its counsel, made a monetary contribution specifically for the preparation or submission of this brief.

◆

STATEMENT OF THE CASE

I. STATUTORY AND REGULATORY BACKGROUND.

A. The Clean Air Act.

Congress passed the CAA "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. § 7401 (b)(1). Because air pollutants come from many different sources, Congress was unable to enact a one size fits all solution to adequately protect and enhance air quality nationwide. Instead, Congress decided to create multiple programs under the CAA, each of which confers limited powers upon the EPA, and all of which target air pollution and any direct effects caused thereby. For example, subchapter II provides emission standards for moving sources including cars and aircraft. *Id.* §§ 7521-54, 7571-74, 7581-90. Under this program, if the EPA determines that an emission from a mobile source "may reasonably be anticipated to endanger public health or welfare," it must promulgate regulations to limit the emissions of that pollutant. *Id.* § 7521; *Massachusetts v. E.P.A.*, 549 U.S. 497, 533 (2007) ("If EPA makes a finding of endangerment, the Clean Air Act requires the Agency to regulate emissions of the deleterious pollutants from new motor vehicles.").

Under subchapter I of the CAA, the EPA is charged with creating and enforcing National Ambient Air Quality Standards ("NAAQS"). *Id.* § 7409. NAAQS presently exist for six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. *See* United States Environmental Protection Agency, "National Ambient Air Quality Standards (NAAQS)," http://www.epa.gov/air/criteria.html; *see also Whitman v. Am. Trucking Ass'n,* 531 U.S. 457, 462-63 (2001). Adverse human health effects result from direct exposure to any of the criteria pollutants. *See* Environmental Protection Agency, "National Ambient Air Quality Standards (NAAQS)," http://www.epa.gov/air/criteria.html; *see also* Gary E. Marchant, *Genetic Susceptibilities: The Future Driver of Ambient Air Quality Standards?*, 43 Ariz. St. L.J. 791, 792-94 (2011). The NAAQS Program requires states to create State Implementation Plans ("SIP"). 42 U.S.C. § 7410 (a)(1). SIPs establish the methods and procedures utilized by each state to ensure compliance with the NAAQS. *Id.* § 7410(2).

To further ensure that each state complies with the NAAQS program, Congress enacted the PSD Program. *Id.* §§ 7470-79. The purposes of the PSD Program, amongst others, are "to protect public health and welfare . . . notwithstanding attainment and maintenance of all national ambient air quality standards;" and "to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other States." *Id.* § 7470(1), (4). To ensure that States and individual facilities continue to control NAAQS emissions, even when they are in compliance with their SIPs, the PSD Program requires states to issue pre-construction permits for any stationary sources having the potential to emit more than 100 tons annually or 250 tons annually of various air pollutants. *Id.* § 7479(1). The provisions found in subchapter V of the CAA, which have come to be known as Title V requirements, further require state-issued operating permits for facilities that emit certain amounts of criteria pollutants annually. *Id.* § 7661.

Because of the immense amount of power conferred to the agency, Congress also enacted administrative and judicial review provisions within the CAA. *Id.* § 7607. Importantly, courts may reverse EPA actions deemed "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." *Id.* § 7607(d)(9)(A).

B. EPA's Greenhouse Gas Regulations.

In *Massachusetts*, this Court directed the EPA to regulate greenhouse gas emissions from new motor vehicles, or provide a "reasonable explanation as to why it cannot or will not exercise its discretion[.]" 549 U.S. at 501. The EPA in turn promulgated an endangerment finding regarding greenhouse gas emissions and four rules attempting to regulate such emissions. *Coalition for Responsible Regulation, Inc. v. E.P.A.*, 684 F.3d 102, 114-16 (2012) ("*Coalition I*"). Such a result was not required by this Court's decision in *Massachusetts*. Indeed, this Court made it clear that it was not deciding whether the EPA must issue an endangerment finding regarding greenhouse gases; its only command was that the "EPA must ground its reasons for action or inaction in the [CAA]." *Massachusetts*, 549 U.S. at 535.

On December 15, 2009, the EPA issued its Endangerment Finding, asserting that emissions of carbon dioxide and other greenhouse gases pose a danger to human health and welfare. *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act,* 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009) ("Endangerment Finding"). Consequently, the EPA turned its attention to the regulation of mobile source emissions of greenhouse gases. Five months later, the EPA promulgated what has come to be known as the "Tailpipe Rule." *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule,* 75 Fed. Reg. 25,324 (May 7, 2010).

The Tailpipe Rule imposes greenhouse gas emission standards on new cars and light trucks. *Id.*

Neither this Court's decision in *Massachusetts*, nor the CAA itself, impose any duty on the EPA to regulate greenhouse gas emissions from stationary sources after it issues an endangerment finding. However, the EPA decided that because issuing the Endangerment Finding created an affirmative duty to regulate greenhouse gas emissions from mobile sources, it was also obligated to regulate greenhouse gas emissions from stationary sources under the PSD Program and the Title V Program. Thus, on June 3, 2010, EPA issued a rule addressing greenhouse gas emissions from stationary sources. *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 75 Fed. Reg. 31,514 (June 3, 2010). Because greenhouse gas emissions are vastly different than the other six criteria pollutants, the EPA admitted that regulating greenhouse gas emissions under the existing statutory scheme would lead to "absurd results." 75 Fed. Reg. at 31,517.

During this time, the EPA also issued the Timing and Tailoring Rules, which altered the carefully crafted statutory framework of the CAA in such a way as to support its new greenhouse gas emissions regulations. Importantly, this was done without first seeking authority from Congress. First, the Timing Rule delayed regulation of any major stationary emitter of greenhouses gases until January 2, 2011. *Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting*

Programs, 75 Fed. Reg. 17,004, 17,019 (Apr. 2, 2010). Second, the Tailoring Rule raised the emitting thresholds for stationary sources from between 100 and 250 tons annually to 75,000 or 100,000 tons annually. 75 Fed. Reg. at 31,523-24. This shift was necessary because greenhouse gases are emitted in such large quantities. *Id.* at 31,535 ("The reason for the extraordinary increase in PSD applicability lies simply in the fact that it takes a relatively large source to generate emissions of conventional pollutants in the amounts of 100/250 [tons per year] or more, but many sources combust fossil fuels for heat or electricity, and the combustion process for even small quantities of fossil fuel produces quantities of [greenhouse gases] that are far in excess of the sources' quantities of conventional pollutants and that, for even small sources, equal or exceed the 100/250 [tons per year] levels.") Without the Tailoring Rule, individual homes and small businesses, which were never intended to be regulated under the CAA, would fall under the jurisdiction of the statute. The EPA also granted itself the authority to reduce these thresholds over time, if necessary, forewarning of the devastating effects of its actions. *Id.* at 31,524-25.

II. PROCEDURAL BACKGROUND.

In response to the EPA's greenhouse gas regulations, over 90 challenges to the rulemakings were raised before the D.C. Circuit. Many of these challenges were brought by various states, industry groups, legal foundations, and environmental non-profit organizations. The court consolidated all of the challenges and ultimately upheld the EPA's unprecedented actions. *See Coalition I,* 684 F.3d 102. Specifically, the D.C. Circuit held that: (1) the EPA's assertion that greenhouse gas emissions threaten public health and welfare was rational; (2) the Endangerment Finding was not arbitrary and capricious; (3) all petitioners lacked standing to challenge the Timing and Tailoring Rules; and (4) regulating mobile sources of greenhouse gas emissions triggered a duty to regulate stationary sources of greenhouse gas emissions. *Id.* at 122-24, 136.

Rehearing *en banc* was timely sought, but the court denied those petitions, leaving the EPA's greenhouse gas regulations in place. *Coalition for Responsible Regulation, Inc. v. E.P.A.,* 2012 WL 6621785 (D.C. Cir. 2012) ("*Coalition II*"). In so doing, the D.C. Circuit noted that "[t]he underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance. The legal issues presented, however, are straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent." *Id.* at *3.

Judge Brown and Judge Kavanaugh both wrote separate dissents expressing their beliefs that the D.C. Circuit erred in denying the petitions for rehearing *en banc*. Both dissenting opinions expressed strong concerns that the panel opinion sanctioned an unprecedented expansion of agency power. Judge Brown's dissent explains that neither the CAA, nor this Court's holding in *Massachusetts* compel the EPA to regulate the greenhouse gas emissions of stationary sources under the PSD or Title V Programs. *Id.* at *3-4. She noted that the panel "read *Massachusetts* to its illogical ends and it is American industry that will have to pay." *Id.* at *13. Judge Kavanaugh's dissent questioned whether the "EPA has acted within the authority granted to it by Congress," and warned that it is the duty of the court to "carefully but firmly enforce the statutory boundaries." *Id.* at *14, *23.

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SUMMARY OF ARGUMENT

This Court should grant the Petition for several reasons. First, the EPA was fully aware that Congress never intended for it to regulate greenhouse gas emissions under the CAA and that such an attempt would lead to absurd results. Instead of issuing a finding stating that greenhouse gas emissions have no direct adverse effects on human health and declining to regulate greenhouse gas emissions, the EPA blindly forged ahead with the most far-reaching environmental regulations ever created.

Second, the EPA unlawfully promulgated the Endangerment Finding and then imposed broad national greenhouse gas emission regulations based upon that Finding. Promulgation of the greenhouse gas emission regulations by the EPA was arbitrary and capricious because: (1) the EPA failed to consider the factors it was instructed to consider by Congress;

and (2) the EPA failed to ground the Endangerment Finding in science. That the EPA was forced to create the Tailpipe and Tailoring Rules to support its greenhouse gas emission regulations on mobile and stationary sources further demonstrates that the CAA is not an appropriate tool under which to regulate greenhouse gas emissions.

Additionally, the EPA lacked authority to regulate greenhouse gas emissions under the PSD Program. Doing so, despite the fact that greenhouse gases are not "criteria pollutants" regulated under the NAAQS Program, is illogical and defies the intent of Congress. The EPA's decision to regulate greenhouse gas emissions under the PSD Program conflicts with this Court's decision in *Envtl. Defense v. Duke Energy Corp.*, 549 U.S. 561 (2007) (holding that the meaning of a statutory term in the CAA may vary based on the particular program at issue). The EPA's unprecedented actions necessitate this Court's review.

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REASONS FOR GRANTING THE PETITION

I. THE EPA ERRED IN REGULATING GREENHOUSE GAS EMISSIONS UNDER THE CAA BECAUSE OF THE ADMITTED ABSURD RESULTS.

This Court has long acknowledged that absurd or unintended results stemming from legislation should be avoided. *Crooks v. Harrelson*, 282 U.S. 55, 60 (1930) (It is the responsibility of the agencies, not the courts, to avoid "mischievous, absurd or otherwise objectionable results."). "The plain meaning of legislation should be conclusive, except in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of its drafters.'" *United States v. Ron Pair Enterprises, Inc.*, 489 U.S. 235, 242 (1989) (citing *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 571 (1982)); *see also United States v. American Trucking Ass'ns,* 310 U.S. 534, 543 (1940) (Courts should look to the purpose of an act, instead of the literal words, to avoid absurd results); *Haggar Co. v. Helvering*, 308 U.S. 389, 394 (1940) ("All statutes must be construed in light of their purpose. A literal reading which would lead to absurd results is to be avoided when they can be given a reasonable application consistent with their words and with the legislative purpose."). Together, these cases demonstrate that it is the job of both agencies and courts to ensure that the intended results of the legislature are realized; even when that means the literal words of a statute are not given full effect.

Furthermore, agencies have no powers to unilaterally rewrite threshold, statutory limits that Congress painstakingly crafted. In fact, the D.C. Circuit previously held that agencies have "no general administrative power to create exemptions to statutory requirements based upon the agency's perceptions of costs and benefits." *Alabama Power Co. v. Costle*, 636 F.2d 323, 357-58 (D.C. Cir. 1979). In *Alabama Power,* the EPA attempted to remedy absurd and unreasonable results stemming from the PSD Program of the CAA by "creating a broad exemption," for certain sources of emissions. *Id.* at 354. In reviewing the agency's actions, the D.C. Circuit ruled "the [CAA] does not give the agency a free hand authority to grant broad exemptions." *Id.*; *see Louisiana Pub. Serv. Comm'n v. F.C.C.*, 476 U.S. 355, 374 (1986) ("[A]n agency literally has no power to act . . . unless and until Congress confers power upon it. . . . An agency may not confer power upon itself. To permit an agency to expand its power in the face of a congressional limitation on its jurisdiction would be to grant to the agency power to override Congress."). Ultimately, the D.C. Circuit remanded the EPA's erroneous regulations for "appropriate revision by the agency." *Alabama Power*, 636 F.2d at 355.

The EPA was fully aware that its greenhouse gas regulations would lead to absurd results. In fact, it acknowledged that regulating greenhouse gas emissions under the CAA is "inconsistent with – and, indeed, undermine[s] – congressional purposes." 75 Fed. Reg. at 31,547. Because the results of the EPA's actions in the instant case produce an absurd result, the EPA was compelled to "consider whether a reasonable alternative construction would avoid the absurdities and, if so, . . . adopt that interpretation." *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998). The EPA may not freely declare that its regulations will lead to results so contrary to what Congress intended that they are considered absurd, yet still move forward and enact those regulations.

Instead, the EPA should have avoided the absurd results altogether. *Coalition II,* 2012 WL 6621785 at *18 (Kavanaugh, J., dissenting from denial of rehearing *en banc*) (citing *Griffin*, 458 U.S. at 575) ("[I]nterpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with legislative purpose are available.").

The EPA's actions in promulgating the Timing and Tailoring Rules further support the conclusion that regulating greenhouse gas emissions under the CAA produces absurd results. These two rules were necessary to address the utter impossibility of compliance and enforcement of the other greenhouse gas emissions regulations. *See id.* at *11. When faced with the pending absurd results, the EPA took even more egregious actions when, without any authority from Congress, it decided to rewrite statutory thresholds in an effort to reduce the absurdity of its greenhouse gas regulations. Although the D.C. Circuit had already ruled that the CAA does not authorize the agency to take such actions, the EPA ignored the holding from *Alabama Power* and acted outside the scope of its authority. Instead of giving effect to the text of the CAA as drafted by Congress, the EPA changed the statutory scheme by increasing the emissions threshold from "250 tons to 100,000 tons – a 400-fold increase." *Id.*, 2012 WL 6621785, *15. This unilateral expansion of agency powers violates foundational separation of powers doctrines and directly conflicts with this Court's opinion in *Louisiana Pub.*

Serv. Comm'n. See Friends of Crystal River v. E.P.A., 35 F.3d 1073, 1080 (6th Cir. 1994) ("Agencies are creatures of statutory authority. Thus, they have 'no power to act . . . unless and until Congress confers power upon [them].'" *Louisiana Pub. Serv. Comm'n*, 476 U.S. at 374).

The EPA's failure to avoid the absurd results produced by its greenhouse gas regulations is not trivial in nature. The greenhouse gas regulations have important consequences for the entire national economy because of the prevalence of greenhouse gas emissions. For example, as a result of the stationary source regulations, "[t]ens of thousands of businesses and homeowners would be swept into the Clean Air Act's purview for the first time and hit with permitting costs averaging $60,000, not to mention the additional costs of trying to construct and maintain the facility in compliance with the relevant emissions limits and technological standards." *Coalition II*, 2012 WL 6621785, *20 (Kavanaugh, J., dissenting from rehearing *en banc*) (citing 75 Fed. Reg. 31,514, 31,556 (June 3, 2010)). Instead of attempting to remedy these absurd results with the Timing and Tailoring Rules, the EPA should have declined to regulate greenhouse gas emissions under the CAA. Because the EPA's greenhouse gas regulations produced an absurd result, unintended by Congress, and in direct violation of well-established precedent, this Court should grant this Petition.

II. THE EPA'S ENDANGERMENT FINDING IS ARBITRARY, CAPRICIOUS, AN ABUSE OF DISCRETION, AND OTHERWISE NOT IN ACCORDANCE WITH LAW BECAUSE THE EPA FAILED TO GROUND THE FINDING IN THE CAA.

When this Court issued its opinion in *Massachusetts* it did not command the EPA to regulate greenhouse gas emissions. Instead, this Court only directed the EPA to "ground its reasons for action or inaction in the [CAA]." *Massachusetts*, 549 U.S. at 535; *see also*, 42 U.S.C. § 7607(d)(9)(A); 5 U.S.C. § 706(A)(2) (a reviewing court shall hold unlawful and set aside agency action, findings, and conclusions found to be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."). Agency actions are arbitrary and capricious when the agency relies on factors that Congress did not intend for them to consider. *Motor Vehicle Mfrs. Ass'n of the United States, Inc. v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) ("*State Farm*") (Agency rules are arbitrary and capricious when an agency "has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the produce of agency expertise."); *see also Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 278 (1989) (citing *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971)) (holding agency actions may be arbitrary or capricious when there "has been a clear error of judgment.").

Despite the clear instructions from this Court in *Massachusetts*, the EPA did not ground its greenhouse gas regulations in the text of the CAA. The CAA charges the EPA with protecting and promoting human health and welfare, 42 U.S.C. § 7401; yet, the EPA freely acknowledged "that there is no evidence that greenhouse gases directly cause health effects." 74 Fed. Reg. at 66,526 (citing 74 Fed. Reg. 18,886, 18,901 (Apr. 24, 2009)). Notwithstanding this acknowledgment, the EPA moved forward and promulgated the Endangerment Finding. As its name suggests, the Endangerment Finding represents the EPA's purported belief that greenhouse gas emissions "may reasonably be anticipated to endanger public health or welfare"; however, the EPA failed to explain its belief or base its belief in science, as the CAA requires. 42 U.S.C. § 7421(a)(1).

Congress further instructed the EPA on what factors to consider when contemplating whether certain emissions are harmful to human welfare. Namely, it instructed the EPA to consider "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation. . . ." 42 U.S.C. § 7602(h). Instead of considering this list of factors, the EPA focused on "numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure and settlements, and ecosystems and wildlife." 74 Fed. Reg. at 66,498. Because the EPA "relied on factors which Congress has not intended it to consider" in promulgating the Endangerment Finding, the Finding is arbitrary and capricious. *State Farm*, 463 U.S. at 43.

Finally, the EPA's Timing and Tailoring Rules drastically alter the CAA as enacted by Congress. The fact that the EPA found it necessary to, sua sponte, raise the emissions thresholds carefully chosen by Congress shows that the agency's greenhouse gas regulations are "so implausible that [they can] not be ascribed to a difference in view or the product of agency expertise." *State Farm*, 463 U.S. at 43. The EPA cannot argue that Congress intended it to use the terms of the CAA to regulate greenhouse gases, when the terms of the greenhouse gas regulations in no way fit amongst the existing provisions of the CAA. Taken together, the EPA's actions represent "a clear error of judgment." *Marsh,* 490 U.S. at 378. The EPA failed to exercise its expertise and instead promulgated greenhouse gas regulations that do not function within the scope of the CAA. This drastic departure from the EPA's statutory authority renders its actions unlawful.

Judge Kavanaugh sums up the errors made by the EPA most eloquently by stating that the "EPA's assertion of such extraordinary discretionary power both exacerbates the separation of powers concerns in this case and underscores the implausibility of EPA's statutory interpretation." *Coalition II,* 2012 WL

6621785, *15, n. 1 (Kavanaugh, J., dissenting from denial of rehearing *en banc*). Therefore, this Court should grant the Petition.

III. THE EPA LACKS AUTHORITY TO REGULATE GREENHOUSE GAS EMISSIONS UNDER THE PSD PROGRAM.

The CAA is a lengthy, comprehensive statutory scheme, created to regulate numerous types of emitters. The CAA includes seven separate subchapters. Each of these subchapters has a different regulatory focus. Because the CAA is comprised of so many parts, it is not plausible that the requirements under the motor vehicle emissions provisions also trigger a duty to regulate air pollutants under the PSD Program. In fact, the PSD Program exists to ensure the success of the NAAQS Program. Further, as this Court has recognized, words found within statutes "'may be variously construed, not only when they occur in different statutes, but when used more than once in the same statute or even in the same section.'" *Duke Energy,* 549 U.S. at 574 (quoting *Atlantic Cleaners & Dyers, Inc. v. United States,* 286 U.S. 427, 433 (1932)). This Court, in *Duke Energy*, also provided that "[a] given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies." *Duke Energy*, 549 U.S. at 574.

NAAQS exist for the six criteria pollutants and are required "to protect the public health." 42 U.S.C.

§ 7409(b). The EPA has always interpreted this section of the statute as requiring them to consider adverse effects on human health that result from direct human exposure to air pollutants. Gary E. Marchant, *Genetic Susceptibilities: The Future Driver of Ambient Air Quality Standards?*, 43 ARIZ. ST. L.J. 791, 792-794 (2011). Although the CAA already requires states to ensure that they meet the NAAQS for each criteria pollutant, the PSD Program serves as an additional safeguard against increases in the emission of the criteria pollutants by requiring major emitters to seek permits before constructing or operating certain facilities. 42 U.S.C. § 7475. The provisions governing the PSD Program state clearly that pre-construction permits are required for any "major emitting facility . . . in any area *to which this part applies.*" *Id.* § 7475(a) (emphasis added). Because the NAAQS Program is meant to further ensure compliance with the six NAAQS, the term "any area to which this part applies" necessarily refers only to areas already being regulated directly under the NAAQS provisions. *Id.*

Judge Kavanaugh properly interpreted the CAA in this way. Relying on this Court's decision in *Duke Energy*, Judge Kavanaugh explained that regulating greenhouse gases under the PSD Program "would be both counterintuitive and extreme"; especially because this Court has already explained that different statutory objectives under the CAA call for "different implementation strategies." *Coalition II*, 2012 WL 6621785, *20 (Kavanaugh, J., dissenting from denial of rehearing *en banc*) (quoting *Duke Energy*, 549 U.S. at 574).

The EPA cast a blind eye toward *Duke Energy* and brazenly decided that it must apply the PSD Program to any pollutant regulated under any section of the CAA, including greenhouse gases. As demonstrated above, the results produced by the EPA's crabbed interpretation are so absurd that they could not have been intended by Congress. Again, the CAA is a complex and lengthy piece of legislation created to minimize human health impacts from certain airborne emissions. Congress could not have intended the results produced by the EPA here because: (1) the EPA freely admits that exposure to greenhouse gas emissions does not cause any direct adverse human health impacts; and (2) the language found within one part and subpart of the statute cannot be assumed to control the execution of the entire statute. The Court should grant the Petition to correct this error.

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CONCLUSION

For the foregoing reasons, this Court should grant the Petition.

Respectfully submitted,

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AMICUS
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BRIEF

No. 12-1272

In The Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED
STATES OF AMERICA, ET AL.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY,
ET AL.,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF ECONOMISTS THOMAS C. SCHELLING, VERNON L. SMITH, AND ROBERT W. HAHN AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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INTEREST OF *AMICI CURIAE*[1]

Amici professors of economics Thomas C. Schelling, Vernon L. Smith, and Robert W. Hahn all have significant experience analyzing the costs, benefits and effects of regulation, including environmental regulation.

Thomas C. Schelling is a Distinguished University Professor Emeritus at the University of Maryland. Among the vast body of scholarly literature Professor Schelling has produced over more than sixty years, he has written extensively on environmental and energy regulation, including the regulation of greenhouse gas emissions. He was awarded the Nobel Prize in Economics in 2005.

Vernon L. Smith is the George L. Argyros Endowed Chair in Finance and Economics, Chapman University. His research over more than fifty years includes work on environmental economics and regulation. Among other highly regarded texts, he is the author of *Rationality in Economics:*

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[1] No counsel for any party authored this brief in whole or in part, and no person or entity, other than the Judicial Education Project (an *amicus* party in this case) has made a monetary contribution intended to support the preparation or submission of this brief. *Amici* professors received no compensation for offering the views expressed in this brief. The Judicial Education Project expresses no opinion on the views reflected herein. Pursuant to this Court's Rule 37.2, counsel of record for all parties received timely notice of the intent to file this brief. While the vast majority of parties consented, several interested parties (noted in the motion for leave) did not respond.

Constructivist and Ecological Forms. He was awarded the Nobel Prize in Economics in 2002.

Robert W. Hahn is Director of Economics and Professor, Smith School of Enterprise and the Environment, University of Oxford. Professor Hahn's publications on regulation include *The Impact of Economics on Environmental Policy* and *Government Analysis of the Benefits and Costs of Regulation*.

The *amici* economics professors gratefully acknowledge a monetary contribution from the Judicial Education Project ("JEP") that enabled the preparation and printing of this brief. The views expressed in the brief are solely those of the *amici* economics professors. Those views should not be attributed to JEP, or to any institution with which the *amici* economics professors are now, or have in the past been, affiliated.

Amici are convinced that the challenged regulations are likely to produce unnecessary, and potentially substantial, costs on the public. Accordingly, we write in support of the Petitioners and respectfully suggest that the Court grant review.

To be sure, as economists, *amici* lack the expertise to assess the legal issues in the case. We do understand that the Environmental Protection Agency ("EPA") contends that the Clean Air Act and this Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), *compelled* the programs at issue. If that is correct, proper resort may be to the Legislature, not to this Court. If, however, the regulations are not so compelled (as Petitioners contend), and if a proper disposition permits or requires a more comprehensive accounting and precise consideration of the costs and/or benefits of the rules at issue, we believe there is a wide gulf between the proposed regulations and available, more sensible approaches to the issue the agency would like to address.

SUMMARY OF ARGUMENT

Economists who study the costs and benefits of environmental regulation typically begin by assessing whether the regulatory subject is best addressed by one of two potential modes (setting aside cases in which no regulation is necessary or appropriate): (i) "command-and-control" regulation, with governing rules set forth by a central authority; and (ii) "incentive-based" regulation, which is less prescriptive regarding the approaches firms and individuals may use to meet a given social objective. Over time, the majority of economists who analyze these questions have concluded that the second mode, based on incentives, best serves the interests of regulator and regulated alike, by enhancing the likelihood that regulatory goals will be achieved at the lowest cost to society.[2]

To address the issue of GHGs, however, EPA has selected the former mode, that of command-and-control. If implemented, this regulatory choice will impose substantial, yet avoidable, costs on society, while reducing the potential that the problem identified will be resolved.

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[2] This brief takes as an *assumption* that policymakers have elected to regulate greenhouse gases, and analyzes, based on that assumption, whether the mode of regulation chosen by EPA is superior versus an incentive-based system. We do not suggest that any one mode of regulation is superior to another in all cases.

Specifically, in the wake of this Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), EPA first found—pursuant to Section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1)—that CO2 and other GHGs may "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." *See Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009). EPA then proposed and subsequently finalized a series of substantive regulations, among them: a "Tailpipe Rule," which imposes stringent emissions standards for new motor vehicles; a "Triggering Rule," which stated that the Tailpipe Rule's regulation of motor vehicle emissions triggered stationary source regulations under the Act's PSD and Title V provisions; and a "Tailoring Rule," which will govern the application of the Clean Air Act's PSD and Title V stationary source permitting programs to GHG emitters and emissions. *See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule*, 75 Fed. Reg. 25,324 (May 7,2010*)* (Tailpipe Rule); *EPA, Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs; Final Rule*, 75 Fed. Reg. 17,004 (Apr. 2, 2010) (Triggering Rule); *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 75 Fed. Reg. 31,514 (June 3, 2010) (Tailoring Rule).

The Tailpipe Rule is a classic example of command-and-control regulation; it imposes performance standards on automobile manufacturers. The Tailoring Rule is a second example; it imposes technology standards (*i.e.*, installation of the "best available control technology," or BACT), on stationary sources of GHG emissions. *See* 42 U.S.C. § 7479(1).

These types of command-and-control mechanisms were standard features of early environmental and health and safety statutes (like the Clean Air Act, enacted in 1970 and amended in relevant part here in 1977). Since the 1970's, however, economists and policy analysts, following a long period of "blackboard" analysis and careful empirical studies, found that command-and-control regulation often yields disappointing results that are unduly costly. Indeed, in a notoriously contentious profession, that finding has held up strikingly well. Economists now overwhelmingly agree that well-designed incentive-based systems, either in the form of taxes or transferable property rights (*e.g.*, "cap and trade" or carbon taxes) tend to produce better outcomes at far lower cost. *See, e.g.*, Arthur C. Pigou, *Economics of Welfare* (1920), and J.H. Dales, *Pollution, Property, and Prices* (1968). Some of the reasons are briefly summarized below.

To be sure, this consensus position does not cover every environmental problem. For example, incentive-based regulatory systems may be ineffective in dealing with highly concentrated, *localized* pollution or other unwanted externalities; in such "hot spots," only a direct control (perhaps up to an outright ban) may be appropriate. But the limited exceptions to the general proposition that incentive-based regulation dominates command-and-control regulation in environmental matters do not apply here.

Indeed, if *any* problem is well-suited to using market-based environmental approaches, it is the control of CO2 for addressing climate change. That is because, as EPA acknowledges, GHGs are "sufficiently long-lived in the atmosphere" that "they become 'well-mixed,'" and "essentially uniform." *See* U.S. Envtl. Prot. Agency, EPA-HQ-OAR-2009-0171, Response to Public Comments No. 10: Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act (2009). Put another way, emissions *anywhere* affect GHG concentrations *everywhere*. Because the harms they cause are unrelated to local conditions, each ton of emissions has approximately the same impact regardless of the location of its source. Under the circumstances, a market-based approach to emissions control is preferred.

A leading textbook, originally written for law students by then-Professor Breyer, concisely summarizes some of the major reasons:

> All serious proposals for a regulatory regime to reduce [GHG] emissions ... would rely on either a carbon tax or a cap and trade regime ... [T]he benefits of economic incentives are especially salient here: The costs of reduction vary enormously, and therefore the savings to be had from getting reductions from those able to do so least expensively are likewise

> enormous ... At the same time, perhaps the most significant problem with economic incentives—the danger of "hot spots"—does not arise because GHGs are "perfectly mixed" pollutants; where they are emitted simply [does] not matter.

Stephen G. Breyer et al., *Administrative Law and Regulatory Policy* 293 (7th ed. 2011).[3]

Notwithstanding this modern, and largely settled, understanding regarding the economics of GHG regulation, we understand that absent the Court's intervention the regulatory process will proceed and generate a complex, highly prescriptive command-and-control regime. This brief highlights why the mismatch between the problem identified and solution proposed is likely to impose significant, yet avoidable costs on the public without attendant benefits.

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[3] Observation of the mismatch between climate change problems and command-and-control measures is not limited to economists and policy experts. To our knowledge, no legislature in the world has seriously contemplated a large command-and-control system for regulating GHGs. In fact, then-EPA Administrator Lisa Jackson stated in 2010 that "the *best* way to address" GHG emissions "is through a gradual move to a *market-based program* like cap and trade." *The President's Proposed EPA Budget For FY 2010 Before The S. Comm. On Env't & Public Works*, 111th Cong. (2009) (statement of Lisa Jackson, Administrator, Environmental Protection Agency)(emphasis added).

ARGUMENT

In Part I below, we describe the command-and-control nature of the challenged programs, and the special problems they may give rise to with respect to controlling emissions of GHGs. In Part II, we explain why GHG problems are better addressed using incentive-based regulation. We conclude by respectfully suggesting that the Court, if it agrees that economic analysis is germane to determining the legality of the challenged measures, consider that there are more effective, lower costs regulatory options available to EPA than the regime chosen.

I. The Contemplated Regime For The Regulation Of Stationary GHG Emissions Is Economically Inefficient.

The Tailpipe and Tailoring Rules constitute command-and-control regulation of a sweeping nature. Economic theory suggests that the measures are likely to impose outsized costs on society.

A. EPA Has Imposed A Command-and-Control Approach For Regulating Greenhouse Gases.

We understand that EPA has not yet implemented its regulatory program, and aspects of each regulation remain in development. Nonetheless, we are able to offer certain observations based on prior analysis, and what is known about the program presently. Scholars have studied extensively the existing PSD program, and other programs using command-and-control approaches to environmental regulation. Insights gleaned from this work cast light on what a GHG regulatory program might look like.

EPA has also offered guidance on how the proposed regime is intended to operate. *See* PSD and Title V Permitting Guidance for Greenhouse Gases, EPA-457/B-11/001, (March 2011) ("Permitting Guidance"),http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf. At its core, the Regime's stationary source aspects would impose "best available control technology" (BACT) standards by means of the statutory permitting process. We understand that, in the ordinary case, once a major source has become subject to PSD, the source must apply BACT, demonstrate compliance with air quality related values and PSD increments, address impacts on special Class I areas (for example, national parks), and assess impacts on soils, vegetation, and visibility. *Id.* at 6. Nonetheless, we understand that EPA expects to eliminate the impact on soils, vegetation, and visibility as well as on special Class I areas for GHG emissions because with current technology, these measurements for GHGs are not feasible. *Id.* at 48. Hence, emission levels with BACT will be the EPA's primary assessment tool for GHGs.

Furthermore, we understand EPA plans to use the same BACT determination method for GHGs as for other pollutants. Under that plan, the permitting authority determines the emissions limitation based on the maximum degree of emissions reduction possible when BACT is employed at that source. This includes a five-step process for determining the BACT for a given source: (i) the identification of all control technologies; (ii) the elimination of technically infeasible options; (iii) the ranking of remaining technologies in descending order of effectiveness; (iv) the evaluation of the most effective controls; and (v) the selection of the BACT.[4]

The process described above constitutes classic command-and-control regulation. The regulator leaves the regulated entity with relatively little scope for how to comply with a regulation.

B. The Contemplated Regime Is Unprecedented, Sweeping, And Costly.

An economic assessment of the impact of the GHG rules must take account of the rules' *scope.* EPA's permitting guidance document explains that the intended approach will impact how energy consumption is regulated, manufacturing processes are regulated, and permits are evaluated and awarded. As this guidance makes clear, the command-and-control approach is far-reaching.

Indeed, the new regulations appear to sweep new categories of equipment, facilities, manufacturing methods, and emission types into the regulatory mix. In each case, expansion of the regulatory regime imposes significant costs that should be considered.

In particular, we understand that under current EPA rules, permitting authorities may consider source-wide energy efficiency strategies throughout an entire production process or multiple processes. *See* Permitting Guidance, at 23. As contemplated by the GHG rules, BACT will apply to more pieces of equipment than with traditional emissions.

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[4] Under step four, the permit applicant must demonstrate that technical considerations, or energy, environmental, or economic impacts make a technology not achievable. Absent such a showing, the most effective alternative would be selected.

We also understand that the new regime will allow EPA to regulate energy consumption in a large number of facilities, and that many aspects of a facility's manufacturing methods are subject to change. The expansion, therefore, of the PSD program for GHG emissions will increase the costs for permitting authorities in determining the proper level of emissions and application of BACT. Permitting itself is made more costly through new substantive and procedural requirements.

Moreover, for GHGs, permitting authorities will assess how reducing GHG emissions at the facility will affect the demand for energy from the electrical grid and offsite emissions as well. *See* Permitting Guidance, at 24. In fact, EPA intends to rely increasingly on energy efficiency determinations in regulating GHG emissions. *Id.* at 29. This constitutes a significant change from the existing regime for conventional pollutants, for which EPA has interpreted the BACT requirements as *not* applying to *secondary* emissions that occur as a result of the construction or operation of the source but come from offsite locations. *Id.* at 24.

The combination of source-wide regulation, energy efficiency determinations, and the consideration of offsite emissions significantly increases the scope of EPA regulation beyond the parameters within which the PSD program was designed. The impact of the new regime will grow accordingly.

II. Incentive-Based Regulation Is A Superior Method For Regulating Greenhouse Gases.

Command-and-control regulation may be sensible in some settings—for example, in dealing with acute local pollution problems. Concerns of this sort may help to explain the command-and-control mechanisms of the original Clean Air Act, which addressed local, rather than transboundary (let alone global) pollution problems. *See* Thomas Merrill, "Golden Rules for Transboundary Air Pollution," 46 Duke L. J. 931 (1997).

For GHG regulation, however, such reservations have no place. In that context, the economist's critique of command-and-control regulation applies with full, unqualified force.

A. Incentive-Based Approaches Are Often Preferable To Command-And-Control Approaches For General Air Pollution Problems.

The pathologies of command-and-control regulation and especially of technology standards are described in many economic textbooks, with only minor variations. Five shortcomings receive consistent mention.[5]

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[5] Our exposition here follows Bruce A. Ackerman & Richard B. Stewart, "Reforming Environmental Law: The Democratic Case for Economic Incentives," 13 Colum. J. Envtl. L. 171 (1988). In addition to its concise exposition, the article was written principally about air pollution controls, but before global warming became a prominent concern—dispelling any notion that that such concern drives its analysis.

First, uniform BACT requirements ignore variations among regulated entities in their costs of reducing pollution. This wastes "many billions of dollars annually" compared with incentive-based approaches for environmental protection. Ackerman, 13 Colum. J. Envtl. L. at 173.[6]

Second, BACT requirements impose higher regulatory burdens on new products and processes, discourage new investment, and penalize growth. Higher environmental standards are imposed on new products and processes, in part, because there is "no risk of shutdown." *Id.* New investment is discouraged because of uncertainty associated with "length regulatory proceedings to win approval." *Id.* Economic growth is reduced because disproportionate burdens are imposed on "more productive and profitable industries." *Id.* at 174.

Third, BACT requirements "do not provide strong incentives for the development of new, environmentally superior strategies and may actually discourage their development." *Id.* These innovations are essential for long-run economic growth. As we note, below, such innovation is particularly important for addressing the challenge of reducing GHG emissions.

Fourth, BACT regulations require "centralized, uniform determination of complex scientific, engineering and economic issues involving the feasibility of controls on hundreds of thousands of pollution sources." *Id.* The information burdens on administrators are substantial. Furthermore, the high costs of control make it more attractive for industry to litigate and attempt to delay regulation.

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[6] Ackerman and Stewart use the term "BAT," but we understand that BAT and BACT may be used interchangeably.

Fifth, a BACT "strategy is inconsistent with intelligent priority setting." *Id.* Agencies have limited resources. Given the "very large administrative and compliance costs" *Id.* at 175, associated with BACT, "agencies will seek to limit the number of substances on the agenda for regulatory action." *Id.*

B. The Unique Characteristics of GHGs Exacerbate the Problems of Command-and-Control Regulation.

We argued in the preceding section that, for at least five reasons, incentive-based regulation was preferred to command-and-control regulation for a large array of air pollution problems. In this section we explain that incentive-based regulation is especially attractive in the case of limiting GHG emissions, for at least four reasons.

First, in the case of GHGs, it is likely that a (substantially) larger number of sources will need to be controlled. Accordingly, there will be an increase in administrative costs of writing and implementing BACT regulations that could be avoided with incentive-based regulation.

Second, as the number of sources to be regulated grows larger, the variation in the costs of control (versus most conventional pollution problems) broadens. This suggests that the cost savings in moving from a command-and-control regulation could be substantial, and greater than for many conventional air pollution problems. These savings are likely to be especially large when regulators (as is the case for BACT standards for stationary sources of GHGs), are not designing regulations to get the most bang for the buck, but instead are instructed to regulate "to the hilt." Ackerman, 13 Colum. J. Envtl. L. at 174.

Third, the inherent *uncertainty* in both costs and benefits associated with GHG reductions favors incentive-based regulation over command-and-control. Uncertainty—as to costs *and* benefits—increases the difficultly for regulators seeking to judge whether a policy gives rise to net benefits to society. At a minimum, the use of a well-designed market-based approach reduces the likelihood that a particular targeted emissions reduction in GHGs will fail a benefit-cost test. This flows from the fact that while any *benefits* from such a targeted emission reduction would be the same under both an incentive-based approach and the command-and-control approach, *costs* are likely to be far lower under the incentive-based approach.

Finally, the nature of climate change as a *political* (and not simply environmental, or economic) issue suggests that substantial reductions in control costs over time will be required to make GHG reductions politically acceptable. Such cost innovations are much more likely to occur with a well-designed market-based approach than with the BACT approach, in light of the profit incentives inherent to well-designed market-based measures. *See* Ackerman, 13 Colum. J. Envtl. L. at 181.

C. The Incremental Approach Adopted By EPA Is Likely To Be Problematic.

There is nothing wrong *in principle* with piecemeal regulation. A well-designed incentive-based system may well have that feature, as when a carbon tax is phased in to avoid shocks to the economy, and to examine and learn from the effects over time. For any such incremental approach, however, the first step must be a *reasonable* step. We are concerned that the approach taken by EPA may be unreasonable.

Consider the case of automobile regulation. This represents a case of sector-specific regulation. Ideally, one would want emission reductions to be achieved (first) by industries and firms that can do so at the least cost. The point of a broad-based incentive-based system is to force the trade-offs and to incentivize lowest-cost reductions across firms and industries. A single-industry performance standard, by definition, cannot accomplish that objective, and will be unnecessarily costly. Yet that is precisely what EPA seeks to impose.[7]

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[7] EPA's "tailored" PSD program raises additional economic issues. Unlike the Tailpipe Rule, it envisions the imposition of technology controls for a new set of pollutants in a wide range of industries and, eventually, for facilities that have never been subject to Clean Air Act permitting requirements. Moreover, the PSD program is not meant to address the key issue of keeping economic costs as low as possible, which should be central to an overarching policy for limiting GHG emissions.

CONCLUSION

The measures challenged, however well-meaning, are unsound economically when compared with measures that would be designed to maximize social welfare. While the issue of global warming may be the subject of some controversy, economic analysis attendant to the regulation of GHGs is not. Accordingly, we respectfully suggest that the Court grant the petition and apply settled economic analysis to the legal issues presented to the extent permissible under law.

Respectfully submitted,

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BRIEF

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In The
Supreme Court of the United States

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SOUTHEASTERN LEGAL FOUNDATION, INC., ET AL.,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.

◆

TEXAS, ET AL.,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.

◆

CHAMBER OF COMMERCE OF THE UNITED STATES, ET AL.,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.

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**ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

◆

BRIEF OF AMICI CURIAE SCIENTISTS IN SUPPORT OF THE PETITIONS FOR CERTIORARI

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INTEREST OF AMICI CURIAE[1]

Amici curiae are well-qualified climate scientists. Amici include respected professors and scientists who have worked for government agencies, universities, and businesses. These highly regarded scientists have expertise in a wide array of fields implicated by this rulemaking, including climate research, weather modeling, physics, geology, statistical analysis, and engineering. They have many publications in peer-reviewed journals and are respected in their fields of expertise by their peers.

Amici wish to present to this Court scientific data that bear directly on the underlying rulemaking. Specifically, amici submit that EPA's finding of human-caused global warming is not supported by the evidentiary record that was before EPA.

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[1] Pursuant to Supreme Court Rule 37.6, counsel for amici certifies that this brief was not authored in whole or in part by counsel for any party, and no person or entity other than amici or their counsel has made a monetary contribution to the preparation or submission of this brief. Pursuant to Rule 37.3(a), counsel of record for all parties received notice at least 10 days prior to the due date of the amici curiae's intention to file this brief. All parties have consented to the filing of this brief. Those consents are being lodged herewith. Blanket consents are also already on file with the Clerk.

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SUMMARY OF THE ARGUMENT

In the midst of an unsettled and vigorous international debate regarding the existence of purported global warming and the role—if any—of human-emitted greenhouse gases (GHGs) in contributing to that alleged warming, EPA concluded with near absolute certainty that temperatures in the second half of the twentieth century were "unusually" high because of anthropogenic greenhouse gases. 74 Fed. Reg. 66518 (2009). That sweeping conclusion was a critical component of the EPA's Endangerment Finding, and so was an impetus for the most significant and far-reaching regulatory program ever devised by a federal agency.

Amici urge the Court to grant petitioners' request for certiorari because the three "lines of evidence" from the administrative record that EPA relied on do not support the conclusion that manmade greenhouse gas emissions have caused climate warming in the latter half of the twentieth century. Indeed, each line of evidence is demonstrably invalid.

EPA's first line of evidence, its purported basic physical understanding of the effect of GHGs and other factors on climate, is invalid because it relies on the existence of an atmospheric "hot spot" or "fingerprint" that simply does not exist in the real world's temperature data. Its second line of evidence, the assertion that temperatures around the globe rose to unusual and dangerously high levels over the last fifty years, is also demonstrably false using the best temperature data available. Likewise, EPA's third line of evidence, involving computerized climate models, is also invalid. It can be shown that those models, premised on faulty assumptions, just do not produce forecasts that match up with the real world.

No specialized scientific education or previous experience with climate science is needed to see that those facts are true. Each of EPA's lines of evidence requires that the most relevant and credible temperature data available show upward-sloping trends in temperature. That is true for the Hot Spot or GHG Fingerprint theory, the assertion that worldwide temperatures have been anomalous, and for actual data to conform to EPA's model forecasts of rising global average surface temperature (GAST). In science, theories must be validated against the most credible empirical data. Each of EPA's three lines of evidence will be shown to be invalid via such easy to understand hypothesis testing.

EPA reached its invalid conclusions through a highly deficient process. EPA refused to examine "relevant data," *FCC* v. *Fox Television Stations, Inc.*, 556 U.S. 502, 513 (2009) (quoting *Motor Vehicles Mfrs. Assn. of U.S., Inc.* v. *State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)), and made other procedural errors. EPA's Endangerment Finding is not "rational," but arbitrary and capricious. *Fox*, 556 U.S., at 516. Amici therefore respectfully request that this Court grant petitioners' request for certiorari in this case.

REASONS FOR GRANTING THE PETITIONS

Amici agree with petitioners, Judges Kavanaugh and Brown, and EPA itself, that this Court's holding in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007), did not compel EPA to make its Endangerment Finding regarding so-called greenhouse gas (GHG) emissions. *See* Order, at 2, 8-9, 11-12, *Coalition for Responsible Regulation, Inc.* v. *Environmental Protection Agency*, No. 09-1322 (CADC Dec. 20, 2012), ECF No. 1411145 (Brown, J., dissenting from denial of rehearing en banc), *Id.*, at 2-3 (Kavanaugh, J., dissenting from denial of rehearing en banc). In any event, in reaching its finding, EPA, quite simply, got the science wrong. That fact is demonstrable from the very data on which EPA relied, and it is confirmed by data and other input EPA refused to consider in what was an arbitrary and capricious process. The scientific evidence shows that EPA's conclusion that human-caused CO_2 emissions are warming the globe is invalid.

I. THE CONCLUSION THAT EPA DREW FROM ITS THREE LINES OF EVIDENCE IS DEMONSTRABLY INVALID.

EPA grounded its controversial near-certain conclusion that manmade GHG emissions contributed to observed warming in the latter half of the twentieth century on three "lines of evidence" in the administrative record: (1) a "basic physical understanding" of the impacts of various changes—both natural and manmade—on the climate system, (2) historical estimates allegedly suggesting that recent changes in global surface temperature are unusual, (3) and computer-based models simulating the climate's likely response to various forcing mechanisms. 74 Fed. Reg. 66518 (2009).

Not one of these lines, however, supports EPA's ultimate conclusion, much less the degree of certainty asserted by EPA. The significance of the flaws in the bases for EPAs contentions should not be understated. EPA's expansive GHG regulation program is unprecedented by any agency regulatory program in size and scope. Because evidence EPA had available to it contradicts EPA's ultimate conclusion, its corresponding sweeping actions are arbitrary and capricious.

In the view of many scientists, including amici, there is ample evidence that EPA's Endangerment Finding is grossly flawed. In its finding, EPA relied on the claim by the United Nations' Intergovernmental Panel on Climate Change (IPCC) of 90-99% certainty that observed warming in the latter half of the twentieth century resulted from human activity. See *id.* & n.22. EPA bases its Endangerment Finding on three "lines of evidence." 74 Fed. Reg. 66518. But, using the most credible empirical data available, each of EPA's three lines of evidence should be soundly rejected.

EPA's purported three lines of evidence are summarized below:

1. The first line of evidence is EPA's "basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system." *Ibid.* EPA is here referring to its GHG Fingerprint (or Hot Spot) Theory, which is that, in the Tropics, the upper troposphere is warming faster than the lower troposphere and the lower is warming faster than the surface, all due to rising atmospheric CO_2 concentrations blocking heat transfer into outer space. By this mechanism,

increasing CO_2 concentration is assumed to increase surface temperatures.

2. The second line of evidence consists of "indirect, historical estimates of past climate changes that suggest that the changes in global surface temperature over the last several decades are unusual." *Ibid.* This line of evidence refers to EPA's claim that GAST has been rising in a dangerous fashion over the last fifty years. *Ibid.*

3. EPA referenced as its third line of evidence the "use of computer-based climate models to simulate the likely patterns of response of the climate system to different forcing mechanisms (both natural and anthropogenic)." *Ibid.* Those climate models assume that CO_2 is a key determinant of climate change, and EPA's conclusions rely on such models to provide forecasts of future temperature conditions that are adequate for regulatory policy analysis.

In fact, however, highly credible empirical temperature data facts, readily available to EPA prior to its endangerment finding invalidate each line of evidence. And temperature data that is now available for the years 2009-2012 further confirms that each line of evidence was invalid.

A. First Line Of Evidence: EPA's GHG Fingerprint (Or Hot Spot) Theory

The GHG Fingerprint (or Hot Spot) Theory is that in the Tropics, the upper troposphere is warming faster than the lower troposphere, and the lower troposphere is warming faster than the surface, all due to rising atmospheric CO_2 concentrations. See 74 Fed. Reg. 66522 (2009); Brief of Amici Curiae Scientists in Support of Petitioners Supporting Reversal, at 28-29, *Coalition for Responsible Regulation, Inc.* v. *Environmental Protection Agency*, No. 09-1322 (CADC June 8, 2011), ECF No. 1312291; see also U.S. Climate Change Science Program and the Subcommittee on Global Change Research, Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences, at 112-116 (Apr. 2006), *available at* http://www.climatescience.gov/Library/sap/sap1-1/finalreport/sap1-1-final-all.pdf. That theory is totally at odds with multiple robust, consistent, independently derived empirical data sets that show no statistically significant positive (or negative) trend in temperature and thus no statistically significant differences in trend line slopes by altitude. Brief of Amici Curiae Scientists in Support of Petitioners Supporting Reversal, at 30-34, *Coalition for Responsible Regulation, Inc.* v. *Environmental Protection Agency*, No. 09-1322 (CADC June 8, 2011), ECF No. 1312291.

For example, balloon data from the Met Office Hadley Centre (Figure 1a), satellite data regarding temperature in the tropical troposphere from the University of Alabama in Huntsville (UAH)

(Figure 1b), and central Pacific Ocean tropical temperature data from the National Oceanic and Atmospheric Administration (NOAA) (Figure 2) are shown below. None of the three has a statistically significant trend line slope. That is, their trend lines are all flat. All temperature data are shown as "anomalies," where anomalies are computed by subtracting a base period average from actual annual temperature values, both measured in degrees Celsius.

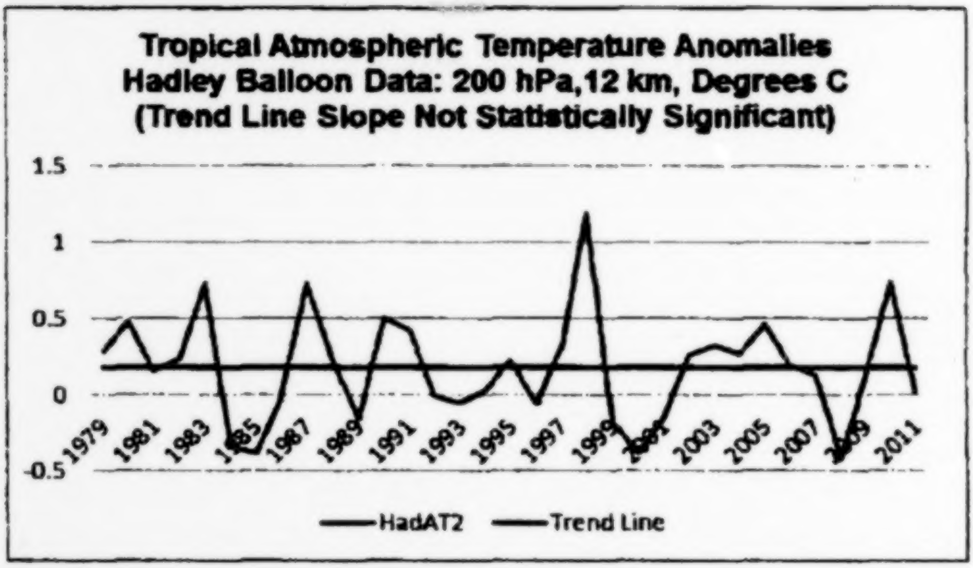


Figure 1a, see Met Office, Global Means Anomaly Series, *available at* http://www.metoffice.gov.uk/hadobs/hadat/hadat2/hadat2_monthly_global_mean.txt (last visited May 17, 2013) (Tropical Atmospheric Temperature Anomalies Hadley Balloon Data: 200 hPa, 12 km, Degrees C).

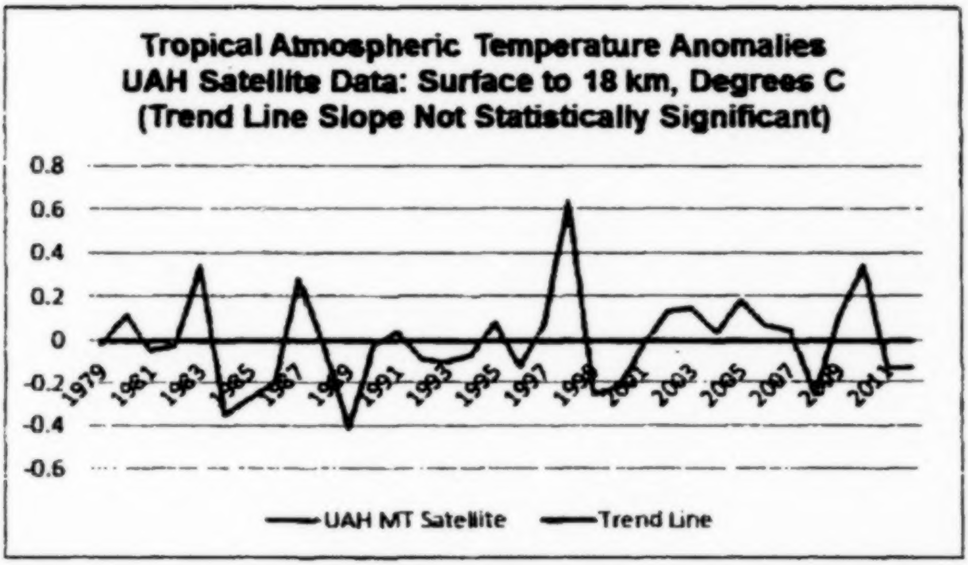


Figure 1b, see National Space Sci. & Tech. Ctr., Monthly Means of Mid-Troposphere MT5.5, *available at* http://vortex.nsstc.uah.edu/data/msu/t2/tmtglhmam_5.5.txt (last visited May 17, 2013) (Tropical Atmospheric Temperature Anomalies UAH Satellite Data: Surface to 18 km, Degrees C).

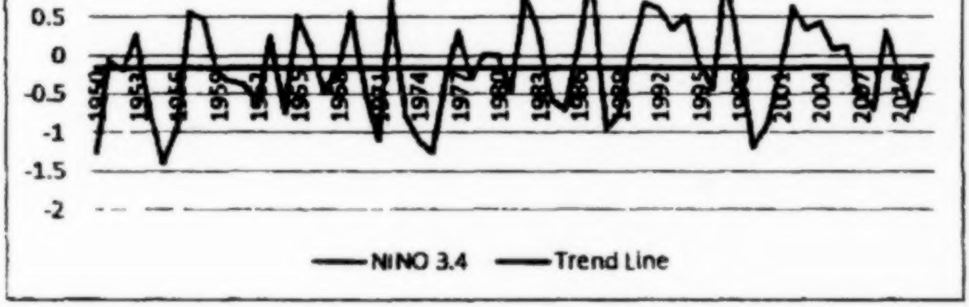


Figure 2, see National Weather Ctr. Climate Prediction Ctr., Tropical Center Pacific Ocean Temperature Anomalies NOAA Buoy Data: NINO 3.4, Degrees C, *available at* http://www.cpc.ncep.noaa.gov/data/indices/ersst3b.nino.mth.81-10.ascii (last visited May 17, 2013).

All three figures above show data through the most recent period available, 2012. In December 2009, when EPA issued its Endangerment Finding, the trends in all three were also flat based on annual data through 2008. The more recent data simply reconfirms those three flat trend facts. For EPA's assumed theory to be valid, all three temperature trend lines would have to be upward sloping, but with the Upper Troposphere Trend Line (Figure 1a) steeper than the Mid-troposphere Trend Line (Figure 1b), and that trend line steeper than the Pacific Ocean Temperature Trend Line (Figure 2).

There is no longer any doubt that the purported tropical "hot spot" simply does not exist. Thus, EPA's theory as to how CO_2 affects GAST—EPA's first line of evidence—must be rejected.

B. Second Line Of Evidence: The Purported Unusual Rise In GAST

EPA's second line of evidence is its claim that GAST has been rising in a dangerous fashion over the last fifty years. 74 Fed. Reg. 66518 (2009). EPA goes on to conclude that the alleged rise was in large part due to human-caused increases in atmospheric CO_2 concentrations. But the purported "global warming" has not been global and has not set records in the regions where the most significant warming has occurred. For example, over the relevant time period, while the Arctic has warmed, tropical oceans had a flat trend, Brief of Amici Curiae Scientists in Support of Petitioners Supporting Reversal, at 17-19, *Coalition for Responsible Regulations, Inc.* v. *Environmental Protection Agency*, No. 09-1322 (CADC June 8, 2011), ECF No. 1312291, and the Antarctic was slightly cooling, *id.*, at 14-15. The most significant warming during this period occurred in the Northern Hemisphere, north of the Tropics (i.e., north of 20° north). Figure 3 depicts UAH satellite data showing that warming:

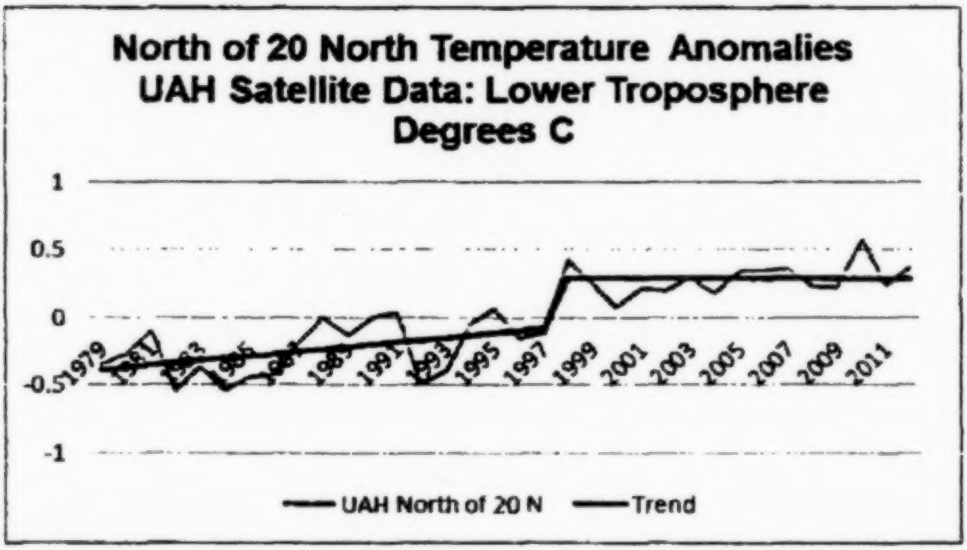
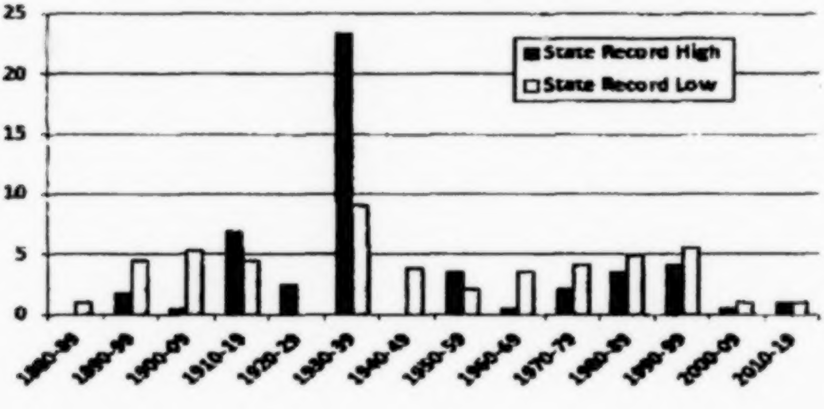


Figure 3, see National Space Sci. & Tech. Ctr., North of 20 North Temperature Anomalies UAH

Satellite Data: Lower Troposphere Degrees C, *available at* http://vortex.nsstc.uah.edu/data/msu/t2lt/uahncdc.lt (last visited May 17, 2013).

As is obvious in Figure 3, however, even though the Northern Hemisphere north of the Tropics has warmed, temperatures have leveled off since 2000. That leveling off should have been obvious to EPA prior to its Endangerment Finding in late 2009.

Further, over the last 130 years, the decade of the 1930s still has the most currently held high-temperature records for States within the United States, as shown in Figure 4 below. Fully 70 percent of the current high-temperature records remain before 1940. And, in every decade from 1960 to 2010, there were considerably more cold records set than hot records.



Number of State Record High & Low Temperatures by Decade

Figure 4, see NOAA National Climatic Data Ctr., State Climate Extremes Committee, Records, *available at* https://www.ncdc.noaa.gov/extremes/scec/records (last visited May 17, 2013).

Those data thus demonstrate that EPA's second line of evidence—the claim that there has been unusual warming on a global, that is, worldwide, basis over the past several decades—is invalid.

C. Third Line Of Evidence: Climate Models

EPA's third line of evidence relies on claims that climate-forecasting models that assume CO_2 is a key determinant of climate change can be trusted to provide forecasts of future conditions that are adequate for policy analysis. EPA relied entirely on IPCC climate models predicated on the (as discussed above) invalid Greenhouse Gas Fingerprint Theory. EPA, Climate Change, Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, at ES 3 (Dec. 7, 2009), *available at* http://www.epa.gov/climatechange/endangerment/index.html#tsd; IPCC AR4 WG1 §9.2.2, Figure 9.1 and accompanying text *available at* Intergovernmental Panel on Climate Change, IPCC, Fourth Assessment Report: Climate Change 2007, Contribution of Working Group I: The Physical Science Basis, 9.2.2, at 674-676, http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch9s9-2-2.html (last visited May 17, 2013). Those models fail standard model-validation and forecast-reliability tests. Brief of Amici Curiae Scientists in Support of Petitioners Supporting Reversal, at 34-37, *Coalition for Responsible Regulation, Inc.* v. *Environmental Protection Agency*, No. 09-1322 (CADC June 8, 2011), ECF No. 1312291.

The models on which EPA relied all forecast rising temperatures assuming continued increases in CO_2 emissions. EPA, Climate Change, Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, at ES 3 (Dec. 7, 2009), *available at* http://www.epa.gov/climatechange/endangerment/index.html#tsd. In 2007, IPCC provided four different model forecast scenarios. IPCC AR4 WG1 TS Figure TS.26, p. 69 or Intergovernmental Panel on Climate Change, IPCC, Fourth Assessment Report: Climate Change 2007, Contribution of Working Group I: The Physical Science Basis, TS.3.1.1, at 37, *available at* http://www.ipcc.ch/publications_and_data/ar4/wg1/en/figure-ts-6.html.

Figure 5 below shows those four forecast scenarios (in various shades of grey). Three of them call for a dramatic rise in GAST because they assume CO_2 levels will continue to rise rapidly. The "Commit-Stop CO_2" scenario portrayed in the chart (in the lightest grey) assumes a draconian curtailment of worldwide CO_2 emissions at the year 1992 level. All of these forecasts were based on the—still missing—greenhouse gas fingerprint or hot spot.

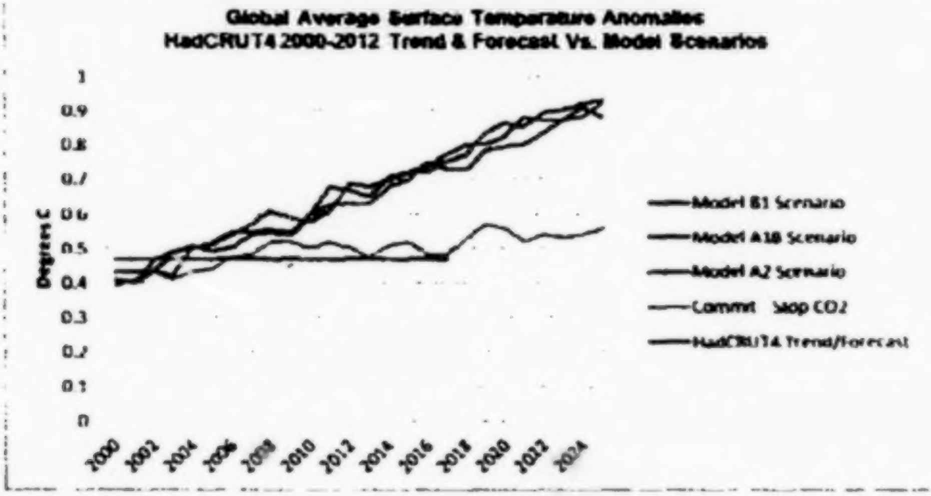


Figure 5. see Intergovernmental Panel on Climate Change, IPCC, Fourth Assessment Report: Climate Change 2007, Contribution of Working Group I: The Physical Science Basis, 9.2.2, at 674-676, http://www.ipcc.ch/publications_and_data/ ar4 /wg1/en/ch9s9-2-2.html; see also Met Office, Met Office Hadley Centre Observations Datasets, *available at* http://www.metoffice.gov.uk/hadobs/ hadcrut4/data/current/download.html (last visited May 17, 2013).

A model is only as good as the accuracy of its forecasts, and these models' forecasts have not been accurate. Figure 5 contrasts the forecasts through 2025 with the actual trend line of GAST data from the Hadley Centre and the Climactic Research Unit, University of East Anglia (CRU) for 2000-2012 (identified as "HadCRUT4 Trend/Forecast" on the chart). The actual Hadley Centre CRU trend line is "flat" at 0.4646 °C; it is portrayed as a flat line from 2000 through 2012 because its regression line slope is not statistically significant.

The GAST data up to 2008 (which also had a flat trend line) was, of course, available to EPA, and in fact both EPA and IPCC heavily relied on the Hadley Centre CRU's temperature data, analysis, and forecasts. EPA, Climate Change, Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, at pp. 28-29 (Dec. 7, 2009), *available at* http://www.epa.gov/climatechange/endangerment/index.html#tsd. Notably, the Hadley Centre recently announced a forecast that this trend line will remain flat for another five years. Met Office, Research, *available at* http://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/long-range/decadal-fc (last visited May 17, 2013) ("Global average temperature is expected to remain between 0.28 °C and 0.59 °C (90% confidence range) above the long-term (1971-2000) average during the period 2013-2017, with values most likely to be about 0.43 °C higher than average"). Thus, in Figure 5, the Trend/Forecast trend line is shown as flat through 2017.

Critically, the Hadley Centre CRU GAST Trend/Forecast line lies below even the Commit-Stop CO_2 scenario, in which worldwide CO_2 emissions are assumed to be held to 1992 levels. Since 1970, atmospheric CO_2 concentrations are up 21 percent. Mona Loa CO_2 Annual Mean Growth Rates, Earth System Research Laboratory, Global Monitoring Division, *available at* ftp://ftp.cmdl.noaa.gov/ccg/co2/trends/co2_annmean_mlo.txt (last visited May 17, 2013).

As Figure 5 plainly demonstrates, the models EPA relied on as its third line of evidence are invalid. That is not surprising because EPA never carried out any published forecast reliability tests. And, as discussed above, EPA's assumed Greenhouse Gas Fingerprint Theory simply does not comport with the real world. Thus, models based on that theory should never have been expected to be valuable for policy analysis involving an Endagerment Finding that so critically affects American energy, economic, and national security.

***

Amici believe that no scientists have devised an *empirically validated* theory proving that higher atmospheric CO_2 levels will lead to higher GAST. Moreover, if the causal link between higher atmospheric CO_2 concentrations and higher GAST is broken by invalidating each of EPA's three lines of evidence, then EPA's assertions that higher CO_2 concentrations also cause sea-level increases and more frequent and severe storms, floods, and droughts are also disproved. Such causality assertions require a *validated* theory that higher atmospheric CO_2 concentrations cause increases in GAST.[2] Lacking such a validated theory, EPA's conclusions cannot stand. In science, credible empirical data always trumps proposed theories, even if those theories are claimed to (or actually do) represent the current consensus.

II. SERIOUS DEFICIENCIES IN EPA'S PROCESS CONTRIBUTED TO ITS SCIENTIFIC ERRORS.

That EPA's conclusions were so wrong is not too surprising given deficiencies in the process it followed to reach them. Amici wish to highlight some of those deficiencies.

On October 7, 2009, before EPA issued its Endangerment Finding, a group of independent scientists, including some of amici, submitted a letter to EPA. In that letter, the scientists urged EPA to consider (1) whether the earth's climate is changing in an unusual or anomalous fashion; (2) whether the science permits rejection of the hypothesis that CO_2 only has a minor effect on the earth's climate; (3) whether climate models that assume CO_2 is a key determinant of climate change can provide accurate forecasts of future conditions; and (4) whether natural (non-anthropogenic) forces and internal climate variability are the primary drivers of the earth's climate. Comment submitted by Dr. David R. Legates, C.C.M., Assoc. Professor of Climatology, Univ. of Del., to Hon. Lisa P. Jackson, Adm'r, EPA (Oct. 7, 2009), docketed as EPA-HQ-OAR-2009-11465 (Oct. 21, 2009), *available at* http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0171-11465 (hereinafter "Comment by Legates"); see 74 Fed. Reg. 18886 (2009). Essentially, EPA was expressly urged to consider the facts discussed above. The scientists also urged EPA to use the Scientific Advisory Board process, permitting an on-the-record hearing, in which it could draw on analysis from qualified scientists in different fields of knowledge. See Comment submitted by Legates. But EPA ignored these comments, glossed over these fundamental scientific questions, and relied on adjusted, unreliable data.

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[2] Indeed, empirical data also shows that the claim that there have been such phenomena is itself invalid. Brief of Amici Curiae Scientists in Support of Petitioners Supporting Reversal, at 22-26, *Coalition for Responsible Regulation, Inc.* v. *Environmental Protection Agency*, No. 09-1322 (CADC June 8, 2011), ECF No. 1312291.

EPA's own Inspector General, in a procedural review issued in September 2011, faulted EPA for procedural deficiencies including the refusal to use the Scientific Advisory Board process. EPA, Office of Inspector General, Procedural Review of EPA's Greenhouse Gases Endangerment Finding

Data Quality Processes, Report No. 11-P-0702, at 36 (Sept. 26, 2011), *available at* www.epa.gov/oig/reports/2011/20110926-11-P-0702.pdf (hereinafter "Inspector General's Report"); Non-State Petitioners' Request for Judicial Notice, *Coalition for Responsible Regulation, Inc.* v. *Environmental Protection Agency*, Case No. 09-1322 (CADC Sept. 30, 2011), ECF No. 1332845. In particular, the Inspector General criticized EPA for failing to follow all recommended steps for an external peer review by independent experts. See Inspector General's Report, at 36.

Some of the signatories to the October 2009 letter and other independent scientists, in a group that also included some of the amici before this Court, lodged an amicus brief with the court of appeals making similar points about the data and EPA's scientific conclusions. Brief of Amici Curiae Scientists in Support of Petitioners Supporting Reversal, *Coalition for Responsible Regulation, Inc.* v. *Environmental Protection Agency*, No 09-1322 (CADC June 8, 2011), ECF No. 1312291. The D.C. Circuit declined to grant leave for that brief to be filed. That court also denied parties' request to supplement the record with the Inspector General's report. Order, *Coalition for Responsible Regulations, Inc.* v. *Environmental Protection Agency*, No. 09-1322 (CADC Jan. 13, 2012), ECF No. 1352684.

In short, EPA's process was far less rigorous than it should and could have been. And the court of appeals erred in failing to recognize the deficiencies in it.

CONCLUSION

For these reasons, and those discussed more fully in the petitions, amici urge the Court to grant the petitions for a writ of certiorari.

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JOINT
APPENDIX

Nos. 12-1146, 12-1248, 12-1254, 12-1268,
12-1269, 12-1272

RECORD
AND
BRIEFS

Supreme Court, U.S.
FILED
DEC - 9 2013
OFFICE OF THE CLERK

IN THE
Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *et al.*,
Petitioners,
v.
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the
United States Court of Appeals for the
District of Columbia Circuit

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CERTIORARI GRANTED OCTOBER 15, 2013

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DISTRICT OF COLUMBIA
CIRCUIT COURT

Nos. 09-1322 et al

COALITION FOR RESPONSIBLE REGULATION, INC.

v.

EPA

RELEVANT DOCKET ENTRIES

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12/23/2009 PETITION FOR REVIEW filed [1222297] by Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, Massey Energy Company, National Cattlemen's Beef Association and Rosebud Mining Company of a decision by federal agency [Service Date: 12/23/2009] Disclosure Statement: Attached; Certificate of Parties: Not Applicable to this Filing [09-1322]

* * * *

12/28/2009 CLERK'S ORDER filed [1222316] directing party to file initial submissions: PETITIONER docketing statement due 01/27/2010. PETITIONER certificate as to parties, etc. due 01/27/2010. PETITIONER statement of issues due 01/27/2010. PETITIONER underlying decision due 01/27/2010. PETITIONER deferred appendix statement due 01/27/2010. PETITIONER procedural motions due 01/27/2010. PETITIONER dispositive motions due 02/11/2010; directing party to file initial submissions: RESPONDENT entry of appearance due 01/27/2010. RESPONDENT procedural motions due 01/27/2010. RESPONDENT certified index to record due 02/11/2010. RESPONDENT dispositive motions due 02/11/2010 [09-1322]

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02/17/2010 CLERK'S ORDER filed [1230466] consolidating cases 10-1045 (Consolidation started 02/17/2010) with 09-1322; Initial Submission Deadlines remain in effect for case 09-1322. directing party to file in 10-1045 initial submissions: PETITIONER docketing statement due 03/19/2010. PETITIONER certificate as to parties, etc. due 03/19/2010. PETITIONER statement of issues due 03/19/2010. PETITIONER underlying decision due 03/19/2010. PETITIONER deferred appendix statement due 03/19/2010. PETITIONER procedural motions due 03/19/2010. PETITIONER dispositive motions due 04/05/2010; directing party to file in 10-1045 initial submissions: RESPONDENT entry of appearance due 03/19/2010. RESPONDENT procedural motions due 03/19/2010. RESPONDENT certified index to record due 04/05/2010. RESPONDENT dispositive motions due 04/05/2010 [09-1322, 10-1045]

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02/18/2010 CLERK'S ORDER filed [1230586] consolidating cases 10-1024, 10-1025, 10-1026, 10-1044 (Consolidation started 02/18/2010) with 09-1322; directing party to file initial submissions: PETITIONER docketing statement due 03/22/2010. PETITIONER statement of issues due 03/22/2010 [09-1322, 10-1024, 10-1025, 10-1026, 10-1044]

02/18/2010 CLERK'S ORDER filed [1230768] consolidating cases 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1046, and 10-1049 (Consolidation started 02/18/2010) with 09-1322; directing party to file initial submissions: PETITIONER docketing statement due 03/22/2010. PETITIONER statement of issues due 03/22/2010 [09-1322, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]

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02/24/2010	CLERK'S ORDER filed [1231781] granting motion to participate as amicus curiae [1231452-2] in 09-1322 [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]
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03/11/2010	PER CURIAM ORDER filed [1234541] granting in part motion for leave to amend the petition for review [1231096-2] in 10-1035 with respect to the first two requests; Denying in part motion for leave to name additional petitioners [1231096-2] in 10-1035 [See Order for Details]. Judge Henderson, Tatel and Garland [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]
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03/31/2010	CLERK'S ORDER filed [1237426] granting motion of Union of Concerned Scientists to participate as amicus curiae [1234871-2] [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]
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04/09/2010 CLERK'S ORDER filed [1238959] granting motion to participate as amicus curiae [1238457-2] [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]

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04/14/2010 CLERK'S ORDER filed [1239799] granting motion of Landmark Legal Foundation to participate as amicus curiae [1239595-2] [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]

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04/28/2010 CLERK'S ORDER filed [1242201] granting motion of Atlantic Legal Foundation to participate as amicus curiae [1239436-2] [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]

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04/30/2010 CLERK'S ORDER filed [1242579] granting motion of Great Waters Coalition to participate as amicus curiae [1240187-2] [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]

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05/05/2010	CLERK'S ORDER filed [1243328] granting motion for leave to intervene. [1227110-2], granting motion for leave to intervene. [1227053-2], granting motion for leave to intervene. [1227011-2], granting motion for leave to intervene. [1235051-2], granting motion for leave to intervene. [1235302-2], granting motion for leave to intervene. [1235587-2], granting motion for leave to intervene. [1235611-2], granting motion for leave to intervene. [1235616-2], granting motion for leave to intervene. [1235617-2] [09-1322]
05/05/2010	CLERK'S ORDER filed [1243339] granting motions for leave to intervene for State of Michigan, et al. 09-1322]

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06/16/2010	PER CURIAM ORDER filed [1250245] denying motions for leave to adduce additional evidence [1240105-2] [1240105-3] [1240064-2], [1239917-2] [1240145-2], Cases 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049 held in abeyance pending decision from proceedings at agency; directing party to file motions to govern future

proceedings by 08/16/2010 Before Judges: Tatel, Griffith and Kavanaugh. [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]

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08/16/2010 CLERK'S ORDER filed [1260696] granting motion to extend time [1260299-2]; directing parties to file motions to govern future proceedings by 09/15/2010 [09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1049]

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09/15/2010 CLERK'S ORDER filed [1265848] consolidating cases 10-1281 (Consolidation started 09/15/2010) with 10-1234 [10-1234, 10-1235, 10-1239, 10-1245, 10-1281] (Lister, Mary)

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10/08/2010 CLERK'S ORDER filed [1270725] consolidating cases 10-1310 (Consolidation started 10/08/2010) with 10-1234; directing petitioner in in 10-1310 to file initial submissions: PETITIONER docketing statement due 11/08/2010. PETITIONER statement of issues due 11/08/2010 [10-

1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310] (Lister, Mary)

* * * *

10/18/2010 CLERK'S ORDER filed [1272015] consolidating cases 10-1318, 10-1319, 10-1320, 10-1321 (Consolidation started 10/18/2010) with 10-1234; directing party to file in 10-1318, 10-1319, 10-1320, 10-1321 initial submissions: PETITIONER docketing statement due 11/17/2010. PETITIONER statement of issues due 11/17/2010 [10-1234, 10-1318, 10-1319, 10-1320, 10-1321] (Lister, Mary)

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11/12/2010 CLERK'S ORDER filed [1277208] granting motion for leave to intervene. [1265135-2] in 10-1234; granting motion for leave to file response to motion for coordination of related cases [1265423-2] in 10-1234, 10-1235, 10-1239, 10-1245. The Clerk is directed to file response [1265428-4] in 10-1234, 10-1235, 10-1239, 10-1245 [10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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11/15/2010 CLERK'S ORDER filed [1277479] unconsolidating case [10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321

(Consolidation termed 11/15/2010) with 10-1234; 10-1234 (Pending Consolidation termed 11/15/2010) with 09-1322; 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321 (Pending Consolidation started 11/15/2010) with 10-1234], consolidating cases 10-1234 (Consolidation started 11/15/2010) with 09-1322; RESPONDENT certified index to record due 12/01/2010 [10-1234, 09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Lister, Mary)

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11/16/2010 PER CURIAM ORDER filed [1277634] granting in part and denying in part motion for coordination of related cases: granting request to designate cases complex; denying request to assign cases to single panel for all purposes [granting motions to consolidate No. 10-1073 et al. with 10-1131 et al.; dening motion to consolidate 09-1018 et al. with 10-1073 et al.; granting motion to hold cases 10-1115 and 10-1215 in abeyance and to sever claim in No. 10-1025 and hold in abeyance; relevant claim in 10-1205 involving timing issues severed and assigned separate docket number, No. 10-1388; Nos. 10-1115, 10-1215 and 10-1388 consolidated with 09-1018 et al. and held in abeyance pending further order of the court. deferring consideration of motion for phased briefing by Alliance of Automobile Manufacturers. Before Judges: Henderson, Garland and Brown. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Note: order also entered in case Nos. 09-1018 et al., 10-1073 et al., 10-1092 et al. and 10-1131 et al.] (Lister, Mary)

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12/10/2010 PER CURIAM ORDER filed [SEE ORDER FOR FURTHER DETAILS] [1282558] granting motion for leave to file a response [1274456-2] in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, granting motion to file declarations under seal, granting motion for leave to file surreply [1278141-2]; The Clerk is directed to file response [1274454-2] in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, The Clerk is directed to file sur-reply [1282545-2]; denying motion to stay case [1266030-2] in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, denying motion to stay case [1266089-2] in 10-1041. FURTHER ORDERED that these cases be scheduled for oral argument on the same day before the same panel. Before Judges: Ginsburg, Tatel and Brown. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]--[Edited 12/10/2010 by KRM]

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03/22/2011 PER CURIAM ORDER filed [1299368] setting briefing schedule: Briefs for State Petitioners AND Supporting Intervenors due 05/20/2011 (no more than two briefs, not to exceed a combined total of 15,000 words). Briefs for Non-State PETITIONERS and Supporting Intervenors due 5/20/11 (no more than two briefs, not to exceed a combine total of 15,000 words). AMICUS for PETITIONERS Brief due 05/27/2011 (not to exceed a combined total of 7,000 words). RESPONDENT Brief due on 08/18/2011 (not to exceed

30,000 words). AMICUS for RESPONDENT Brief due 08/25/2011(not to exceed a combined total of 7,000 words). JOINT INTERVENOR for RESPONDENT Brief due 09/16/2011 (not to exceed 15,000 words). State PETITIONERS Reply Brief due 10/17/2011 (not to exceed a combined total of 7,500 words). Non-State PETITIONERS Reply Brief due 10/17/2011 (not to exceed a combined total of 7,500 words). Deferred Appendix due 10/31/2011. FINAL Briefs for State Petitioners AND Supporting Intervenors due 11/14/2011. FINAL Briefs for Non-State Petitioners AND Supporting Intervenors due 11/14/2011. AMICUS for PETITIONERS Final Brief due 11/14/2011. RESPONDENT Final Brief due on 11/14/2011. AMICUS for RESPONDENT Final Brief due 11/14/2011. INTERVENOR for RESPONDENT Final Brief due 11/14/2011. State and Non-State PETITIONERS Final Reply Brief due 11/14/201. Before Judges: Henderson, Garland and Kavanaugh. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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05/06/2011 CLERK'S ORDER filed [1306677] granting motion to terminate party in case [1305706-3] State of Hawaii in 09-1322 [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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05/20/2011 PETITIONER BRIEF [1309213] filed by Haley Barbour, State of Florida, State of Indiana, State of Kentucky, State of Louisiana, State of Michigan, State of Nebraska, State of North Dakota, State of Oklahoma, State of South Carolina, State of South Dakota and State of Utah in 09-1322, Commonwealth of Virginia in 10-1036, State of Alabama in 10-1039, Gregory Wayne Abbott, Rick Perry, Barry Smitherman, State of Texas, Texas Agriculture Commission and Texas Commission on Environmental Quality in 10-1041, Greg Abbott, Rick Perry, Barry Smitherman, State of Texas, Texas Agriculture Commission and Texas Commission on Environmental Quality in 10-1281, 10-1319 [Service Date: 05/20/2011] Length of Brief: 3,985 words. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Mitchell, Jonathan)

05/20/2011 PETITIONER BRIEF [1309215] filed by Arkansas State Chamber of Commerce, Associated Industries of Arkansas, Colorado Association of Commerce & Industry, Glass Packaging Institute, Idaho Association of Commerce and Industry, Independent Petroleum Association of America, Indiana Cast Metals Association, Louisiana Oil and Gas Association, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Electrical Manufacturers Association, Nebraska Chamber of Commerce and Industry, North American Die Casting Association, Pennsylvania Manufacturers Association, Portland Cement Association, Steel Manufacturers Association, Tennessee Chamber of Commerce and Industry, The Kansas Chamber of Commerce and Industry, The Ohio Manufacturers Association, Virginia Manufacturers Association, West Virginia Manufacturers Association, Wisconsin Manufacturers and Commerce and Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals

Association - North America, Massey Energy Company, National Cattlemen's Beef Association and Rosebud Mining Company in 09-1322, Competitive Enterprise Institute, FreedomWorks Foundation and Science and Environmental Policy Project in 10-1045, National Mining Association in 10-1024, Peabody Energy Company in 10-1025, American Farm Bureau Federation in 10-1026, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association and Western States Petroleum Association in 10-1044, Utility Air Regulatory Group in 10-1042, Michele Bachmann, Kevin Brady, Paul Broun, Collins Industries, Inc., Collins Trucking Company, Inc., Nathan Deal, Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J & M Tank Lines, Inc., Kennesaw Transportation, Inc., Steven King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, John Linder`, Tom Price, Dana Rohrabacher, John

Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1035, Chamber of Commerce of the United States of America in 10-1030, Gerdau Ameristeel Corp. in 10-1037, American Iron and Steel Institute in 10-1038, Ohio Coal Association in 10-1040, Portland Cement Association in 10-1046, Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1234, 10-1235, Michele Bachmann, Marsha Blackburn, Kevin Brady, Paul Broun, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn

Westmoreland in 10-1239, 10-1245, Pacific Legal Foundation in 10-1310, Competitive Enterprise Institute, Freedomworks and Science and Environmental Policy Project in 10-1318, 10-1320, 10-1321 [Service Date: 05/20/2011] Length of Brief: 14,988. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Burgess, William)

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05/25/2011 CLERK'S ORDER filed [1309928] granting ClientEarth's motion to participate as amicus curiae [1292745-2] [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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06/08/2011 AMICUS FOR PETITIONER BRIEF [1312291] filed by Dr. Timothy F. Ball, Joseph S. D'Aleo, Dr. Don J. Easterbrook, Dr. Anthonly Finizza, Dr. William Happer, Dr. Benjamin M. Herman, Dr. Craig D. Idso, Dr. Richard A. Keen, Dr. Anthony R. Lupo, Dr.

Nicola Scafetta, Dr. Roy W. Spencer, George H. Taylor, Dr. James P. Wallace, III and Dr. George T. Wolff in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1320, 10-1319, 10-1321 [Service Date: 06/08/2011] Length of Brief: 6688 words. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Ward, Christian)

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07/07/2011 PER CURIAM ORDER filed [SEE ORDER FOR FURTHER DETAILS] [1317305] denying the scientists' motion to participate as amicus curiae [1310929-2]; denying motion to strike [1311290-2]; granting Kansas's motion for leave to file out of time [1312025-2] in 09-1322 Before Judges: Tatel, Garland and Brown. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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08/05/2011	CLERK'S ORDER filed [1322807] granting motion to terminate party in case [1318727-2] Commonwealth of Pennsylvania, Department of Environmental Protection in 09-1322 [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
08/18/2011	RESPONDENT BRIEF [1324992] filed by EPA in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, EPA and Lisa Perez Jackson in 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1320, 10-1319, 10-1321 [Service Date: 08/18/2011] Length of Brief: 29,619 words. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Purdy, Angeline)

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08/30/2011	CORRECTED AMICUS FOR RESPONDENT BRIEF [1326722] filed

	by America's Great Waters Coalition, ClientEarth and Union of Concerned Scientists [Service Date: 08/30/2011] Length of Brief: 6,984 words. [09-1322] (Kraham, Susan)
09/16/2011	INTERVENOR FOR RESPONDENT BRIEF [1330161] filed by City of New York, Commonwealth of Massachusetts, Conservation Law Foundation, Environmental Defense Fund, National Wildlife Federation, Natural Resources Defense Council, Sierra Club, State of California, State of Connecticut, State of Delaware, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of Minnesota, State of New Hampshire, State of New Mexico, State of New York, State of Oregon, State of Rhode Island, State of Vermont, State of Washington and Wetlands Watch in 09-1322, Conservation Law Foundation, Environmental Defense Fund, National Wildlife Federation, Natural Resources Defense Council, Sierra Club and Wetlands Watch in 10-1234 [Service Date: 09/16/2011] Length of Brief: 14,089 words. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Spalding, Joanne)

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10/17/2011	PETITIONER REPLY BRIEF [1335827] filed by Commonwealth of Virginia in 10-1036 [Service Date: 10/17/2011] Length of Brief: 3,363. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Getchell, Earle)
10/17/2011	PETITIONER REPLY BRIEF [1336036] filed by Gregory Wayne Abbott, Rick Perry, Barry Smitherman, State of Texas, Texas Agriculture Commission and Texas Commission on Environmental Quality in 10-1041, Haley Barbour, State of Florida, State of Indiana, State of Kentucky, State of Louisiana, State of Michigan, State of Nebraska, State of North Dakota, State of Oklahoma, State of South Carolina, State of South Dakota and State of Utah in 09-1322, Commonwealth of Virginia in 10-1036, State of Alabama in 10-1039 [Service Date: 10/17/2011] Length of Brief: 1,777 words. [10-1041, 09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Murphy, Michael)

10/17/2011	PETITIONER REPLY BRIEF [1336052] filed by Arkansas State Chamber of Commerce, Associated Industries of Arkansas, Colorado Association of Commerce & Industry, Glass Packaging Institute, Idaho Association of Commerce and Industry, Independent Petroleum Association of America, Indiana Cast Metals Association, Louisiana Oil and Gas Association, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Electrical Manufacturers Association, Nebraska Chamber of Commerce and Industry, North American Die Casting Association, Pennsylvania Manufacturers Association, Portland Cement Association, Steel Manufacturers Association, Tennessee Chamber of Commerce and Industry, The Kansas Chamber of Commerce and Industry, The Ohio Manufacturers Association, Virginia Manufacturers Association, West Virginia Manufacturers Association, Wisconsin Manufacturers and Commerce and Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, Massey Energy Company, National Cattlemen's Beef Association and Rosebud Mining Company in 09-1322, Competitive Enterprise Institute,

FreedomWorks Foundation and Science and Environmental Policy Project in 10-1045, National Mining Association in 10-1024, Peabody Energy Company in 10-1025, American Farm Bureau Federation in 10-1026, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association and Western States Petroleum Association in 10-1044, Utility Air Regulatory Group in 10-1042, Michele Bachmann, Kevin Brady, Paul Broun, Collins Industries, Inc., Collins Trucking Company, Inc., Nathan Deal, Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J & M Tank Lines, Inc., Kennesaw Transportation, Inc., Steven King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, John Linder`, Tom Price, Dana Rohrabacher, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1035, Chamber of Commerce of the United States of

America in 10-1030, Gerdau Ameristeel Corp. in 10-1037, American Iron and Steel Institute in 10-1038, Ohio Coal Association in 10-1040, Portland Cement Association in 10-1046, Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1234, 10-1235, Michele Bachmann, Marsha Blackburn, Kevin Brady, Paul Broun, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1239, 10-1245, Pacific Legal Foundation in 10-1310, Competitive Enterprise Institute, Freedomworks and Science and Environmental Policy Project in

10-1318, 10-1320, 10-1321 [Service Date: 10/17/2011] Length of Brief: 7,498 words. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Burgess, William)

10/24/2011 REPLY FILED [1337450] by Colorado Association of Commerce & Industry, Glass Packaging Institute, Idaho Association of Commerce and Industry, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Electrical Manufacturers Association, Nebraska Chamber of Commerce and Industry, North American Die Casting Association, Portland Cement Association, Steel Manufacturers Association, Tennessee Chamber of Commerce and Industry, The Kansas Chamber of Commerce and Industry, The Ohio Manufacturers Association, Virginia Manufacturers Association, West Virginia Manufacturers Association, Wisconsin Manufacturers and Commerce and Alpha Natural Resources, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, Massey Energy Company, National

Cattlemen's Beef Association and Rosebud Mining Company in 09-1322, FreedomWorks Foundation and Science and Environmental Policy Project in 10-1045, National Mining Association in 10-1024, American Farm Bureau Federation in 10-1026, American Petroleum Institute, Corn Refiners Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association and Western States Petroleum Association in 10-1044, Michele Bachmann, Kevin Brady, Paul Broun, Collins Industries, Inc., Collins Trucking Company, Inc., Nathan Deal, Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J & M Tank Lines, Inc., Steven King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, Tom Price, Dana Rohrabacher, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1035, Chamber of Commerce of the United States of America in 10-1030, American Iron and Steel Institute in 10-1038, Ohio Coal

Association in 10-1040, Portland Cement Association in 10-1046, Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1234, 10-1235, Michele Bachmann, Marsha Blackburn, Kevin Brady, Paul Broun, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1239, Peabody Energy Company in 10-1245, Pacific Legal Foundation in 10-1310, Competitive Enterprise Institute, Freedomworks and Science and Environmental Policy Project in 10-1318, 10-1321 to response [1335618-2], [1335614-2], [1335480-2] [Service Date: 10/24/2011 by CM/ECF NDA]

Pages: 1-10. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Burgess, William)

10/31/2011 JOINT APPENDIX [1339079] filed [Volumes: 10] [Service Date: 10/31/2011] [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Burgess, William)

11/02/2011 CLERK'S ORDER filed [1339510] scheduling oral argument before Judges SENTELLE, ROGERS, TATEL Tuesday, 02/28/2012 AM. The court anticipates that argument will be schedule over two days [Nos. 09-1322, 10-1073, 10-1092, 10-1167]. Counsel will be notified of the argument format and allotted times at a later date. All counsel in each of these cases, therefore, should plan to be available for argument on both February 28 and February 29, 2012. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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02/08/2012 PER CURIAM ORDER filed [1357330] allocating oral argument time as follows: Tuesday, February 28, 9:30 A.M.; I. No. 09-1322 (and consolidated cases), Endangerment Finding – 1 hour, 30 minutes total. (Petitioners and Supporting Intervenors – 45 minutes; Respondents and Supporting Intervenors– 45 minutes); II. No. 10-1092 (and consolidated cases), Tailpipe Rule – 40 minutes total (Petitioners and Supporting Intervenors – 20 minutes; Respondents and Supporting Intervenors – 20 minutes). Wednesday, February 29, 9:30 A.M.; III. No. 10-1167 (and consolidated cases), Historic Regulations; No. 10-1073 (and consolidated cases), Timing and Tailoring Rules – 2 hours, 30 minutes total (Petitioners and Supporting Intervenors – 75 minutes; Respondents and Supporting Intervenors-- 75 minutes). The panel will hear consolidated argument for Case Nos. 10-1167 and 10-1073. The parties are instructed to address the jurisdictional issues specific to each case first (i.e., the timeliness of the challenge to the historic regulations and standing to challenge the Timing and Tailoring Rules). In each case, parties may divide argument time among counsel for Petitioners/Respondents and supporting Intervenors as they see fit. Form 72, which may be accessed through the link on this order, must be completed and returned to the Clerk's office by February 17, 2012. directing party to file Form 72 notice of arguing attorney - due 02/17/2012 Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1182, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]--[Edited 02/08/2012 by MCM]

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02/29/2012	ORAL ARGUMENT HELD before Judges Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
	* * * *
06/26/2012	PER CURIAM JUDGMENT filed [1380688] that the Timing and Tailoring petitions for review are dismissed, and the remainder of the petitions be denied for the reasons in the accompanying opinion. Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182,

	10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
06/26/2012	OPINION filed [1380690] PER CURIAM (Pages: 82) [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
06/26/2012	PER CURIAM ORDER filed [1380692] dismissing as moot motion to strike document [1340588-2] in 09-1322,

10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1320, 10-1319, 10-1321 Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

06/26/2012 CLERK'S ORDER filed [1380694] withholding issuance of the mandate. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041,

	10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
08/10/2012	PETITION filed [1388587] by Petitioner Pacific Legal Foundation in 10-1310 for rehearing and rehearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA, US Mail] Pages: 11-15. [10-1310] -[Edited 09/07/2012 by TAG-RELIEF ADDED] (Hadzi-Antich, Theodore)
08/10/2012	INCORRECT DOCKET ENTRY-DISREGARD-PETITION filed [1388713] by Petitioner Coalition for Responsible Regulation, Inc. in 09-1322 for rehearing, for rehearing en banc. [Service Date: 08/10/2012 by

	CM/ECF NDA] Pages: 1-10. [09-1322, 10-1234]--[Edited 08/13/2012 by LMC] (Glaser, Peter)
08/10/2012	PETITION filed [1388720] by Intervenor for Respondent State of Alaska in 09-1322 for rehearing en banc., for rehearing [Service Date: 08/10/2012 by US Mail, CM/ECF NDA] Pages: 1-10. [09-1322] (Mulder, Steven)
08/10/2012	PETITION filed [1388725] by Intervenors for Petitioner State of Florida, State of Indiana, State of Kentucky, State of Louisiana, State of Michigan, State of Nebraska, State of North Dakota, State of Oklahoma, State of South Carolina, State of South Dakota and State of Utah in 09-1322, Petitioner Commonwealth of Virginia in 10-1036, Petitioner State of Alabama in 10-1039, Petitioners Gregory Wayne Abbott, Rick Perry, Barry Smitherman, State of Texas, Texas Agriculture Commission and Texas Commission on Environmental Quality in 10-1041, Petitioners Greg Abbott, Rick Perry, Barry Smitherman, State of Texas, Texas Agriculture Commission and Texas Commission on Environmental Quality in 10-1281, 10-1319 for rehearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA, 3rd Party] Pages: 1-10. [09-1322, 10-1036, 10-1039, 10-1041, 10-1281, 10-1319] (Murphy, Michael)

08/10/2012	PETITION filed [1388736] by Petitioner Peabody Energy Company in 10-1025, 10-1245 for rehearing, for rehearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA] Pages: 1-10. [10-1025, 10-1245] (Glaser, Peter)
08/10/2012	PETITION filed [1388742] by Petitioner Chamber of Commerce of the United States of America in 10-1030, 10-1235 for rehearing, for rehearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA, US Mail] Pages: 11-15. [10-1030, 10-1235] (Burgess, William)

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09/06/2012	CLERK'S ORDER filed [1393022] Upon consideration of the petition of the Chamber of Commerce for rehearing en banc and the petition of the Non-State Petitioners for rehearing en banc, it is ORDERED that, within 15 days from the date of this order, respondent EPA file a combined response to the above-referenced en banc petitions, and intervenors for respondent file a combined response to the above-referenced en banc petitions. Each response may not exceed 20 pages. Absent further order of the court, no replies to the responses will be accepted. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083,

10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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10/12/2012 RESPONSE FILED [1399291] by EPA in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, EPA and Lisa Perez Jackson in 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1320, 10-1319, 10-1321 to petition for rehearing [1388742-2], petition for rehearing en banc [1388742-3] [Service Date: 10/12/2012 by CM/ECF NDA] Pages: 16-20. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Lipshultz, Jon)

10/12/2012 RESPONSE FILED [1399463] by City of New York, Commonwealth of Massachusetts, Conservation Law Foundation, Environmental Defense Fund, National Wildlife Federation, Natural Resources Defense Council, Sierra Club, State of California, State of Connecticut, State of Delaware, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of Minnesota, State of New Hampshire, State of New Mexico, State of New York, State of Oregon, State of Rhode Island, State of Vermont, State of Washington and Wetlands Watch in 09-1322 to petition for rehearing [1388742-2], petition for rehearing en banc [1388742-3] [Service Date: 10/12/2012 by CM/ECF NDA] Pages: 21-30. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321] (Donahue, Sean)

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12/20/2012 PER CURIAM ORDER (in slip opinion format), En Banc, filed [1411145] denying petitions for rehearing en banc. Before Judges: Sentelle*, Henderson, Rogers*, Tatel*, Garland, Brown*, Griffith and Kavanaugh*. (Circuit Judges Brown and Kavanaugh would grant the petitions for rehearing en banc) (A statement by Chief Judge Sentelle and Circuit Judges Rogers and Tatel, concurring in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Brown, dissenting in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Kavanaugh, dissenting from the denials of rehearing en banc, is attached). [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

* * * *

12/20/2012 PER CURIAM ORDER, En Banc, filed [1411148] denying petition for rehearing en banc [1388587-2] in 10-1310. Before Judges: Sentelle, Henderson, Rogers, Tatel, Garland, Brown, Griffith and Kavanaugh. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

12/20/2012	PER CURIAM ORDER filed [1411151] denying petitions for rehearing. Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
01/02/2013	MANDATE ISSUED to Environmental Protection Agency [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

* * * *

DISTRICT OF COLUMBIA CIRCUIT COURT

Nos. 10-1073 et al.

COALITION FOR RESPONSIBLE REGULATION, INC.

v.

EPA

RELEVANT DOCKET ENTRIES

04/02/2010	PETITION FOR REVIEW CASE docketed. [10-1073]
04/02/2010	PETITION FOR REVIEW filed [1239008] by Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association North America, National Cattlemen's Beef Association and Rosebud Mining Company of a decision by EPA a federal agency [Service Date: 04/02/2010] Disclosure Statement: Attached; Certificate of Parties: Not Applicable to this Filing [10-1073]

* * * *

04/09/2010	CLERK'S ORDER filed [1239017] directing party to file initial submissions: PETITIONER docketing statement due 05/10/2010. PETITIONER

certificate as to parties, etc. due 05/10/2010. PETITIONER statement of issues due 05/10/2010. PETITIONER underlying decision due 05/10/2010. PETITIONER deferred appendix statement due 05/10/2010. PETITIONER procedural motions due 05/10/2010. PETITIONER dispositive motions due 05/24/2010; directing party to file initial submissions: RESPONDENT entry of appearance due 05/10/2010. RESPONDENT procedural motions due 05/10/2010. RESPONDENT certified index to record due 05/24/2010. RESPONDENT dispositive motions due 05/24/2010 [10-1073]

* * * *

05/28/2010 CLERK'S ORDER filed [1247202] granting motion for other relief [1243435-2]; suspending deadlines for initial submissions; directing parties to file motions to govern future proceedings by 06/24/2010 [10-1073]

* * * *

09/03/2010 [THIS ORDER AMENDED BY ORDER OF 9/8/10] PER CURIAM ORDER filed [1264200] consolidating 10-1083 et al. and 10-1109 et al. with 10-1073; granting motions to intervene in

10-1118; Chamber of Commerce of US permitted to intervene in support of respondent; referring motion for leave to intervene in 10-1073 to merits panel (see order for details); directing petitioners to file the following documents if not already filed: docketing statement, statement concerning deferred appendix, underlying decision and statement of issues due 9/15/10; procedural motions for the parties due 9/15/10; dispositive motions for the parties due 9/30/10; certified index to record due 9/30/10. Before Judges: Garland, Brown and Griffith. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129]--[Edited 09/08/2010 by MAL] (Lister, Mary)

* * * *

09/08/2010 CLERK'S ORDER filed [1264478] amending Special Panel order [1264200-4] [motions to intervene in No. 10-1115 granted; order had No. 10-1118)
([10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129] (Lister, Mary)

* * * *

09/13/2010 CLERK'S ORDER filed [1265460] granting motion for leave to intervene. [1263811-2] in 10-1215, granting motion for leave to intervene. [1263588-2] in 10-1205, 10-1215, granting motion for leave to intervene. [1263470-2] in 10-1215, granting motion for leave to intervene. [1263469-2] in 10-1215, granting motion for leave to intervene. [1263468-2] in 10-1215 [10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Lister, Mary)

* * * *

09/28/2010 CLERK'S ORDER filed [1268616] granting motion to participate as amicus curiae [1264446-2] in 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1115,
10-1120, 10-1114, 10-1126, 10-1127, 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129 [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205,

10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

09/28/2010 CLERK'S ORDER filed [1268622] granting motion to participate as amicus curiae [1264448-2] [10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199,
10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

* * * *

10/14/2010 PER CURIAM ORDER filed [1271708] granting motion to exceed page limits for stay motions; directing Clerk to file lodged motions for stay; granting in part and denying in part motion to strike responses; responses of Utility Air Regulatory Group, American Farm Bureau Federation and Peobody Energy Company will not be stricken; Clerk directed to file the lodged responses; motions to extend time to respond to Texas' motion for stay granted; emergency motion for expedited consideration denied; ordering that the following format and schedule shall apply to the briefing of stay motions in these cases: consolidated response of respondents to motion to stay and to responses in support of motions to stay, not to exceed 100 pages, due 10/28/10; joint response of state and environmental intervenors to motions to stay and to responses in support of motions to stay, not to exceed 50 pages, due 11/1/10; joint response of auto industry intervenors to motions to stay and to responses in support of motions to stay, not to exceed 20 pages, due 11/1/10; replies in support of motions to stay, not to exceed a combined total of 50 pages, allocated as stay movants see fit, due 11/8/10. Before Judges: Rogers, Griffith and Kavanaugh. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Lister, Mary)

* * * *

11/12/2010 CLERK'S ORDER filed [1277166] Upon consideration of environmental movant-intervenors' motion for leave to file response to motion for coordination of related cases and cross-motion for alternative relief; and environmental intervenors' motion to extend time to respond to the National Mining Association et al.'s motion for additional affirmative relief; and environmental groups' motion for leave to file their response in opposition to National Mining Association et al.'s motion for consolidation and cross-motion for alternative relief, it is Ordered that the motions be granted. [1265217-2], [1268687-2], [1268685-2]; [1267763-2]; The Clerk is directed to file the lodged documents. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Glover, Tara)

* * * *

11/12/2010 CLERK'S ORDER filed [1277193] Upon consideration of environmental movant-intervenors' motion for leave to file response to motion for coordination of related cases and cross-motion for alternative relief; and environmental intervenors' motion to extend time to respond to the National

Mining Association et al.'s motion for additional affirmative relief; and environmental groups' motion for leave to file their response in opposition to National Mining Association et al.'s motion for consolidation and cross-motion for alternative relief, it is ORDERED that the motions be granted. [1268687-2] , [1267766-2] and [1265228-2] ; The Clerk is directed to file [1268692-4], and [1265232-4] [10-1131, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]--[Edited 11/12/2010 by TAG] (Glover, Tara)

* * * *

11/16/2010 PER CURIAM ORDER filed [1277729] PER CURIAM ORDER filed [1277634] granting in part and denying in part motion for coordination of related cases: granting request to designate cases complex; denying request to assign cases to single panel for all purposes;[granting motions to consolidate No. 10-1073 et al. with 10-

1131 et al.; denying motion to consolidate 09-1018 et al. with 10-1073 et al.; granting motion to hold cases 10-1115 and 10-1215 in abeyance and to sever claim in No. 10-1025 and hold in abeyance; relevant claim in 10-1205 involving timing issues severed and assigned separate docket number, No. 10-1388; Nos. 10-1115, 10-1215 and 10-1388 consolidated with 09-1018 et al. and held in abeyance pending further order of the court and deferring consideration of motion for phased briefing by Alliance of Automobile Manufacturers. Before: Judges Henderson, Garland and Brown [09-1018, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1115, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1215, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1388] (Note: this order was filed in Nos. 09-1322 et al. and 10-1092 et al.) (Lister, Mary)

* * * *

12/10/2010 CLERK'S ORDER filed [1282546] directing party to file briefing format - Proposed formats due 01/03/2011

	[10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]
12/10/2010	PER CURIAM ORDER filed [SEE ORDER FOR FURTHER DETAILS] [1282567] granting motion for leave to file response [1274462-2] in 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129, granting motion for leave to file response [1274466-2] in 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200, 10-1203, 10-1201, 10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1205, 10-1222, 10-1208, 10-1206, 10-1209, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221, granting motion for leave to file surreply [1278137-2] in 10-1073, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129, 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200, 10-1203, 10-1201,

10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1205, 10-1222, 10-1208, 10-1206, 10-1209, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221; granting motion to file declarations under seal, The Clerk is directed to file response [1274459-2] in 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129, The Clerk is directed to file response [1274465-2] in 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200, 10-1203, 10-1201, 10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1205, 10-1222, 10-1208, 10-1206, 10-1209, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221; The Clerk is directed to file sur-reply [1278137-2]; denying motion to stay case [1266048-2] in 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129, denying motion to stay case [1266064-2] in 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200,

10-1203, 10-1201, 10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1205, 10-1222, 10-1208, 10-1206, 10-1209, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221, denying motion to stay case [1266093-2] in 10-1128; denying

motion for other relief [1266086-2] in 10-1131, 10-1222, denying motion for other
relief [1266109-2], denying motion for other relief [1266110-2]. FURTHER ORDERED that these cases be scheduled for oral argument on the same day before the same panel. Before Judges: Ginsburg, Tatel and Brown. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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01/03/2011 CLERK'S ORDER filed [1285782] granting motion to extend time [1284989-2]; directing response to briefing format Response to Order now due 01/10/2011 [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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03/21/2011 CLERK'S ORDER filed [1299221] granting motion for leave to intervene. [1259019-2]. [10-1109]

03/21/2011 PER CURIAM ORDER filed [SEE ORDER FOR FURTHER DETAILS] [1299257] setting briefing schedule: PETITIONER Brief for Center for Biological Diversity (not to exceed 5,000 words) , the remaining PETITIONERS Briefs and INTERVENORS for PETITIONERS Brief due 06/20/2011 (no more than two briefs , not to exceed a combined total of 28,000 words). AMICUS for PETITIONERS Briefs (not to exceed a combined total of 7,000 words) due 06/27/2011. RESPONDENT Brief (not to exceed 33,000 words) due on 09/16/2011. AMICUS for RESPONDENT Brief(s) (if any at time of briefing - not to exceed a combined total of 7,000 words) due 09/23/2011. JOINT INTERVENORS for RESPONDENT in Response to PETITIONER Center for Biological Diversity Brief (not to exceed 3,125 words) due 10/17/2011. The remaining JOINT INTERVENORS for RESPONDENT brief (not to exceed 14,000 words) due 10/17/2011. PETITIONER Reply Brief for Center for Biological Diversity (not to exceed 2,500 words) due 11/16/2011, the remaining PETITIONERS Reply briefs and INTERVENOR for PETITIONERS Reply Briefs (no more than two briefs, not to exceed a combined total of 14,000 words) due 11/16/2011. Appendix due 11/30/2011. PETITIONER Final Brief due 12/14/2011. INTERVENORS for PETITIONER Final Brief due 12/14/2011. AMICUS for PETITIONER Final Brief due 12/14/2011. AMICUS for RESPONDENT Final Brief (if any) due 12/14/2011. RESPONDENT Final Brief due on 12/14/2011. JOINT INTERVENORS for RESPONDENT Final Brief due 12/14/2011. PETITIONERS Final Reply Brief due 12/14/2011. INTERVENORS for PETITIONERS Final Reply Brief due 12/14/2011. Before Judges: Henderson, Garland and Kavanaugh. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1209, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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05/27/2011 CLERK'S ORDER filed [1310363] considering motion to hold case in abeyance [1307898-2] in 10-1209, ORDERED No. 10-1209 is severed from No. 10-1073, et al. [10-1209 (Consolidation termed 05/27/2011) with 10-1073], holding case in abeyance . Case 10-1209 held in abeyance pending decision in 10-1073 from this court. Motions to govern future proceedings due 30 days of court's disposition of case; directing response to in 10-1209 participating as amicus curiae.. Any intervenors or amici in No. 10-1073, et al. who wish to participate in No. 10-1209 are directed to notify the court in writing within 30 days of the date of this order. Response to Order due 06/27/2011 [10-1209, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1205, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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06/16/2011 PER CURIAM ORDER filed [1313483] denying motion to hold case 10-1205 in abeyance [1304222-2]; Petitioner Center for Biological Diversity has failed to adequately explain why it delayed so long in filing its motion. And in any event, its petition is sufficiently related to the challenges of other petitioners that it would not serve the interests of judicial economy or fairness to hold it in abeyance. Before Judges: Tatel, Garland and Brown. [10-1073, 10-1205]

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06/20/2011 CLERK'S ORDER filed [1314059] granting motion to dismiss case voluntarily [1313541-2] in 10-1205 [10-1205 (Consolidation termed 06/20/2011) with 10-1073], issuing mandate [10-1205, 10-1073]

06/20/2011 *JOINT* PETITIONER BRIEF [1314199] filed by Louisiana Department of Environmental Quality in 10-1073, 10-1109, Greg Abbott, Haley Barbour, Commonwealth of Virginia, Rick Perry, State of Alabama, State of Nebraska, State of North Dakota, State of South Carolina, State of South Dakota, State of Texas, Texas Agriculture Commission, Texas Commission on Environmental Quality, Texas General Land Office, Texas Public Utilities Commission and Texas Railroad Commission in 10-1128, Haley Barbour, State of Alabama, State of Nebraska, State of

North Dakota, State of South Carolina and State of South Dakota in 10-1211, Greg Abbott, Rick Perry, State of Texas, Texas Commission on Environmental Quality, Texas Department of Agriculture, Texas General Land Office, Texas Public Utilities Commission and Texas Railroad Commission in 10-1222, 10-1221 [Service Date: 06/20/2011] Length of Brief: 12,724 words. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110,
10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Mitchell, Jonathan)

06/20/2011 *JOINT* PETITIONER BRIEF [1314204] filed by American Frozen Food Institute, American Petroleum Institute, Corn Refiners Association, Glass Association of North America, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National

Petrochemical & Refiners Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association, Wisconsin Manufacturers & Commerce and Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1073, Michele Bachmann, Marsha Blackburn, Kevin Brady, Paul Broun, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Nathan Deal, Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1083, Clean Air Implementation Project in 10-1099, American Iron and Steel Institute in 10-1109, Gerdau Ameristeel US Inc. in 10-1110, National Mining Association in 10-1120, Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation in 10-1114, Ohio Coal Association in 10-1126, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Packaging Institute, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Federation of Independent Business, National Oilseed Processors Association, National Petrochemical & Refiners Association, North American Die Casting Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association and Wisconsin Manufacturers and Commerce in 10-1127, Chamber of Commerce of the United States of America in 10-1123, Missouri Joint Municipal Electric Utility Commission in 10-1124, Peabody Energy Company in 10-1118, American Farm Bureau Federation in 10-1119, National Environmental Development Association's Clean Air Project in 10-1125, Utility Air Regulatory Group in 10-1122, Portland Cement Association in 10-1129, American Frozen Food Institute, American Petroleum Institute, Corn Refiners Association, Glass Association of North America, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association, Wisconsin Manufacturers & Commerce and Michele Bachmann, Marsha Blackburn, Kevin Brady, Paul Broun, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford

Company, Langdale Forest Products Company, Langdale Fuel Company, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1131, Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1132, 10-1147, 10-1148, The Ohio Coal Association in 10-1145. 10-1199, 10-1202, American Frozen Food Institute, American Petroleum Institute, Corn Refiners Association, Glass Association of North America, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association, Wisconsin Manufacturers & Commerce and Georgia Coalition for

Sound Environmental Policy, Inc. in 10-1200, 10-1203, 10-1201, 10-1213, 10-1212, 10-1216, South Carolina Public Service Authority in 10-1207, Landmark Legal Foundation and Mark R. Levin in 10-1208, 10-1206, National Federation of Independent Business in 10-1219, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Association of North America, Glass Packaging Institute, Independent Petroleum Association of America, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association and Wisconsin Manufacturers & Commerce in 10-1218, 10-1220, 10-1210 [Service Date: 06/20/2011] Length of Brief: 13,949 words. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220] (Wood, Allison)

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06/27/2011	AMICUS FOR PETITIONER BRIEF [1315466] filed by American Chemistry Council and Commonwealth of Kentucky in 10-1073, Commonwealth of Kentucky and American Chemistry Council in 10-1083, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129, 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200, 10-1203, 10-1201, 10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1222, 10-1208, 10-1206, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221 [Service Date: 06/27/2011] Length of Brief: 5,955 words. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Boxerman, Samuel)
06/27/2011	AMICUS FOR PETITIONER BRIEF [1315640] LODGED by Municipal Gas

Commission of Missouri in 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129, 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200, 10-1203, 10-1201, 10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1222, 10-1208, 10-1206, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221 [Service Date: 06/27/2011] Length of Brief: Pages: 10; Word Count: 2,176. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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08/01/2011 PER CURIAM ORDER filed [1321825] granting motion to participate as amicus curiae [1315465-2]; The Clerk is

directed to file Amicus brief [1315640-2] Before Judges: Garland, Brown and Kavanaugh. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126,

	10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]
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08/05/2011	CLERK'S ORDER filed [1322806] granting motion to terminate party in case [1318725-2] Commonwealth of Pennsylvania, Department of Environmental Protection in 10-1073 and Commonwealth of Pennsylvania, Department of Environmental Protection in 10-1131 [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]
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09/16/2011	RESPONDENT BRIEF [1330078] filed by EPA in 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, EPA and Lisa Perez Jackson in 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128,

10-1129, 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200, 10-1203, 10-1201, 10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1222, 10-1208, 10-1206, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221 [Service Date: 09/16/2011] Length of Brief: 32,960. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Rosen, Perry)

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10/18/2011 *CORRECTED* INTERVENOR FOR RESPONDENT BRIEF [1336322] filed by Center for Biological Diversity, Commonwealth of Massachusetts, Conservation Law Foundation, Georgia ForestWatch, South Coast Air Quality Management District, State of California, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of New Hampshire, State of New Mexico, State of New York, State of North Carolina, State of Oregon, State of Rhode Island, Wild Virginia and Environmental Defense Fund, Natural Resources Defense

Council and Sierra Club in 10-1131, Environmental Defense Fund, Indiana Wildlife Federation, Michigan Environmental Council, Natural Resources Defense Council, Ohio Environmental Council and Sierra Club in 10-1073 [Service Date: 10/18/2011] Length of Brief: 13,981 words. [10-1131, 10-1073] (Myers, Michael)

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10/25/2011 REPLY FILED [1337453] by American Frozen Food Institute, American Petroleum Institute, Corn Refiners Association, Glass Association of North America, Independent Petroleum Association of America, Indiana Cast Metals Association, Louisiana Department of Environmental Quality, Michigan Manfacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association, Wisconsin Manufacturers & Commerce and Alpha Natural Resources, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1073, Michele Bachmann, Marsha Blackburn, Kevin Brady, Paul Broun, Collins Industries, Inc., Collins Trucking Company, Inc., Nathan Deal, Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langboard, Inc. - MDF, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1083, Louisiana Department of Environmental Quality and American Iron and Steel Institute in 10-1109, Gerdau Ameristeel US Inc. in 10-1110, National Mining Association in 10-1120, Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation in 10-1114, Ohio Coal Association in 10-1126, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Packaging Institute, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Federation of Independent Business, National Oilseed Processors Association, National Petrochemical & Refiners Association, North American Die Casting Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association and Wisconsin Manufacturers and Commerce in 10-1127, Chamber of Commerce of the United States of America in 10-1123, Missouri Joint Municipal Electric Utility Commission in 10-1124, Peabody Energy Company in 10-1118, American Farm Bureau Federation in 10-1119, Portland Cement Association in 10-1129, American Frozen Food Institute, American Petroleum Institute, Corn Refiners Association, Glass Association of North America, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Tennessee Chamber of Commerce and

Industry, West Virginia Manufacturers Association, Western States Petroleum Association, Wisconsin Manufacturers & Commerce and Michele Bachmann, Marsha Blackburn, Kevin Brady, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langboard, Inc. - MDF, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Forest Products Company, Langdale Fuel Company, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., The Langdale Company and Lynn Westmoreland in 10-1131, Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1132, 10-1148, The Ohio Coal Association in 10-1145, 10-1199, 10-1202, American Frozen Food Institute, American Petroleum Institute, Corn Refiners Association, Glass Association of North America, Independent Petroleum Association of

America, Indiana Cast Metals Association, Michigan Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association, Wisconsin Manufacturers & Commerce and Georgia Coalition for Sound Environmental Policy, Inc. in 10-1200, 10-1203, 10-1201, 10-1213, 10-1206, National Federation of Independent Business in 10-1219, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Glass Association of North America, Glass Packaging Institute, Independent Petroleum Association of America, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association and Wisconsin Manufacturers & Commerce in 10-1218, 10-1220 to response [1335619-2], [1335615-2], [1335507-2] [Service Date: 10/24/2011

	by CM/ECF NDA] Pages: 1-10. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Burgess, William)
u11/02/2011	CLERK'S ORDER filed [1339568] scheduling oral argument before Judges SENTELLE, ROGERS, TATEL Tuesday, 02/28/2012 AM. The court anticipates that argument will be schedule over two days [Nos. 09-1322, 10-1073, 10-1092, 10-1167]. Counsel will be notified of the argument format and allotted times at a later date. All counsel in each of these cases, therefore, should plan to be available for argument on both February 28 and February 29, 2012. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

11/09/2011 PER CURIAM ORDER filed [1340874] denying motion to exceed word limits [1336677-2] Before Judges: Sentelle, Rogers and Tatel. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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11/30/2011 *JOINT* APPENDIX [1344676] filed [Volumes: 4] [Service Date: 11/30/2011] [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Wood, Allison)

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01/13/2012 PER CURIAM ORDER filed [1352687] denying motion for judicial notice [1332846-2] Before Judges: Sentelle, Rogers and Tatel. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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02/08/2012 PER CURIAM ORDER filed [1357330] allocating oral argument time as follows: Tuesday, February 28, 9:30 A.M.; I. No. 09-1322 (and consolidated cases), Endangerment Finding – 1 hour, 30 minutes total. (Petitioners and Supporting Intervenors -- 45 minutes; Respondents and Supporting Intervenors-- 45 minutes); II. No. 10-1092 (and consolidated cases), Tailpipe Rule – 40 minutes total (Petitioners and Supporting Intervenors -- 20 minutes; Respondents and Supporting Intervenors – 20 minutes). Wednesday, February 29, 9:30 A.M.; III. No. 10-1167 (and consolidated cases), Historic Regulations; No. 10-1073 (and consolidated cases), Timing and Tailoring Rules – 2 hours, 30 minutes total (Petitioners and Supporting Intervenors – 75 minutes; Respondents and Supporting Intervenors-- 75 minutes). The panel will hear consolidated argument for Case Nos. 10-1167 and 10-1073. The parties are instructed to address the jurisdictional issues specific to each case first (i.e., the timeliness of the challenge to the historic regulations and standing to challenge the Timing and Tailoring Rules). In each case, parties may divide argument time among counsel for Petitioners/ Respondents and supporting Intervenors as they see fit. Form 72, which may be accessed through the link on this order, must be completed and returned to the Clerk's office by February 17, 2012. directing party to file Form 72 notice of arguing attorney - due 02/17/2012 Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1182, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]--[Edited 02/08/2012 by MCM]

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02/29/2012 ORAL ARGUMENT HELD before Judges Sentelle, Rogers and Tatel. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

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06/26/2012 PER CURIAM JUDGMENT filed [1380688] that the Timing and Tailoring petitions for review are dismissed, and the remainder of the petitions be denied for the reasons in the accompanying opinion . Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

06/26/2012 OPINION filed [1380690] PER CURIAM (Pages: 82) [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219,

	10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
06/26/2012	PER CURIAM ORDER filed [1380692] dismissing as moot motion to strike document [1340588-2] in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1320, 10-1319, 10-1321 Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220,

10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

06/26/2012 CLERK'S ORDER filed [1380694] withholding issuance of the mandate. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245,

10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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08/10/2012 PETITION filed [1388641] by Petitioners American Frozen Food Institute, American Fuel & Petrochemical Manufacturers, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Packaging Institute, Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Federation of Independent Business, National Oilseed Processors Association, North American Die Casting Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association and Wisconsin Manufacturers and Commerce in 10-1127, Petitioner Portland Cement Association in 10-1129, Petitioners American Frozen Food Institute, American Fuel & Petrochemical Manufacturers, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Association of North America,

	Glass Packaging Institute, Independent Petroleum Association of America, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association and Wisconsin Manufacturers & Commerce in 10-1218, 10-1220 for rehearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA, US Mail] Pages: 11-15. [10-1127, 10-1129, 10-1218, 10-1220] (Keisler, Peter)
08/10/2012	PETITION filed [1388716] by Intervenor for Respondent Peabody Energy Company for rehearing, for hearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA] Pages: 1-10. [10-1073] -[Edited 09/07/2012 by TAG] (Glaser, Peter)
08/10/2012	INCORRECT DOCKET ENTRY-DISREGARD-PETITION filed [1388719] by Intervenor for Respondent Peabody Energy Company for rehearing, for hearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA] Pages: 1-10. [10-1131]--[Edited 08/13/2012 by LMC] (Glaser, Peter)
08/10/2012	PETITION filed [1388733] by Intervenor for Petitioner Louisiana

Department of Environmental Quality in 10-1073, 10-1109, Petitioners Greg Abbott, Commonwealth of Virginia, Rick Perry, State of Alabama, State of Nebraska, State of North Dakota, State of South Carolina, State of South Dakota, State of Texas, Texas Agriculture Commission, Texas Commission on Environmental Quality, Texas General Land Office, Texas Public Utilities Commission and Texas Railroad Commission in 10-1128, Petitioners State of Alabama, State of Nebraska, State of North Dakota, State of South Carolina and State of South Dakota in 10-1211, Petitioners Greg Abbott, Rick Perry, State of Texas, Texas Commission on Environmental Quality, Texas Department of Agriculture, Texas General Land Office, Texas Public Utilities Commission and Texas Railroad Commission in 10-1222, Petitioner Louisiana Department of Environmental Quality in 10-1221 for rehearing en banc. [Service Date: 08/10/2012 by 3rd Party, CM/ECF NDA] Pages: 1-10. [10-1073, 10-1109, 10-1128, 10-1211, 10-1221, 10-1222] (Murphy, Michael)

08/10/2012 PETITION filed [1388743] by Petitioner Chamber of Commerce of the United States of America in 10-1123, 10-1199 for rehearing, for rehearing en banc. [Service Date:

08/10/2012 by CM/ECF NDA, US Mail] Pages: 11-15. [10-1123, 10-1199] (Burgess, William)

* * * *

08/20/2012 PER CURIAM ORDER filed [1390247] Upon consideration of the motion of movant-intervenors Environmental Defense Fund, Indiana Wildlife Federation, Michigan Environmental Council, Ohio Environmental Council, Natural Resources Defense Council, and Sierra Club for clarification, it is ORDERED that the motion for clarification be granted. It is FURTHER ORDERED that movant-intervenors' motions for leave to intervene in case Nos. 10-1073 and 10-1131 be granted. The Clerk is directed to note the docket accordingly. [1387134-2]; [1243015-2] [1253229-2] Before Judges: Sentelle, Rogers and Tatel. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

09/06/2012 CLERK'S ORDER filed [1393022] Upon consideration of the petition of the Chamber of Commerce for rehearing en banc and the petition of the Non-State Petitioners for rehearing en banc, it is ORDERED that, within 15 days from the date of this order, respondent EPA file a combined response to the above-referenced en banc petitions, and intervenors for respondent file a combined response to the above-referenced en banc petitions. Each response may not exceed 20 pages. Absent further order of the court, no replies to the responses will be accepted. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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10/12/2012 RESPONSE FILED [1399220] by EPA in 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1120, 10-1114, 10-1126, 10-1127, EPA and Lisa Perez Jackson in 10-1123, 10-1124, 10-1118, 10-1119, 10-1125, 10-1122, 10-1128, 10-1129, 10-1131, 10-1132, 10-1147, 10-1148, 10-1145, 10-1199, 10-1202, 10-1200, 10-1203, 10-1201, 10-1211, 10-1213, 10-1212, 10-1216, 10-1207, 10-1222, 10-1208, 10-1206, 10-1219, 10-1218, 10-1220, 10-1210, 10-1221 to petition for rehearing [1388743-2], petition for rehearing en banc [1388743-3], petition for rehearing en banc [1388641-2] [Service Date: 10/12/2012 by CM/ECF NDA] Pages: 16-20. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Rosen, Perry)

10/12/2012 RESPONSE FILED [1399466] by Center for Biological Diversity, Commonwealth of Massachusetts, Conservation Law Foundation, Environmental Defense Fund, Georgia ForestWatch, Indiana Wildlife Federation, Michigan Environmental Council, Natural Resources Council of Maine, Natural Resources Defense Council, Ohio Environmental Council, Sierra Club, State of California, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of New Hampshire, State of New Mexico, State of New York, State of North Carolina, State of Oregon, State of Rhode Island and Wild Virginia in 10-1073 to petition for rehearing [1388743-2], petition for rehearing en banc [1388743-3], petition for rehearing en banc [1388641-2] [Service Date: 10/12/2012 by CM/ECF NDA] Pages: 21-30. [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222] (Donahue, Sean)

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12/20/2012	PER CURIAM ORDER (in slip opinion format), En Banc, filed [1411145]

denying petitions for rehearing en banc. Before Judges: Sentelle*, Henderson, Rogers*, Tatel*, Garland, Brown*, Griffith and Kavanaugh*. (Circuit Judges Brown and Kavanaugh would grant the petitions for rehearing en banc) (A statement by Chief Judge Sentelle and Circuit Judges Rogers and Tatel, concurring in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Brown, dissenting in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Kavanaugh, dissenting from the denials of rehearing en banc, is attached). [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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12/20/2012 PER CURIAM ORDER, En Banc, filed [1411148] denying petition for rehearing en banc [1388587-2] in 10-1310. Before Judges: Sentelle, Henderson, Rogers, Tatel, Garland, Brown, Griffith and Kavanaugh. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245,

10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

12/20/2012 PER CURIAM ORDER filed [1411151] denying petitions for rehearing. Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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01/02/2013 MANDATE ISSUED to Environmental Protection Agency [10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222]

* * * *

DISTRICT OF COLUMBIA CIRCUIT COURT

Nos. 10-1092 et al.

COALITION FOR RESPONSIBLE REGULATION, INC.

v.

EPA

RELEVANT DOCKET ENTRIES

05/07/2010	PETITION FOR REVIEW CASE docketed. [10-1092]
05/10/2010	PETITION FOR REVIEW filed [1243830] by Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company of a decision by federal agency [Service Date: 05/07/2010] Disclosure Statement: Attached; Certificate of Parties: Not Applicable to this Filing [10-1092]
05/12/2010	CLERK'S ORDER filed [1244232] directing party to file initial submissions: PETITIONER docketing statement due 06/11/2010. PETITIONER certificate as to parties,

etc. due 06/11/2010. PETITIONER statement of issues due 06/11/2010. PETITIONER underlying decision due 06/11/2010. PETITIONER deferred appendix statement due 06/11/2010. PETITIONER procedural motions due 06/11/2010. PETITIONER dispositive motions due 06/28/2010; directing party to file initial submissions: RESPONDENT entry of appearance due 06/11/2010. RESPONDENT procedural motions due 06/11/2010. RESPONDENT certified index to record due 06/28/2010. RESPONDENT dispositive motions due 06/28/2010 [10-1092]

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07/16/2010 CLERK'S ORDER filed [1255813] granting IPI motion to participate as amicus curiae [1253207-2] [10-1092]

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08/05/2010 CLERK'S ORDER filed [1259234] granting motion for leave to intervene. [1248543-2], granting motion for leave to intervene. [1248522-2], granting motion for leave to intervene. [1248485-2], granting motion for leave to intervene. [1248479-2] [10-1092]

08/05/2010 CLERK'S ORDER filed [1259243] granting motion to consolidate [1257118-2] [1257123-2] [1257116-2] and extend initial deadlines [1257118-4] [1257123-4] [1257116-4], and that

Nos. 10-1092, 10-1094, et al., and 10-1134, be consolidated under lead docket No. 10-1092. The following deadlines will now apply: Initial submissions not yet filed due August 20, 2010, Procedural motions for all parties due September 10, 2010, and Certified index to the record, and dispositive motions for all parties due September 24, 2010. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182]

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09/28/2010 CLERK'S ORDER filed [1268619] granting motion to participate as amicus curiae [1264447-2] [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182]

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11/16/2010 PER CURIAM ORDER filed [1277651] granting in part and denying in part motion for coordination of related cases: granting request to designate cases complex; denying request to assign cases to single panel for all purposes; deferring consideration of the motion for phased briefing by Alliance of Automobile Manufacturers

pending further order of the court; [granting motions to consolidate No. 10-1073 et al. with 10-1131 et al.; dening motion to consolidate 09-1018 et al. with 10-1073 et al.; granting motion to hold cases 10-1115 and 10-1215 in abeyance and to sever claim in No. 10-1025 and hold in abeyance; relevant claim in 10-1205 involving timing issues severed and assigned separate docket number, No. 10-1388; Nos. 10-1115, 10-1215 and 10-1388 consolidated with 09-1018 et al. and held in abeyance pending further order of the court].Before Judges: Henderson, Garland and Brown.
[10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182] (Note: order also entered in Nos. 09-1322 et al., 09-1018 et al., 10-1073 et al. and 10-1131 et al.) (Lister, Mary)

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12/10/2010 CLERK'S ORDER filed [1282555] directing party to file briefing format - Proposed formats due 01/03/2011 [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182]

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02/17/2011 CLERK'S ORDER filed [1293763] granting motion of Honeywell International to participate as amicus curiae [1289171-2] in 10-1092 [10-1092, 10-1094, 10-1134, 10-1143, 10-1144,
10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182]

03/22/2011 CLERK'S ORDER filed [1299408] granting motions for leave to intervene. [1259201-2] [1259154-2] in 10-1094 and 10-1143 [10-1092, 10-1094, 10-1143]

03/22/2011 PER CURIAM ORDER filed [1299440] considering proposed briefing formats [1266085-2], [1265752-2], [1265199-2] Setting briefing schedule: PETITIONERS Brief due 06/03/2011. INTERVENORS for PETITIONER Brief due 06/03/2011. AMICI for PETITIONER Brief due 06/10/2011. RESPONDENT Brief due on 09/01/2011. INTERVENORS for RESPONDENT Brief due 09/30/2011. AMICI for RESPONDENT Brief due 09/08/2011. PETITIONERS Reply Brief due 10/31/2011. INTERVENORS for PETITIONER Reply Brief due 10/31/2011. Appendix due 11/14/2011. PETITIONERS Final Brief due 11/28/2011. INTERVENORS for PETITIONER Final Brief due

11/28/2011. AMICI for PETITIONER Final Brief due 11/28/2011. RESPONDENT Final Brief due on 11/28/2011. INTERVENORS for RESPONDENT Final Brief due 11/28/2011. AMICI for RESPONDENT Final Brief due 11/28/2011. PETITIONERS Final Reply Brief due 11/28/2011. INTERVENORS for PETITIONER Final Reply Brief due 11/28/2011 [SEE ORDER FOR DETAILS REGARDING WORD COUNT]. Before Judges: Henderson, Garland and Kavanaugh. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182]

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04/13/2011 CLERK'S ORDER filed [1303169] granting motion to withdraw party [1259150-2], terminating party Collins Ready-Mix Concrete, Inc. and Langdale Timber Company in 10-1094 [10-1094]--[Edited 04/29/2011 by TAG]

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05/27/2011 CLERK'S ORDER filed [1310387] granting motion to hold case in abeyance [1307858-2] in 10-1172 . Case 10-1172 held in abeyance pending further order of the court; granting motion to sever case [1307858-3] in 10-1172; directing respondent to file abeyance status report in 10-1172 within 90 days and every 90 days thereafter; abeyance status report due by 08/25/2011. The parties are directed to file motions to govern future proceedings within 30 days of the court's decision in 10-1092, et al., or the completion of the EPA's proceedings on the National Alliance of Forest Owners' petition for reconsideration, whichever comes first. Any intervenors in 10-1092, et al. who wish to participate in 10-1172 are directed to notify the court within 30 days; Response to Order due 06/27/2011; Any amici in 10-1092, et al. who wish to participate in 10-1172 are directed to notify the court in writing in 30 days of the date of this order; Response to Order due 06/27/2011 [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1172, 10-1182]

06/03/2011 PETITIONER BRIEF [1311525] filed by State of Georgia in 10-1092, 10-1094, Greg Abbott, Haley Barbour, Commonwealth of Virginia, Rick Perry, State of Alabama, State of Nebraska, State of North Dakota, State of South Carolina, State of South Dakota, State of Texas, Texas Agriculture Commission, Texas Commission on Environmental Quality, Texas General Land Office, Texas Public Utilities

Commission and Texas Railroad Commission in 10-1182 [Service Date: 06/03/2011] Length of Brief: 3501 words. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Murphy, Michael)

06/03/2011 *JOINT* PETITIONER BRIEF [1311526] filed by Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Fuel Company and Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1092, Michele Bachmann, Kevin Brady, Paul Broun, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Nathan Deal, Georgia Agribusiness Council, Inc., Georgia Motor Trucking Association, Inc., Phil Gingrey, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langdale Forest Products Company, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale

Company and Lynn Westmoreland in 10-1094, American Iron and Steel Institute in 10-1134, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Fuel Company and Competitive Enterprise Institute, Freedomworks and Science and Environmental Policy Project in 10-1143, Ohio Coal Association in 10-1144, Landmark Legal Foundation and Mark Reed Levin in 10-1152, National Mining Association in 10-1162, Gerdau Ameristeel US Inc. in 10-1156, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Packaging Institute, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Federation of Independent Business, National Oilseed Processors Association, National Petrochemical & Refiners Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association and Wisconsin Manufacturers and Commerce in 10-1166, Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation in 10-1158, Portland

	Cement Association in 10-1159, Chamber of Commerce of the United States of America in 10-1160, Utility Air Regulatory Group in 10-1161, Peabody Energy Company in 10-1163, American Farm Bureau Federation in 10-1164 [Service Date: 06/03/2011] Length of Brief: 9,149 words. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Parrish, Ashley)
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08/05/2011	CLERK'S ORDER filed [1322815] granting motion to terminate party in case [1318712-2] Commonwealth of Pennsylvania, Department of Environmental Protection in 10-1092 [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182]
09/01/2011	RESPONDENT BRIEF [1327379] filed by EPA in 10-1092, EPA and NHTSA in 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1162, 10-1156, 10-1182, 10-1166, 10-1158, 10-1159, EPA and Lisa Perez Jackson in 10-1160, 10-1161, 10-1163, 10-1164 [Service Date: 09/01/2011] Length of Brief: 13,870. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161,

10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Hostetler, Eric)

09/08/2011 AMICUS FOR RESPONDENT BRIEF [1328425] filed by Institute for Policy Integrity at New York University School of Law in 10-1092, 10-1094, 10-1134, 10-1143, 10-1144 [Service Date: 09/08/2011] Length of Brief: 3322 words. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Rosenberg, Jennifer)

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09/30/2011 INTERVENOR FOR RESPONDENT BRIEF [1332738] filed by Alliance of Automobile Manufacturers and Global Automakers in 10-1092, Alliance of Automobile Manufacturers in 10-1094 [Service Date: 09/30/2011] Length of Brief: 4,259. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Ludwiszewski, Raymond)

09/30/2011 INTERVENOR FOR RESPONDENT BRIEF [1332818] filed by City of New York, Commonwealth of Massachusetts, Environmental Defense Fund, Natural Resources Defense Council, Sierra Club, State of

California, State of Delaware, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of New Mexico, State of New York, State of Oregon, State of Rhode Island, State of Vermont and State of Washington in 10-1092, Environmental Defense Fund, Natural Resources Defense Council and Sierra Club in 10-1094 [Service Date: 09/30/2011] Length of Brief: 4341 words. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Donahue, Sean)

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10/31/2011 PETITIONER REPLY BRIEF [1339067] filed by Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Fuel Company and Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association - North America, National Cattlemen's Beef Association and Rosebud Mining Company in 10-1092, Michele Bachmann, Kevin Brady, Paul Broun, Dan Burton, Collins Industries, Inc., Collins Trucking Company, Inc., Nathan Deal, Georgia Agribusiness Council, Inc., Georgia Motor Trucking

Association, Inc., Phil Gingrey, J&M Tank Lines, Inc., Kennesaw Transportation, Inc., Steve King, Jack Kingston, Langdale Forest Products Company, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Southeast Trailer Mart, Inc., Southeastern Legal Foundation, Inc., The Langdale Company and Lynn Westmoreland in 10-1094, American Iron and Steel Institute in 10-1134, Langboard, Inc. - MDF, Langboard, Inc. - OSB, Langdale Chevrolet-Pontiac, Inc., Langdale Farms, LLC, Langdale Ford Company, Langdale Fuel Company and Competitive Enterprise Institute, Freedomworks and Science and Environmental Policy Project in 10-1143, Ohio Coal Association in 10-1144, Landmark Legal Foundation and Mark Reed Levin in 10-1152, National Mining Association in 10-1162, Gerdau Ameristeel US Inc. in 10-1156, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Packaging Institute, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Federation of Independent Business, National Oilseed Processors Association, National Petrochemical & Refiners Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association and Wisconsin Manufacturers and Commerce in 10-1166, Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation in 10-1158, Portland Cement Association in 10-1159, Chamber of Commerce of the United States of America in 10-1160, Utility Air Regulatory Group in 10-1161, Peabody Energy Company in 10-1163, American Farm Bureau Federation in 10-1164 [Service Date: 10/31/2011] Length of Brief: 5,127 words. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Parrish, Ashley)

10/31/2011 PETITIONER REPLY BRIEF [1339070] filed by Greg Abbott, Haley Barbour, Commonwealth of Virginia, Rick Perry, State of Alabama, State of Nebraska, State of North Dakota, State of South Carolina, State of South Dakota, State of Texas, Texas Agriculture Commission, Texas Commission on Environmental Quality, Texas General Land Office, Texas Public Utilities Commission and Texas Railroad Commission in 10-1182, State of Georgia in 10-1092, 10-1094 [Service

Date: 10/31/2011] Length of Brief: 1741 words. [10-1182, 10-1092, 10-1094] (Murphy, Michael)

11/02/2011 CLERK'S ORDER filed [1339573] scheduling oral argument before Judges SENTELLE, ROGERS, TATEL Wednesday, 02/29/2012 AM. The court anticipates that argument will be schedule over two days [Nos. 09-1322, 10-1073, 10-1092, 10-1167]. Counsel will be notified of the argument format and allotted times at a later date. All counsel in each of these cases, therefore, should plan to be available for argument on both February 28 and February 29, 2012.[10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182]

11/14/2011 *JOINT* APPENDIX [1341743] filed [Volumes: 5] [Service Date: 11/14/2011] [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Parrish, Ashley)

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01/13/2013 PER CURIAM ORDER filed [1352689] denying motion for judicial notice [1332848-2] Before Judges: Sentelle, Rogers and Tatel. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182]

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02/08/2012 PER CURIAM ORDER filed [1357330] allocating oral argument time as follows: Tuesday, February 28, 9:30 A.M.; I. No. 09-1322 (and consolidated cases), Endangerment Finding – 1 hour, 30 minutes total. (Petitioners and Supporting Intervenors – 45 minutes; Respondents and Supporting Intervenors– 45 minutes); II. No. 10-1092 (and consolidated cases), Tailpipe Rule – 40 minutes total (Petitioners and Supporting Intervenors – 20 minutes; Respondents and Supporting Intervenors – 20 minutes). Wednesday, February 29, 9:30 A.M.; III. No. 10-1167 (and consolidated cases), Historic Regulations; No. 10-1073 (and consolidated cases), Timing and Tailoring Rules – 2 hours, 30 minutes total (Petitioners and Supporting Intervenors -- 75 minutes; Respondents and Supporting Intervenors-- 75 minutes). The panel will hear consolidated argument for Case Nos. 10-1167 and 10-1073. The parties are instructed to address the jurisdictional issues specific to each case first (i.e., the timeliness of the challenge to the historic regulations and standing to challenge the Timing and Tailoring Rules). In each case, parties may divide argument time among counsel for Petitioners/ Respondents and supporting Intervenors as they see fit. Form 72, which may be accessed through the link on this order, must be completed and returned to the Clerk's office by February 17, 2012. directing party to file Form 72 notice of arguing attorney - due 02/17/2012 Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1182, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]--[Edited 02/08/2012 by MCM]

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02/29/2012 ORAL ARGUMENT HELD before Judges Sentelle, Rogers and Tatel. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182]

06/26/2012 PER CURIAM JUDGMENT filed [1380688] that the Timing and Tailoring petitions for review are dismissed, and the remainder of the petitions be denied for the reasons in the accompanying opinion . Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182,

	10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
06/26/2012	OPINION filed [1380690] PER CURIAM (Pages: 82) [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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06/26/2012	CLERK'S ORDER filed [1380694] withholding issuance of the mandate. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
08/10/2012	PETITION filed [1388724] by Petitioner Peabody Energy Company in 10-1163 for rehearing, for rehearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA] Pages: 1-10. [10-1094, 10-1163] (Glaser, Peter)
08/10/2012	PETITION filed [1388729] by Intervenor for Petitioner State of

Georgia in 10-1092, 10-1094, Petitioners Greg Abbott, Commonwealth of Virginia, Rick Perry, State of Alabama, State of Nebraska, State of North Dakota, State of South Carolina, State of South Dakota, State of Texas, Texas Agriculture Commission, Texas Commission on Environmental Quality, Texas General Land Office, Texas Public Utilities Commission and Texas Railroad Commission in 10-1182 for rehearing en banc. [Service Date: 08/10/2012 by 3rd Party, CM/ECF NDA] Pages: 1-10. [10-1092, 10-1094, 10-1182] (Murphy, Michael)

08/10/2012 PETITION filed [1388744] by Petitioner Chamber of Commerce of the United States of America in 10-1160 for rehearing, for rehearing en banc. [Service Date: 08/10/2012 by US Mail, CM/ECF NDA] Pages: 11-15. [10-1160] (Burgess, William)

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09/06/2012 CLERK'S ORDER filed [1393022] Upon consideration of the petition of the Chamber of Commerce for rehearing en banc and the petition of the Non-State Petitioners for rehearing en banc, it is ORDERED that, within 15 days from the date of this order, respondent EPA file a combined response to the above-referenced en banc petitions, and intervenors for respondent file a combined response to the above-referenced en banc petitions. Each response may not exceed 20 pages. Absent further order of the court, no replies to the responses will be accepted. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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10/12/2012 RESPONSE FILED [1399227] by EPA in 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1162, 10-1156, 10-1182, 10-1166, 10-1158, 10-1159,

	EPA and Lisa Perez Jackson in 10-1160, 10-1161, 10-1163, 10-1164 to [1388743-1] and [1388641-1] [Service Date: 10/12/2012 by CM/ECF NDA] Pages: 16-20. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182]--[Edited 10/12/2012 by TAG] (Hostetler, Eric)
10/12/2012	RESPONSE FILED [1399464] by Alliance of Automobile Manufacturers, City of New York, Commonwealth of Massachusetts, Environmental Defense Fund, Global Automakers, Natural Resources Defense Council, Sierra Club, State of California, State of Delaware, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of New Mexico, State of New York, State of Oregon, State of Rhode Island, State of Vermont and State of Washington in 10-1092 to petition for rehearing [1388744-2], petition for rehearing en banc [1388744-3] [Service Date: 10/12/2012 by CM/ECF NDA] Pages: 21-30. [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182] (Donahue, Sean)

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12/20/2012 PER CURIAM ORDER (in slip opinion format), En Banc, filed [1411145] denying petitions for rehearing en banc. Before Judges: Sentelle*, Henderson, Rogers*, Tatel*, Garland, Brown*, Griffith and Kavanaugh*. (Circuit Judges Brown and Kavanaugh would grant the petitions for rehearing en banc) (A statement by Chief Judge Sentelle and Circuit Judges Rogers and Tatel, concurring in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Brown, dissenting in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Kavanaugh, dissenting from the denials of rehearing en banc, is attached). [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

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12/20/2012 PER CURIAM ORDER, En Banc, filed [1411148] denying petition for rehearing en banc [1388587-2] in 10-1310. Before Judges: Sentelle, Henderson, Rogers, Tatel, Garland, Brown, Griffith and Kavanaugh. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180,

	10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
12/20/2012	PER CURIAM ORDER filed [1411151] denying petitions for rehearing. Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]
01/02/2013	MANDATE ISSUED to Environmental Protection Agency [10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160,

10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182]

* * * *

DISTRICT OF COLUMBIA
CIRCUIT COURT

No. 10-1167 et al. (D.C. Cir.)

AMERICAN CHEMISTRY COUNCIL

v.

EPA,

RELEVANT DOCKET ENTRIES

07/06/2010 PETITION FOR REVIEW CASE docketed. [10-1167] (Lister, Mary)

07/06/2010 PETITION FOR REVIEW filed [1254058] by American Chemistry Council of a decision by federal agency [Service Date: 07/06/2010] Disclosure Statement: Attached; Certificate of Parties: Not Applicable to this Filing [10-1167] (Lister, Mary)

* * * *

07/13/2010 CLERK'S ORDER filed [1254894] consolidating cases 10-1175, 10-1178 (Consolidation started 07/13/2010) with 10-1167; directing party to file in 10-1167 initial submissions: PETITIONER docketing statement due 08/12/2010. PETITIONER certificate as to parties, etc. due 08/12/2010. PETITIONER statement of issues due 08/12/2010. PETITIONER underlying decision due 08/12/2010. PETITIONER deferred appendix statement due 08/12/2010. PETITIONER procedural motions due 08/12/2010. PETITIONER dispositive motions due 08/27/2010; directing party to file in 10-1167 initial submissions: RESPONDENT entry of appearance due 08/12/2010. RESPONDENT procedural motions due 08/12/2010. RESPONDENT certified index to record due 08/27/2010. RESPONDENT dispositive motions due 08/27/2010; directing party to file in 10-1175, 10-1178 initial submissions: PETITIONER docketing statement due 08/12/2010. PETITIONER statement of issues due 08/12/2010 [10-1167, 10-1175, 10-1178]

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08/04/2010 CLERK'S ORDER filed [1258951] granting motion to consolidate [1256039-2] in 10-1167,10-1175, 10-1178, granting motion to consolidate [1256042-2] in 10-1168,10-1173, 10-1179, granting motion to consolidate [1256044-2] in 10-1170,10-1176, 10-1177, granting motion to consolidate [1256043-2] in 10-1174,10-1180, 10-1169 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180 (Consolidation started 08/04/2010) with

10-1167 [10-1167, 10-1168, 10-1170, 10-1173, 10-1174, 10-1180, 10-1176, 10-1175, 10-1177, 10-1169, 10-1178, 10-1179]

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12/14/2010 PER CURIAM ORDER filed [1282866] referring motion to dismiss case for lack of jurisdiction [1265173-2] to the merits panel to which this case is assigned. FURTHER ORDERED, on the court's own motion, that the parties show cause, within 30 days of the date of this order, why these consolidated cases should not be held in abeyance. Each party may respond, within 15 days, to the response to the order to show cause filed by the other party. Response may not exceed 10 pages Before Judges: Ginsburg, Tatel and Brown. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]

* * * *

03/18/2011 PER CURIAM ORDER filed [1299003] ORDERED that the order to show cause be discharged. [1282866-2], setting briefing schedule: PETITIONER Brief due 05/10/2011. INTERVENOR for PETITIONER Brief due 05/24/2011. RESPONDENT Brief due on 06/23/2011. INTERVENOR for RESPONDENT Brief due 07/07/2011.

AMICUS for RESPONDENT Brief due 07/07/2011. PETITIONER Reply Brief due 07/21/2011. INTERVENOR for PETITIONER Reply Brief due 07/21/2011. Appendix due 07/29/2011. PETITIONER Final Brief due 08/05/2011. INTERVENOR for PETITIONER Final Brief due 08/05/2011. RESPONDENT Final Brief due on 08/05/2011. INTERVENOR for RESPONDENT Final Brief due 08/05/2011. AMICUS for RESPONDENT Final Brief due 08/05/2011. PETITIONER Final Reply Brief due 08/05/2011. INTERVENOR for PETITIONER Final Reply Brief due 08/05/2011. The Clerk is directed to schedule this case for oral argument before the same panel that is hearing Nos. 09-1322, 10-1073, and 10-1092. Before Judges: Henderson, Garland and Kavanaugh. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]

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05/10/2011 PETITIONER BRIEF [1307254] filed by American Chemistry Council in 10-1167, 10-1168, 10-1170, Clean Air Implementation Project in 10-1173, 10-1174, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass

Packaging Institute, Independent Petroleum Association of America, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association and Wisconsin Manufacturers and Commerce in 10-1180, 10-1176, 10-1175, 10-1177, 10-1169, 10-1178, 10-1179 [Service Date: 05/10/2011] Length of Brief: 11,932 Words. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180] (Knauss, Charles)

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06/22/2011 RESPONDENT BRIEF [1314737] filed by EPA and Lisa Perez Jackson in 10-1167 [Service Date: 06/22/2010] Length of Brief: 14000 words. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180] (Berman, Amanda)

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07/07/2011 INTERVENOR FOR RESPONDENT BRIEF [1317374] filed by Conservation Law Foundation, Environmental Defense Fund, Natural Resources Defense Council and Sierra Club [Service Date: 07/07/2011] Length of Brief: 8695 word. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180] (Donahue, Sean)

07/11/2011 MODIFIED PARTY FILER--*CORRECTED* AMICUS FOR RESPONDENT BRIEF [1317845] filed by Center for Biological Diversity [Service Date: 07/11/2011] Length of Brief: 4,241 words. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]--[Edited 07/11/2011 by JMC] (Pardee, Vera)

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07/21/2011 *JOINT* PETITIONER REPLY BRIEF [1320046] filed by American Chemistry Council in 10-1167, 10-1168, 10-1170, Clean Air Implementation Project in 10-1173, 10-1174, American Frozen Food Institute, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Packaging Institute, Independent Petroleum Association of America, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, National Petrochemical & Refiners Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association and Wisconsin Manufacturers and Commerce in 10-1180, 10-1176, 10-1175, 10-1177, 10-1169, 10-1178, 10-1179 [Service Date: 07/21/2011] Length of Brief: 6,949 words. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180] (Knauss, Charles)

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07/29/2011 APPENDIX [1325447] filed [Volumes: 3] [Service Date: 07/29/2011] [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]

08/03/2011 RESPONDENT FINAL BRIEF [1322352] filed by EPA and Lisa Perez Jackson in 10-1167 [Service Date: 08/03/2011] Length of Brief: 13,963 words. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180] (Berman, Amanda)

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11/02/2011	CLERK'S ORDER filed [1339580] scheduling oral argument before Judges SENTELLE, ROGERS, TATEL Wednesday, 02/29/2012 AM. The court anticipates that argument will be schedule over two days [Nos. 09-1322, 10-1073, 10-1092, 10-1167]. Counsel will be notified of the argument format and allotted times at a later date. All counsel in each of these cases, therefore, should plan to be available for argument on both February 28 and February 29, 2012. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]

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02/08/2012	PER CURIAM ORDER filed [1357330] allocating oral argument time as follows: Tuesday, February 28, 9:30 A.M.; I. No. 09-1322 (and consolidated cases), Endangerment Finding – 1 hour, 30 minutes total. (Petitioners and Supporting Intervenors -- 45 minutes; Respondents and Supporting Intervenors-- 45 minutes); II. No. 10-1092 (and consolidated cases), Tailpipe Rule – 40 minutes total (Petitioners and Supporting Intervenors – 20 minutes; Respondents and Supporting Intervenors – 20 minutes). Wednesday, February 29,

9:30 A.M.; III. No. 10-1167 (and consolidated cases), Historic Regulations; No. 10-1073 (and consolidated cases), Timing and Tailoring Rules – 2 hours, 30 minutes total (Petitioners and Supporting Intervenors – 75 minutes; Respondents and Supporting Intervenors– 75 minutes). The panel will hear consolidated argument for Case Nos. 10-1167 and 10-1073. The parties are instructed to address the jurisdictional issues specific to each case first (i.e., the timeliness of the challenge to the historic regulations and standing to challenge the Timing and Tailoring Rules). In each case, parties may divide argument time among counsel for Petitioners/Respondents and supporting Intervenors as they see fit. Form 72, which may be accessed through the link on this order, must be completed and returned to the Clerk's office by February 17, 2012. directing party to file Form 72 notice of arguing attorney - due 02/17/2012 Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1182, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]–[Edited 02/08/2012 by MCM]

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02/29/2012 ORAL ARGUMENT HELD before Judges Sentelle, Rogers and Tatel. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]

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03/12/2012 TRANSCRIPT [1363223] of oral argument [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]

06/26/2012 PER CURIAM JUDGMENT filed [1380688] that the Timing and Tailoring petitions for review are dismissed, and the remainder of the petitions be denied for the reasons in the accompanying opinion . Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

06/26/2012 OPINION filed [1380690] PER CURIAM (Pages: 82) [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

06/26/2012 PER CURIAM ORDER filed [1380692] dismissing as moot motion to strike document [1340588-2] in 09-1322, 10-1045, 10-1024, 10-1025, 10-1026, 10-1044, 10-1042, 10-1035, 10-1030, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1046, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1320, 10-1319, 10-1321 Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

06/26/2012 CLERK'S ORDER filed [1380694] withholding issuance of the mandate. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158,

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08/10/2012	PETITION filed [1388636] by Petitioner American Chemistry Council in 10-1167, 10-1168, 10-1170, Petitioners American Frozen Food Institute, American Fuel & Petrochemical Manufacturers, American Petroleum Institute, Brick Industry Association, Corn Refiners Association, Glass Packaging Institute, Independent Petroleum Association of America, Michigan Manufacturers Association, Mississippi Manufacturers Association, National Association of Home Builders, National Association of Manufacturers, National Oilseed Processors Association, Specialty Steel Industry of North America, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Western States Petroleum Association and Wisconsin Manufacturers and Commerce in 10-1180, 10-1176, 10-1169, 10-1178, 10-1179 for rehearing en banc. [Service Date: 08/10/2012 by CM/ECF NDA, US Mail] Pages: 11-15. [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174,

	10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180] (Keisler, Peter)
08/10/2012	PETITION filed [1388745] by Intervenor for Petitioner Chamber of Commerce of the United States of America in 10-1167 for rehearing, for rehearing en banc. [Service Date: 08/10/2012 by US Mail, CM/ECF NDA] Pages: 11-15. [10-1167] (Burgess, William)
09/06/2012	CLERK'S ORDER filed [1393022] Upon consideration of the petition of the Chamber of Commerce for rehearing en banc and the petition of the Non-State Petitioners for rehearing en banc, it is ORDERED that, within 15 days from the date of this order, respondent EPA file a combined response to the above-referenced en banc petitions, and intervenors for respondent file a combined response to the above-referenced en banc petitions. Each response may not exceed 20 pages. Absent further order of the court, no replies to the responses will be accepted. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132,

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* * * *

12/20/2012 PER CURIAM ORDER (in slip opinion format), En Banc, filed [1411145] denying petitions for rehearing en banc. Before Judges: Sentelle*, Henderson, Rogers*, Tatel*, Garland, Brown*, Griffith and Kavanaugh*. (Circuit Judges Brown and Kavanaugh would grant the petitions for rehearing en banc) (A statement by Chief Judge Sentelle and Circuit Judges Rogers and Tatel, concurring in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Brown, dissenting in the denials of rehearing en banc, is attached) (A statement by Circuit Judge Kavanaugh, dissenting from the denials of rehearing en banc, is attached). [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

* * * *

12/20/2012 PER CURIAM ORDER, En Banc, filed [1411148] denying petition for rehearing en banc [1388587-2] in 10-1310. Before Judges: Sentelle, Henderson, Rogers, Tatel, Garland, Brown, Griffith and Kavanaugh. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211, 10-1212, 10-1213, 10-1216, 10-1218, 10-1219, 10-1220, 10-1221, 10-1222, 10-1092, 10-1094, 10-1134, 10-1143, 10-1144, 10-1152, 10-1156, 10-1158, 10-1159, 10-1160, 10-1161, 10-1162, 10-1163, 10-1164, 10-1166, 10-1182, 10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180, 10-1234, 10-1235, 10-1239, 10-1245, 10-1281, 10-1310, 10-1318, 10-1319, 10-1320, 10-1321]

12/20/2012	PER CURIAM ORDER filed [1411151] denying petitions for rehearing. Before Judges: Sentelle, Rogers and Tatel. [09-1322, 10-1024, 10-1025, 10-1026, 10-1030, 10-1035, 10-1036, 10-1037, 10-1038, 10-1039, 10-1040, 10-1041, 10-1042, 10-1044, 10-1045, 10-1046, 10-1073, 10-1083, 10-1099, 10-1109, 10-1110, 10-1114, 10-1118, 10-1119, 10-1120, 10-1122, 10-1123, 10-1124, 10-1125, 10-1126, 10-1127, 10-1128, 10-1129, 10-1131, 10-1132, 10-1145, 10-1147, 10-1148, 10-1199, 10-1200, 10-1201, 10-1202, 10-1203, 10-1206, 10-1207, 10-1208, 10-1210, 10-1211,

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01/02/2013 MANDATE ISSUED to Environmental Protection Agency [10-1167, 10-1168, 10-1169, 10-1170, 10-1173, 10-1174, 10-1175, 10-1176, 10-1177, 10-1178, 10-1179, 10-1180]

* * * *

RECORD
AND
BRIEFS

Nos. 12-1146, 12-1248, 12-1254, 12-1268,
12-1269, 12-1272

Supreme Court, U.S.
FILED
DEC 9 - 2013
OFFICE OF THE CLERK

IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

JOINT APPENDIX: VOLUME II OF V

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December 9, 2013

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Library of Congress
Law Library

[Additional Counsel Listed On Inside Pages]

PETITION FOR CERTIORARI FILED MARCH 20, 2013
CERTIORARI GRANTED OCTOBER 15, 2013

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UNITED STATES COURT OF APPEALS, FOR THE DISTRICT OF COLUMBIA CIRCUIT

[Filed December 20, 2012]

No. 09-1322

COALITION FOR RESPONSIBLE REGULATION, INC., *et al.*,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY,
Respondent,
STATE OF MICHIGAN, *et al.*,
Intervenors.

Consolidated with 10-1024, 10-1025,
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No. 10-1073

COALITION FOR RESPONSIBLE REGULATION, INC., *et al.*,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

AMERICAN FROZEN FOOD INSTITUTE, *et al.*,
Intervenors.

Consolidated with 10-1083, 10-1099,
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No. 10-1092
COALITION FOR RESPONSIBLE REGULATION, INC., *et al.*,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY,
Respondent,
LANGBOARD, INC.-MDF, *et al.*,
Intervenors.

Consolidated with 10-1094, 10-1134, 10-1143,
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No. 10-1167
AMERICAN CHEMISTRY COUNCIL,
Petitioner,
v.
ENVIRONMENTAL PROTECTION AGENCY AND
LISA PEREZ JACKSON, ADMINISTRATOR, U.S.
ENVIRONMENTAL PROTECTION AGENCY,
Respondents,
CHAMBER OF COMMERCE OF THE
UNITED STATES OF AMERICA, *et al.*,
Intervenors.

Consolidated with 10-1168, 10-1169,
10-1170, 10-1173, 10-1174, 10-1175, 10-1176,
10-1177, 10-1178, 10-1179, 10-1180

On Petitions for Rehearing En Banc

Before: SENTELLE*, *Chief Judge*, and HENDERSON, ROGERS*, TATEL*, GARLAND, BROWN*, GRIFFITH, and KAVANAUGH*, *Circuit Judges*.

ORDER

The petition of the Chamber of Commerce of the United States of America, joined by the State of Alaska, Peabody Energy Company, Southeastern Legal Foundation, et al., State Petitioners and Intervenors for Petitioners, for rehearing en banc; and the petition of the National Association of Manufacturers, et al. for rehearing en banc in No. 10-1073, et al. and No. 10-1167, et al., and the responses to the petitions were circulated to the full court, and a vote was requested. Thereafter, a majority of the judges eligible to participate did not vote in favor of the petitions. Upon consideration of the foregoing, it is

ORDERED that the petitions be denied.

FOR THE COURT:

---

* Circuit Judges Brown and Kavanaugh would grant the petitions for rehearing en banc.

* A statement by Chief Judge Sentelle and Circuit Judges Rogers and Tatel, concurring in the denials of rehearing en banc, is attached.

* A statement by Circuit Judge Brown, dissenting from the denials of rehearing en banc, is attached.

* A statement by Circuit Judge Kavanaugh, dissenting from the denials of rehearing en banc, is attached.

Mark J. Langer, Clerk

BY: /s/

Jennifer M. Clark

Deputy Clerk

SENTELLE, *Chief Judge*, ROGERS, *Circuit Judge*, and TATEL, *Circuit Judge*, concurring in the denials of rehearing en banc: In dissenting from the denials of rehearing en banc, Judge Brown primarily takes issue with EPA's Endangerment Finding. But as she candidly acknowledges, *see* Dissenting Op. at 2 (Brown, J.), her quarrel is with the Supreme Court. In *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Court expressly *held* that the Clean Air Act's "sweeping definition of 'air pollutant' " unambiguously includes greenhouse gases. *See id.* at 528-29. Moreover, in so holding, the Court expressly rejected many of the arguments her dissent now presses. In particular, it rebuffed EPA's attempt to use "post-enactment congressional actions and deliberations" to obscure "the meaning of an otherwise-unambiguous statute," *id.* at 529, and found EPA's reliance on *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), "similarly misplaced," *Massachusetts v. EPA*, 549 U.S. at 530. Seeking to revive the *Brown & Williamson* argument, Judge Brown suggests that the Court never considered the "far-reaching effects" of extending greenhouse gas regulation to stationary sources. *See* Dissenting Op. at 18 (Brown, J.). But this is inaccurate—the briefs before the Court explicitly raised the argument that interpreting "air pollutant" to include greenhouse gases could have tremendous consequences for stationary-source regulation. *See, e.g.*, Brief of Respondent CO_2 Litigation Group, *Massachusetts v. EPA*, 549 U.S. 497 (2007) (No. 05-1120), 2006 WL 3043971 at *19-*31.

To the extent Judge Brown attempts to bypass *Massachusetts v. EPA* by focusing on the statutory condition that air pollution "*reasonably be anticipated to endanger* public health or welfare," 42 U.S.C. § 7521(a)(1) (emphasis added), her quarrel is not just with the Supreme Court, but also with EPA's assessment of the science. Of course, we agree that the statute requires EPA to find a particular causal nexus between the pollutant and the harm in order to regulate. *See* Dissenting Op. at 9 (Brown, J.). But that is exactly what EPA did: it found that "greenhouse gases in the atmosphere may *reasonably be anticipated* both to endanger public health and to endanger public welfare." *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009). And, as the panel opinion explains, EPA's scientific judgment about the causal relationship between greenhouse gases and climate change is a scientific determination entitled to "an extreme degree of deference." *Coalition for Responsible Regulation v. EPA*, 684 F.3d 102, 120 (D.C. Cir. 2012) (quoting *American Farm Bureau Federation v. EPA*, 559 F.3d 512, 519 (D.C. Cir. 2009)). The dissent's suggestion that EPA was somehow statutorily precluded from finding the requisite nexus between greenhouse gases and harm to public health and welfare, *see* Dissenting Op. at 10-11 (Brown, J.), is belied by the Supreme Court's decision to remand precisely this question. *See Massachusetts v. EPA*, 549 U.S. at 532-35.

Judge Kavanaugh's dissent relates to the scope of the Prevention of Significant Deterioration ("PSD") program, an aspect of the panel opinion Judge Brown also rejects. Specifically, Judge Kavanaugh disagrees with EPA's longstanding interpretation of the term "any air pollutant," 42 U.S.C. § 7479(1), arguing that, in the context of the PSD program, "any air pollutant" refers not to all pollutants regulated under the Clean Air Act, but only to the six NAAQS pollutants. Because taking the statute at its word and interpreting "any air pollutant" to include greenhouse gases would lead to what he considers absurd results, Judge Kavanaugh insists that EPA and this Court are obligated to read "any air pollutant" more narrowly. *See* Dissenting Op. at 3-10 (Kavanaugh, J.). This argument, however, hinges on the proposition that both readings are plausible interpretations of an ambiguous statutory provision. *See* Dissenting Op. at 2-3, 10 (Kavanaugh, J.). But as the panel opinion explains at length, the statute is clear. *See Coalition for Responsible Regulation*, 684 F.3d at 132-44. Congress did not say "certain 'air pollutants.'" Dissenting Op. at 2 (Kavanaugh, J.). It said "any air pollutant," and it meant it. *See Coalition for Responsible Regulation*, 684 F.3d at 136. Thus, unlike the unreasonable interpretation rejected in *Kloeckner v. Solis*, No. 11-184, slip op. at 7-13 (U.S. 2012), the panel's interpretation of the statute is the only plausible one.

Moreover—and again, as the panel opinion explains at length, *see Coalition for Responsible Regulation*, 684 F.3d at 135-36—considering "any air pollutant" in context buttresses rather than undermines the panel's interpretation. The statute frames the purpose of the PSD program in broad—not NAAQS-specific—terms, emphasizing that the program's goal is "to protect public health and welfare from any actual or potential adverse effect which . . . may reasonably be anticipate[d] to occur from air pollution." 42 U.S.C. § 7470(1). And although certain aspects of the program are specifically directed at NAAQS pollutants, *see, e.g.*, *id.* § 7473(b)(4), the program as a whole plainly has a more expansive scope. For instance, covered sources are required to (1) install the best available control technology for "*each* pollutant subject to regulation under [the Act]," *id.* § 7475(a)(4) (emphasis added), and (2) demonstrate that they will not cause or contribute to "*any*. . . applicable emission standard" under the Act, *id.* § 7475(a)(3) (emphasis added).

In the end, we agree that "the question here is: Who Decides?" Dissenting Op. at 18 (Kavanaugh, J.). We also agree that "Congress (with the President) sets the policy through statutes, agencies implement that policy within statutory limits, and courts in justiciable cases ensure that agencies stay within the statutory limits set by Congress." Dissenting Op. at 18 (Kavanaugh, J.). Here, Congress spoke clearly, EPA fulfilled its statutory responsibilities, and the panel, playing its limited role, gave effect to the statute's plain meaning. *See Chevron, U.S.A., Inc. v. NRDC*, 467 U.S. 837, 842-43 (1984) ("If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.").

To be sure, the stakes here are high. The underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance. The legal issues presented, however, are straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent. There is no cause for en banc review.

BROWN, *Circuit Judge*, dissenting from the denial of rehearing en banc: In the summer of 1974, while waiting to start classes at UCLA, I was lucky enough to obtain a summer job house sitting in the pleasant, upscale neighborhood of Pasadena. Known mostly for its Rose Parade and Rose Bowl, Pasadena is one of the more scenic exurbs of Los Angeles. I inhabited a sparsely furnished, modest-but-pricey bungalow set among the lush landscape typical of southern California. This is a place where Birds of Paradise grow ten feet tall and the magenta blossoms of Bougainvillea fall like lavish draperies from redwood garden trellises. After staying in the house more than a month and spending a restless night listening to the agitated thrashings of the jacaranda trees in a fitful wind, I stumbled bleary-eyed into the kitchen, looked out the window, and stopped—utterly dumbfounded. There—looking like it was but a few feet beyond the back fence—stood a mountain. Not a foothill. Not an unobtrusive mesa. A mountain! Closer inspection revealed not a lone majestic peak, but a whole mountain range I later identified as the San Gabriels. In those days, the air in the Los Angeles basin was so thick with smog that a mountain, or even a nearby mountain range, could simply disappear.

Although the Los Angeles basin was among the most notorious examples of the phenomenon, it was by no means unique and certainly not the worst. It was this crisis of ambient air quality that precipitated the enactment of the Clean Air Act (CAA). But as the CAA's history, language, and structure make clear, Congress never intended the Act to serve as an environmental cure-all. It was targeted legislation designed to remedy a particular wrong: the harmful direct effects of poisoned air on human beings and their local environs. This is what Congress understood as "air pollution which may reasonably be anticipated to endanger public health" in the tailpipe emissions provision, 42 U.S.C. § 7521(a)(1). The Supreme Court in *Massachusetts v. EPA*, 549 U.S. 497 (2007), however, concluded otherwise. In dicta too suggestive to ignore, the Court implicitly assumed that climate change could provide the basis for an endangerment finding in the tailpipe context. *See id.* at 532-33.

Bound as I am by *Massachusetts*, I reluctantly concur with the Panel's determination that EPA may regulate GHGs in tailpipe emissions. But I do not choose to go quietly. Because the most significant regulations of recent memory rest on the shakiest of foundations, Part I of this statement engages *Massachusetts*'s interpretive shortcomings in the hope that either Court or Congress will restore order to the CAA. Part II, by contrast, reflects my belief that *Massachusetts* does not compel the same result for Title V and the Prevention of Significant Deterioration of Air Quality (PSD) program. Although I agree with Judge Kavanaugh's dissent, *Coal. for Responsible Regulation v. EPA*, Nos. 09-1322, et al. (Kavanaugh, J., dissenting from denial of rehearing en banc), I approach the inflection point from a slightly different perspective. Part III concludes with a brief note on standing.

Because I would vote for the full court to consider the propriety of extending *Massachusetts* to Title V and the PSD program, I respectfully dissent from this denial of rehearing en banc.

I.

A.

The origins of the Clean Air Act are closely tied to fatal fogs and deadly air inversions that, for much of early postindustrial history, seemed to be the inevitable consequence of economic progress. *See*

Arnold W. Reitze, Jr., *A Century of Air Pollution Control Law: What's Worked; What's Failed; What Might Work*, 21 ENVTL. L. 1549, 1575 (1991).[1] Initially regulated at the local and state level, air pollution became the focus of the federal government only after World War II. *See id.* at 1585-86. In October 1948, a severe temperature inversion in the industrial city of Donora, Pennsylvania increased air pollution to such an extent that traffic "'was virtually stopped because of lack of visibility.'" The inversion killed 20 people, *id.*, and prompted the federal government to begin researching air pollution. *Id.* at 1586. By 1961, President Kennedy included a plea for "an effective air pollution program" in his Special Message on the Natural Resources. *Id.* Public pressures for legislation only increased when a "Killer Smog" engulfed London in December 1962, killing at least 340, and a similar inversion in New York City allegedly claimed the lives of 200. *Id.* Eventually, legislation recommended by President Kennedy in February 1963 led to the enactment of the CAA, which President Johnson signed into law on December 17, 1963. *Id.* at 1586-87. Seven years later, President Nixon signed The Clean Air Amendments of 1970. The 1970 Amendments authorized the EPA to prescribe national ambient air quality standards (NAAQS) and created the statutory framework that still exists today.

B.

It was no happy accident that congressional draftsmen titled the legislation the "*Clean Air* Act." Ambient air quality was the point, purpose, and focus of the CAA. Congress had set its sights on the "dirty, visible 'smokestack' emissions," 136 CONG. REC. H2771-03 (1990) (statement of Rep. Roe), and smog caused by vehicle emissions. The CAA was the means by which Congress would grapple with urban air pollution and its attendant health effects, including impaired breathing, heart disease, lung damage and lung disease, and even death. If pollution was the problem, these ills were the specific harms Congress sought to combat. Even a cursory glance at the legislative history, with its numerous charts, graphics, and statistics detailing cancer and death rates, will bear this point out. *See, e.g.*, Hearings on Air Pollution—1968 Before the Subcomm. on Air and Water Pollution of the Sen. Comm. on Pub. Works, 90th Cong. 2nd Sess., pt. 2, 608- 20 (1968) (statement of Dr. Samuel S. Epstein, Children's Cancer Research Foundation.) ("Air Pollution—1968").

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[1] Inversions, sometimes known as "Londoners," occur "when a layer of hot air warmed by . . . water exists above cooler ground-level air and traps smoke and particulate matter under the warmer air." *Id.*

With the enactment of the 1990 Amendments, Congress expanded the Act beyond its singular emphasis on urban air quality to address hazardous—*i.e.*, toxic—air pollutants, acid rain, and stratospheric ozone. In regulating hazardous pollutants, Congress reemphasized the need for a close and tangible nexus between pollutant and harm. The legislative record, for example, continued to conceive of dangers in terms of their direct effects on human health and well-being. *See, e.g.*, S. Rep. No. 101-228, at 3388 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385 ("Air pollution can silently damage our lungs and heart or act swiftly in the case of exposure to toxic air pollutants. Rigorous regulation of toxic air pollutants is needed to avoid risk of serious, irreversible damage to human health."). To the extent the regulation of stratospheric ozone and acid rain suggest a broader nexus between pollutant and harm to human health, the very particular way in which

Congress handled these exceptions goes a long way toward provingthe rule: Congress only expands the CAA through considered legislative acts.

In addressing these transnational phenomena, the legislature did not spin regulations out of whole cloth. With ozone concerns, for example, Congress developed solutions through international negotiations, the implementation of which led to the creation of a separate title of the CAA. *See NRDC v. EPA*, 464 F.3d 1, 3 (D.C. Cir. 2006). Likewise, years of contentious discussions with Canada helped bring about the acid rain provisions in the 1990 Amendments. *See generally* Dennis A. Leaf, *Intergovernmental Cooperation: Air Pollution from an U.S. Perspective*, 18 CAN. U.S. L.J. 245 (1992). Simply put, when Congress became aware of new dangers, it acted judiciously in crafting workable remedies that, when they obtained the necessary political support, were worked into their own discrete provisions under the Act. Neither Congress nor the EPA attempted to force these distinct problems into existing, ill-suited regulatory schemes.

Congressman Waxman, one of the strongest proponents of stringent air pollution controls and a key force behind the 1990 Amendments, has stated that "in recent experience, no legislation has received more scrutiny during its consideration." The Honorable Henry A. Waxman, *An Overview of the Clean Air Act Amendments of 1990*, 21 ENVTL. L. 1721, 1724 (1991). Hyperbole or not, the admission is telling. The history of the CAA is one of hard-fought incremental gains through which Congress remedied particular environmental wrongs with tailored remedies. Said the Congressman:

> Discrete and extensive new programs are included to grapple with high ambient pollution levels (urban and regional smog), hazardous air pollution, acid rain, and depletion of the stratospheric ozone layer. Each of these programs [was] tailored to the problem it [sought] to address, and each [was] quite different in its approach."

Id. at 1811. Political necessity has forced Congress to calibrate its amendments to the CAA with great specificity and care. Where our Representatives have acted with such caution, any suggestion that Congress has—through a single word—conferred upon EPA the authority to steamroll through Congressional gridlock, upend the Senate's rejection of the Kyoto Protocol, and regulate GHGs for the whole of American industry must necessarily fail. The legislature, recall, does not "hide elephants in mouseholes." *Whitman v. Am. Trucking Assocs.*, 531 U.S. 457, 468 (2001).

But we needn't rely on interpretative canons alone to make this point. In drafting the 1990 Amendments, Congress considered—and *expressly rejected*—proposals authorizing EPA to regulate GHGs under the CAA. *See* S. Rep. No. 101- 228, at 377 (1989), *as reprinted in* 1990 U.S.C.C.A.N. 3385, 3760. Even the Executive objected that an attempt to control Carbon Dioxide (CO_2) emissions—emissions not harmful to health—in order to prevent global warming was premature. *See* Administration's Amendments—Hearings Before the Subcomm. On Health and the Env't of the Comm. on Energy and Commerce, 101st Cong., 1st Sess. (1989) (includes Bush Administration Report on S. 1630). The Executive's critique noted that "unilateral action aimed at addressing a global problem" through a standard limiting tailpipe emissions would not be an effective means of safeguarding the global environment and would "necessarily punish national interests." *Id.* at 792, 813.

That Congress has never deviated from its decision to not regulate GHGs under the CAA was not for lack of opportunity. Congress has considered and rejected countless other bills in the years since the 1990 Amendments that would have authorized GHG regulation. By one estimate, Congressmen have proposed over 400 bills concerning GHGs between 1990 and 2009. *See* Abigail R. Moncrieff, *Reincarnating the "Major Questions" Exception to Chevron Deference As A Doctrine of Noninterference (or Why* Massachusetts v. EPA *Got It Wrong)*, 60 ADMIN. L. REV. 593, 636-37 (2008) (tracking proposals). Congress's inability to break this nearly quarter-century long deadlock is incredibly suggestive: this is not an area of policymaking where the legislature has acted rashly or unthinkingly in delegating authority to agencies.

At bottom, Congress understood the dangers of "any air pollutant" in § 7521(a)(1) in terms of the ill-effects caused those who inhale the pollutants, not the broad, attenuated consequences of climate change. The CAA was drafted not to combat the threat of flooding or the menace of heat waves, *see* Endangerment and Cause of Contribute Findings for Greenhouse Gases, 74 Fed. Reg. 66,496, 66,526 (Dec. 15, 2009) ("EPA Endangerment Finding"), but the choking, stifling, and degenerative effect of airborne pollutants on human beings and their affected localities. Congress has long quantified this harm in terms of mortality rates, *see, e.g.*, Air Pollution—1968, 564 (statement of Dr. Roger S. Mitchell, Director, Webb-Waring Institute for Medical Research), not acreage of "costal land" lost. *Massachusetts*, 549 U.S. at 522. To put matters pointedly: the injury sufficient to establish standing need not suffice to establish endangerment as well.

Congress was of course free to circumvent this close cause-health effect nexus by devising a separate provision for GHG regulation, much as it did for stratospheric ozone, but it did no such thing. And nothing in the legislative history suggests that Congress has deviated from this status quo.

The plain language of the CAA only underscores the Act's non-applicability to GHGs insofar as it requires the harm be of the sort "reasonably [ ] anticipated to endanger." 42 U.S.C. §7251(a)(1)—a term we know to have a discrete meaning.

C.

In the present case, this Court had "little trouble" disposing of the argument that the "PSD program is specifically focused solely on localized air pollution" because it is "*quite clear . . . the PSD program was intended to protect against precisely the types of harms caused by greenhouse gases*." *CRR* Slp. Op. 62-63 (emphasis added). *Massachusetts* notwithstanding, this statement is a curious thing in light of the uncontradicted legislative history just discussed.[2] So too is the court's reliance on the statutory text, particularly its finding that "the CAA expressly provides that effects on 'welfare' means 'effects on . . .

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[2] As noted, the weather and climate issues targeted by the CAA involve direct, deleterious, localized effects caused by polluted air people breathe or suspended pollutants that may be deposited on land and crops by precipitation.

weather . . . and climate.'" Slp. Op. 62-63 (citing 42 U.S.C. § 7602(h)).

As a textual matter, there is nothing "quite clear" about it. The Supreme Court has declared that GHGs like CO_2 are pollutants within the meaning of the Act. Under the CAA, however, EPA can regulate a pollutant only if the administrator finds that the GHG causes or contributes to "air pollution which *may reasonably be anticipated to endanger* public health or welfare." 42 U.S.C. §7251(a)(1) (emphasis added). But in locating the CAA's conception of "harm" in § 7602(h), the definition of "welfare," and not §7251(a)(1) generally, this court effectively skirted the operative statutory language—"may reasonably be anticipated"—and rendered it nugatory. This was in error. Section 7602(h) defines only the potential *objects* of harm; the "reasonably be anticipated" language of §7251(a)(1) supplies the requisite *nexus* between the pollutant and the objects of its harm. The two provisions must be read together if the statute is to be interpreted faithfully. To put matters another way, the "may reasonably be anticipated" language must do some analytical work in the endangerment determination lest it be deemed surplusage. *See, e.g.*, *Conference of State Bank Supervisors v. Conover*, 715 F.2d 604, 627 (D.C. Cir. 1983) ("[I]n construing a statute, we 'are obliged to give effect, if possible, to every word Congress used.'" (quoting *Reiter v. Sonotone Corp.*, 442 U.S. 330, 339 (1979))). And in view of the CAA's legislative history, the nature of that work is clear.

In order to reasonably anticipate that a pollutant will contribute to air pollution that endangers public health or welfare, the Agency would have to conclude that pollution created by CO_2 or another GHG is a reasonably direct cause of the damage to public health and welfare. To find that CO_2 may ultimately endanger public health and welfare because sea levels will rise tells us nothing about whether CO_2 concentrations in the ambient air directly harm public health and welfare. The ingredients of a Killer Smog are few and specific; the process through which an air inversion traps particulate matter close to the ground is well understood. With both there is a direct correlation between reducing the concentration of the pollutant and reducing the negative health effects. Questions of public health impacts from air pollution have consistently been based on the direct—that is, inhalational—effects of exposure to the pollutant. *See, e.g.*, Joint Opening Brief of Non-State Petitioners and Supporting Intervenors at 58, *Coal. for Responsible Regulation v. EPA*, No. 09-1322 (May 20, 2011); *NRDC, Inc. v. EPA*, 902 F.2d 962, 973 (D.C. Cir. 1990) (concluding that EPA may not consider the health effects of increased unemployment when setting new health-based NAAQS)

In contrast, any harm to human health and welfare flowing from climate change comes at the end of a long speculative chain. The dissent in *Massachusetts* pointed out that EPA had described in great detail the scientific uncertainty that precluded even forming a judgment as to whether greenhouse gases endanger public welfare. *See* 549 U.S. at 553-55 (Scalia, J., dissenting). In that earlier defense ofits refusal to form a judgment, EPA explained how predicting climate change involved a "complex web of economic and physical factors," including:

> [o]ur ability to predict future global anthropogenic emissions of GHGs and aerosols; the fate of these emissions once they enter the atmosphere (*e.g.*,

> what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (*e.g.*, changes in cloud cover and ocean circulation); change in temperature characteristics (*e.g.*, average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (*e.g.*, shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (*e.g.*, increases or decreases in agricultural productivity, human health impacts).

Id. If there can be this much logical daylight between the pollutant and the anticipated harm, there is nothing EPA is not authorized to do. If this finding is valid, in a world where six degrees of separation is the compass of all humankind, the right endangerment finding would allow EPA to rule the world. But as this Court has noted before, EPA's authority to regulate is constrained, not enlarged, by the relationship of the term "will endanger" to other sections of the CAA. *See Ethyl v. EPA*, 541 F.2d 1, 29 (D.C. Cir. 1976) (en banc).

Of course, nothing here should be taken to imply that a particular GHG does not contribute to climate change. I mean only to suggest that a pollutant might contribute to the nebulous mélange of potential drivers of climate change without having any direct, deleterious impact within the meaning of the CAA. I emphasize too that this is not a problem with science. This is a problem of statutory interpretation. Climate change, with its geologic timeframe and its many uncertainties and imponderables, is and will probably remain a subject of some controversy. EPA finds the science sufficiently convincing for its purposes and it is entitled to a certain amount of deference on questions related to its technical expertise. But it is not necessary to quibble with the science of climate change to conclude that the endangerment finding fails on textual and logical terms. There is simply a point at which a difference in degree becomes a difference in kind and we have passed this point many times over in the course of this tortured litigation. The Supreme Court, however, has refused to recognize as much for tailpipe emissions.

II.

A.

But we need not follow *Massachusetts* off the proverbial cliff and apply its reasoning to the unique Title V and PSD provisions not considered in that case. The cascading layers of absurdity that flow from that interpretive exercise make clear that the plain language of the CAA compels no such result. As EPA's own rulemaking documents have so unabashedly explained:

> To apply the statutory PSD and title V applicability thresholds literally to sources of GHG emissions would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program. These extraordinary increases in scope of the permitting programs would mean that the programs would become several hundred- fold larger than what Congress appeared to contemplate.

PSD and Title V Greenhouse Gas Tailoring Rule; Final Rule, 75 Fed. Reg. 31,514, 31,533 (Jun. 3, 2010) ("Final

Tailoring Rule"). Completely oblivious to the irony, EPA added:

> For our authority to take this action, we rely in part on the "absurd results" doctrine, because applying the PSD and title V requirements literally (as previously interpreted narrowly by EPA) would not only be inconsistent with congressional intent concerning the applicability of the PSD and title V programs, but in fact would severely undermine congressional purpose for those programs.

Id. at 31,541-42. And again:

> [I]n this case because a literal reading of the PSD and title V applicability provisions results in insurmountable administrative burdens. Those insurmountable administrative burdens—along with the undue costs to sources—must be considered "absurd results" that would undermine congressional purpose for the PSD and title V programs.

Id. at 31,547.

In precincts outside Washington, D.C., this litany might cause a regulator to pause and consider whether results so at odds with Congressional presuppositions could ever be justified as falling within the literal meaning of an enactment. EPA, however, proposes that the absurd result can be easily eliminated by ramping up and gradually phasing in the requirements. Faced with the choice of reconsidering the legitimacy of an endangerment finding that sets in motion such a cluster of chaos or rewriting the statute, the agency has blithely done the latter. This is an abuse of the absurdity and administrative necessity doctrines as neither can be invoked to preempt legislative prerogatives. Permitting a statute "to be read to avoid absurd results allows an agency to establish that seemingly clear statutory language does not express the 'unambiguously expressed intent of Congress,'" but it does not grant the agency "a license to rewrite the statute." *Mova Pharmaceuticals v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998).

But that is not the worst of it. The real absurdity—apparently as invisible to the EPA as the San Gabriels once were to me—cannot be cured by phase in, no matter how subtly Byzantine. The real absurdity is that this unprecedented expansion of regulatory control, this epic overreach, may very well do more damage to the wellbeing of Americans than GHGs could ever do.[3]

B.

A second, more elementary consideration counsels against the mechanical application of *Massachusetts*'s tailpipe emissions determination to these distinct CAA provisions: deference to Congress.

As articulated in *Food & Drug Administration v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), the Supreme Court's "major questions" canon gives form to the judicial intuition so strongly implicated here: Congress should not be presumed to have deferred to agencies on questions of great significance more properly resolved by the legislature. If there was ever a regulation in recent memory more befitting such a presumption than the present, I confess I do not know of it.

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[3] *See, e.g.*, Joint Reply Br. of Non-State Petitioners and Supporting Intervenors at *1, No. 09-1322 (Nov. 14 2011) ("Nor does [EPA] dispute that the new rules will impose massive burdens on a struggling economy, or that its program of vehicle standards will affect global mean temperatures by no more than *0.01 degree Celsius by 2100*").

On familiar facts, the Supreme Court in *Brown & Williamson* rebuffed the FDA's expansionist effort to bring tobacco products within its regulatory ambit. The agency's regulation rested on a strained interpretation of the Food, Drug, and Cosmetic Act, 21 U.S.C. § 301 *et seq.*, in which it defined nicotine as a "drug" and cigarettes and smokeless tobacco as "combination products" used to deliver nicotine to the body. *See Brown & Williamson*, 529 U.S. at 125-27. Applying *Chevron U.S.A. Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984), the Court first considered the statutory structure. "[I]f tobacco products were within the FDA's jurisdiction," the majority concluded, the normal operation of the "Act would require the FDA to remove them from the market entirely," and this would "contradict Congress' clear intent as expressed in its more recent, tobacco-specific legislation." *Brown & Williamson*, 359 U.S. at 143. As the present case confirms, such absurdity is all but inevitable where an agency attempts to regulate that which "simply do[es] not fit" within its regulatory scheme. *Id.* The Court next considered Congress's 35 year history of tobacco-specific legislation, finding it "clear" that this "legislation has effectively ratified the FDA's previous position that it lacks jurisdiction to regulate tobacco." *Id.* at 156.

The Court then closed its lengthy *Chevron* discussion with an appeal to first principles. The "inquiry into whether Congress has directly spoken to the precise question at issue," the Court explained, "is shaped, at least in some measure, by the nature of the question presented." *Id.* at 159. *Chevron* deference operates on the assumption "that a statute's ambiguity constitutes an implicit delegation," but this tenuous fiction need not hold true in every situation. *Id.* "In extraordinary cases," the Court went on, "there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." *Id.* (referencing Stephen Breyer, *Judicial Review of Questions of Law and Policy*, 38 ADMIN. L. REV. 363, 370 (1986) ("A court may also ask whether the legal question is an important one. Congress is more likely to have focused upon, and answered, major questions, while leaving interstitial matters to answer themselves in the course of the statute's daily administration")).[4]

Declaring *Brown & Williamson* "hardly [the] ordinary case," the Court reasoned:

> Contrary to its representations to Congress since 1914, the FDA has now asserted jurisdiction to regulate an industry constituting a significant portion of the American economy. In fact, the FDA contends that, were it to determine that tobacco products provide no "reasonable assurance of safety," it would have the authority to ban cigarettes and smokeless tobacco entirely. Owing

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[4] *MCI Telecommunications Corporation v. AT&T Co.*, 512 U.S. 218 (1994), a case the *Brown & Williamson* Court found "instructive," *Brown & Williamson*, 529 U.S. at 160, had advanced a similar logic. In concluding Congress had spoken to the meaning of the term "modify" as it appears in § 203(b) of the Communications Act of 1934, the Court rejected FCC's far more expansive interpretation. The Court assumed in dicta that it was "highly unlikely that Congress would leave the determination of whether an industry will be entirely, or even substantially, rate-regulated to agency discretion—and even more unlikely that it would achieve that through such a subtle device as permission to 'modify' rate-filing requirements." *MCI*, 512 U.S. at 231. Certainly the same might be said here as well.

> to its unique place in American history and society, tobacco has its own unique political history. Congress, for better or for worse, has created a distinct regulatory scheme for tobacco products, squarely rejected proposals to give the FDA jurisdiction over tobacco, and repeatedly acted to preclude any agency from exercising significant policymaking authority in the area. Given this history and the breadth of the authority that the FDA has asserted, we are obliged to defer not to the agency's expansive construction of the statute, but to Congress' consistent judgment to deny the FDA this power.

Brown & Williamson, 529 U.S. at 159-60.

In view of the language, structure, and history of the CAA, I am simply unable to distinguish this logic from the present case in any meaningful way. To the contrary, with only the slightest of modifications one could rework the above text to apply to GHG emissions.[5]

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[5] Perhaps:

> Contrary to its representations in *Massachusetts v. EPA*, the EPA has now asserted jurisdiction to regulate industries constituting a significant portion of the American economy. In fact, the EPA contends that, because greenhouse gases can be regulated as tailpipe emissions, it is obligated to regulate all stationary sources at admittedly "absurd" levels. Owing to its ubiquitous place in the planet's life cycle, greenhouse gases have their own unique political history. Congress, for better or for worse, has declined to create a distinct regulatory scheme for greenhouse gases, squarely rejected proposals to give the EPA jurisdiction over greenhouse gases, and repeatedly acted to preclude any agency from exercising significant policymaking authority in the area. Given this history and the breadth of the authority that the EPA has asserted, we are obliged to defer

Although the *Massachusetts* Court distinguished *Brown & Williamson*, it did so only in the context of tailpipe emissions. Its reasoning does not extend to Title V and the PSD program.

In the Court's view, *Brown & Williamson* had "found critical at least two considerations that have no counterpart in [*Massachusetts*]." 549 U.S. at 531. First, whereas the regulation of tobacco under the FDCA would have necessarily led to a ban on tobacco products—an outcome that clashed with the "common sense" intuition that Congress never meant to remove those products from circulation—the expansion of EPA's "jurisdiction would lead to no such extreme measures [because] EPA would only *regulate* emissions" and "there is nothing counterintuitive to the notion that EPA can curtail the emission of substances that are putting the global climate out of kilter." *Id.* But the Court spoke too soon. In the present litigation, EPA argued—and a Panel of this Court readily agreed—that in regulating tailpipe emissions under 42 U.S.C. § 7521, it is obligated to regulate stationary sources under Title V and the PSD program as well. As a threshold matter, the *Massachusetts* Court never considered these far-reaching effects. It limited its brief discussion on the merits to the tailpipe emissions question squarely before it. In this way, the Court never considered the differing ways in which the CAA regulates tailpipes and stationary sources.

With tailpipe emissions, the inclusion of greenhouse gasses within the term "air pollutant" does not directly expand or contract the universe of vehicles and

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not to the agency's expansive construction of the statute, but to Congress' consistent judgment to deny the EPA this power.

engines subject to the new standards. Consequently, the regulation's impact will fall primarily on those manufacturers already complying with existing emission requirements. And even then, the Court explained, EPA “would have to delay any action ‘to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance.’” *Massachusetts*, 549 U.S. at 531 (quoting § 7521(a)(2)). Not so with the regulation of stationary sources. Insofar as 42 U.S.C. § 7479(1) defines “major emitting facility” to include those facilities with the “potential to emit” either 100 or 250 “tons per year or more of *any* air pollutant,” the statutory term is necessarily tied to CAA's jurisdictional scope. Inescapably, then, the regulation of greenhouse gasses as “air pollutants” will radically expand the universe of covered entities far beyond Congress's intentions. EPA's decidedly extra-textual Tailoring Rule only confirms the ludicrousness of this result. Nor can it be said that the statutory safeguards operate in the same way as § 7521(a)(2). Permitting authorities may well be able to determine on a case-by-case basis what constitutes the “best available control technology” for a particular emitting facility, 42 U.S.C. § 7479(3), but this is of little consolation for the small business owner who previously fell outside the CAA. At bottom, this outcome clashes with the “common sense” understanding that Congress would not have intended such a broad, unchecked expansion of the CAA to potentially millions of businesses from all walks of industry. The Supreme Court in *Massachusetts* simply did not have occasion to consider this absurd and “counterintuitive” outcome, but we do—and we must.

Second, the Court determined that the “unbroken series of congressional enactments” referenced in

Brown & Williamson "made sense only if adopted 'against the backdrop of the FDA's consistent and repeated statements that it lacked authority under the FDCA to regulate tobacco.'" *Massachusetts*, 549 U.S. at 531.[6] By contrast, EPA had "not identified any congressional action that conflicts in any way with the regulation of greenhouse gases from new motor vehicles." *Id.* And even if it had, "Congress could not have acted against a regulatory 'backdrop' of disclaimers of regulatory authority" because "EPA had never disavowed the authority to regulate greenhouse gases, and in 1998 it in fact affirmed that it *had* such authority." *Id.* When read in context, however, it is clear that the Court's reasoning was building toward a wholly unspectacular point: because EPA's legislative history failed to establish congressional intent with the same weight and precision as *Brown & Williamson*, it did not justify "read[ing] ambiguity into a clear statute." *Id.* That logic is inapplicable here. In the absence of lexical clarity—which the Court had found in in CAA's "sweeping definition of 'air pollutant,'" *id.* at 528—we *need* legislative history and other indicia of congressional intent to inform our understanding of how GHGs are to be regulated under other CAA provisions.[7]

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[6] The suggestion here seems to be that Congress's decision to regulate tobacco products would not, by itself, evince its intent to proscribe agencies from doing the same. Doing so in light of FDA's statements, however, had the effect of implicitly codifying the agency's long-held view.

[7] Consider the role of NAAQS in this regulatory system. EPA in *Massachusetts* had observed that NAAQS were established to "address air pollution problems that occur primarily at ground level" as well as "concentrations of substances in the ambient air and the related public health and welfare problems." *Massachusetts*, 549 U.S. at 558-59 (Scalia, J., dissenting). EPA

The *Massachusetts* Court's effort to distinguish *Brown & Williamson* is thus unavailing where we deal not with the definitional scope of "any pollutant" and tailpipe emissions, but the particular dangers Congress sought to combat in enacting Title V and the PSD program. When read in conjunction with the CAA's history, structure, and language, the intuitive logic of the "major questions" doctrine makes clear that the Panel erred in extending *Massachusetts*. Congress simply did not intend for EPA to convert the "Clean Air Act" to the "Warm Air Act" writ large. But that is exactly what the federal courts have done.

As the Chief Justice observed in his *Massachusetts* dissent, impatience is not a juridical principle that can be sustained under our constitutional framework. *See Massachusetts*, 549 U.S. at 535-36 (Roberts, C.J., dissenting). It certainly fares no better as a default measure of institutional choice under *Chevron*. As *Massachusetts* recognized, an agency can only exercise the authority Congress has delegated to it. *See* 549 U.S. at 534-35 (noting that EPA must "ground its reasons for action or inaction in the statute"

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thus reasoned that the regulation of the buildup of CO_2 in the upper reaches of the atmosphere—the process alleged to cause global climate change—was not akin to regulating the concentration of a substance that is polluting the air and was "beyond the scope of CAA's authorization to regulate." *Id.* In other words, EPA maintained that had Congress intended the CAA to regulate greenhouse cases and global climate change, it would have provided some better tool than NAAQS. That defense—offered in response to a demand to regulate tailpipe emissions—applies with even greater potency to Title V and the PSD program. In fact, although EPA now claims it is authorized to regulate greenhouse gases and global climate change, the agency acknowledges that the regulatory framework is as ill-suited to the task as ever.

and "exercise its discretion within defined statutory limits."). Absurdity can never figure as an adequate substitute for authority in this threshold assessment. Nor can absurdity cure the agency's failure to establish that the statute unambiguously compels its interpretation or that its interpretation, though discretionary, is actually consistent with statutory text, structure, and purposes. The agency seeks to avoid these pesky constraints here by invoking *Massachusetts*, but Article III judges cannot be a legitimate source of legislative authority. By deferring to the distorted claim of delegation advanced here, this Court has transformed *Chevron* from a useful, albeit accidental, touchstone into an idol to which we surrender our constitutional faith.

III.

In rejecting State Petitioners' challenge to the Tailoring Rule for want of standing, the Panel invoked that famed preceptor of American civics, Schoolhouse Rock, to great effect. Slp. Op. at 79. ("As a generation of schoolchildren knows, 'by that time, it's very unlikely that [a bill will] become a law. It's not easy to become a law.'"). I certainly do not quarrel with such dispositive authority. Lawmaking is neither easy nor certain. In an ordinary case, the mere possibility of "corrective legislation" will not establish that redress is "likely, as opposed to merely speculative." *Lujan*, 504 U.S. at 561. But it bears repeating that this is not an ordinary case. Wherethe choice is between non-action or a confessedly "absurd" regulation poised to impress countless billions of dollars in costs on American industry, we have transcended the realm of the speculative. For once, the comparison with *Massachusetts* is apt. The Supreme Court found standing on the basis of an estimated rise in sea level of 20 to 70 centimeters by the year 2100, *see Massachusetts*, 549 U.S. at 542 (Roberts, C.J, dissenting)—a prediction based almost entirely on conjecture. Is it any more speculative to say that specific projections of billions of dollars in actual regulatory costs would not suffice to compel Congress to act?

The Panel's alternative contention fares better: because Congress could remedy the issue in countless ways, not all of which inure to State Petitioners' benefit, the inquiry is "inherently speculative." *See* Op. at 79. This argument benefits from the genuine uncertainty in Congress over what, if any, role EPA should play in GHG regulation. But therein lies a frighteningly obtuse logic. If EPA actions are *ultra vires* precisely because disagreement on the Hill prevented Congress from altering the status quo and authorizing such regulation, how then can the very same deadlock be used to *defeat* Petitioners' standing to challenge the Rule through which EPA effectuates its absurdist scheme? The Court cannot have it both ways.

At bottom, bad decisions make bad law. In denying rehearing en banc, this Court has read *Massachusetts* to its illogical ends and it is American industry that will have to pay. That this Court did so is unsurprising, but certainly not fated. *Massachusetts* does not compel this outcome for the PSD and Title V provisions. Had this Court interrogated its own assumptions and yielded not to *Massachusetts*'s telos but sound constitutional principles, it would have found that the matter properly belongs before Congress, not courts or agencies. As Schoolhouse Rock long ago explained:

Ring one, Executive,
Two is Legislative, that's Congress.
Ring three, Judiciary.
See it's kind of like my circus, circus.[8]

And what a circus it is.

For these reasons, I respectfully dissent from the denial of rehearing en banc.

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[8] "Three Ring Government," Schoolhouse Rocks, *available at* http://www.schoolhouserock.tv/ThreeRing.html.

KAVANAUGH, *Circuit Judge*, dissenting from the denial of rehearing en banc:

This case is plainly one of exceptional importance. A decision in either direction will have massive real-world consequences. The U.S. Chamber of Commerce describes the EPA regulations at issue here as "the most burdensome, costly, far-reaching program ever adopted by a United States regulatory agency." Petition for Rehearing En Banc at 1. On the other hand, EPA issued these regulations to help address global warming, a policy issue of major long-term significance to the United States. Put simply, the economic and environmental policy stakes are very high.

Of course, our role is not to make the policy choices or to strike the balance between economic and environmental interests. That job is for Congress and the President when considering and enacting legislation, and then as appropriate for the Executive Branch—here, EPA, under the ultimate supervision of the President—when exercising its authority within statutory constraints. Our job as a court is more limited: to ensure that EPA has acted within the authority granted to it by Congress. In this case, I conclude that EPA has exceeded its statutory authority. I respectfully disagree with the panel opinion's contrary conclusion, and given the overall importance of the case, I respectfully dissent from the denial of rehearing en banc.

I

A

This case concerns EPA's implementation of the Prevention of Significant Deterioration provisions of the Clean Air Act. The Prevention of Significant

Deterioration program—which is codified in Sections 7470 to 7479 of Title 42—is designed to maintain state and local compliance with the National Ambient Air Quality Standards, known as the NAAQS. The NAAQS are currently established for six air pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. As relevant here, the Prevention of Significant Deterioration statute requires stationary facilities that emit certain "air pollutants" to obtain permits before beginning new construction. *See* 42 U.S.C. §§ 7475(a)(1), 7479(1). To obtain a permit, the facility must undergo a lengthy, costly process to analyze the new construction's impact on air quality and to try to demonstrate its compliance with the relevant emissions limits.

A central question in this case is how to construe the term "air pollutant" for purposes of this statutory permitting requirement. In particular, the question is whether the term "air pollutant" here covers not just the NAAQS pollutants, which can cause breathing problems or other health issues, but also greenhouse gases such as carbon dioxide, which contribute to global warming. Under the broader interpretation of "air pollutant" that encompasses greenhouse gases, a far greater number of facilities would fall within the Prevention of Significant Deterioration program and have to obtain pre-construction permits. That in turn would impose significantly higher costs on businesses and individuals that are building new commercial or residential property.

In considering a different Clean Air Act program targeted at motor vehicle emissions, the Supreme Court said that the term "air pollutant" meant "all airborne compounds of whatever stripe," which included greenhouse gases such as carbon dioxide. *Massachusetts v. EPA*, 549 U.S. 497, 529 (2007). But all parties here, including EPA, agree that the *Massachusetts v. EPA* interpretation of the term "air pollutant" cannot control in this case, for purposes of this very different Clean Air Act program for stationary facilities. Rather, as the parties agree, we must look to the text and context of the Prevention of Significant Deterioration statute to determine what "air pollutant" covers here.

Looking at the relevant statutory text and context, there would initially appear to be two plausible interpretations of the term "air pollutant" for purposes of the Prevention of Significant Deterioration statute: (i) more broadly, an airborne compound that is deemed harmful and is regulated by EPA in any Clean Air Act program, which would include greenhouse gases such as carbon dioxide; or (ii) more narrowly, the six air pollutants that are regulated by EPA in setting and enforcing the NAAQS, which would cover carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide, but would not include greenhouse gases such as carbon dioxide.

EPA chose the broader interpretation of "air pollutant," thereby greatly expanding the reach of the Prevention of Significant Deterioration statute. But that broader interpretation has a glaring problem, as EPA itself recognized. In the context of the Prevention of Significant Deterioration statute, EPA's broader interpretation would not mesh with other provisions of the statute and would lead to absurd results. That's because the Prevention of Significant Deterioration statute requires pre-construction permits for facilities with the potential to emit more than 250 tons per year (or, for some facilities, 100 tons per year) of any covered pollutant. *See* 42 U.S.C. §§ 7475(a)(1), 7479(1). That would be a very low trigger for emissions of greenhouse gases because greenhouse gases are emitted in far greater quantities than the NAAQS pollutants. As a result, the low trigger would mean a dramatically higher number of facilities would fall within the program and have to obtain pre-construction permits.

In an unusual twist, EPA openly acknowledged the unreasonableness—indeed, the absurdity—caused by its interpretation of the statute. If the Prevention of Significant Deterioration program were interpreted to require pre-construction permits based on emissions of greenhouse gases, EPA candidly stated that the result would be "so contrary to what Congress had in mind—and that in fact so undermines what Congress attempted to accomplish with the PSD requirements—that it should be avoided under the 'absurd results' doctrine." 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009).

But faced with those absurd consequences from the broader interpretation of the statute, EPA surprisingly did not choose the seemingly obvious option of adopting the narrower and more sensible interpretation of the term "air pollutant" for the Prevention of Significant Deterioration statute—the interpretation limited to NAAQS air pollutants. Instead, EPA plowed ahead with the broader interpretation. And then, to try to deal with the absurd repercussions of that interpretation for the Prevention of Significant Deterioration statute, EPA re-wrote the very specific 250-ton trigger in the permitting requirement of the statute, unilaterally raising that trigger for greenhouse gas emissions from 250 tons to 100,000 tons—a 400-fold increase. *See* 75 Fed. Reg.

31,514 (June 3, 2010). EPA believed that re-writing the statute's permitting-triggers provision in this way would reduce the number of facilities that would require pre-construction permits and thereby "tailor" the absurdity—that is, alleviate some of the absurdity caused by interpreting "air pollutant" to cover greenhouse gases.[1]

This is a very strange way to interpret a statute. When an agency is faced with two initially plausible readings of a statutory term, but it turns out that one reading would cause absurd results, I am aware of no precedent that suggests the agency can still choose the absurd reading and then start rewriting other perfectly clear portions of the statute to try to make it all work out. And just recently, the Supreme Court reminded the Executive Branch and the lower courts that this is not the proper way to interpret a statute: Instead of "reading new words into the statute" to avoid absurd results, as the Government had urged in that case, the Court said that the statute should be interpreted so that "no absurdity arises in the first place." *Kloeckner v. Solis*, No. 11-184, slip op. at 13 (U.S. 2012).

Even limited to this case alone, the practical implications of accepting EPA's approach are obviously major. And if this case stands as a precedent that influences other agency decisionmaking, the future consequences likewise could be significant: Agencies presumably could adopt absurd or otherwise unreasonable interpretations of statutory provisions and then edit other statutory provisions to mitigate the unreasonableness. Allowing agencies to exercise that kind of statutory re-writing authority could significantly enhance the Executive Branch's power at the expense of Congress's and thereby alter the relative balance of powers in the administrative process. I would not go down that road.

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[1] At the same time, EPA reserved the right to ratchet the trigger all the way back down to 250 tons, thereby bringing more and more facilities under the program at EPA's unilateral discretion. EPA's assertion of such extraordinary discretionary power both exacerbates the separation of powers concerns in this case and underscores the implausibility of EPA's statutory interpretation. Put simply, the statute cannot be read to grant discretion to EPA to raise or lower the permitting triggers as EPA sees fit.

B

In my view, the statutory issue here is reasonably straightforward. The Prevention of Significant Deterioration statute's definition of "major emitting facility" subjects a facility to the permitting requirement based on the facility's emissions of "air pollutants." *See* 42 U.S.C. §§ 7475(a)(1), 7479(1). In the context of the Prevention of Significant Deterioration program as a whole, it seems evident that the term "air pollutant" refers to the NAAQS air pollutants.

To begin with, as explained above, interpreting "air pollutant" in this context to refer to the NAAQS air pollutants would avoid the absurd consequences that EPA's broader interpretation creates—namely, the exponential increase in the number of facilities that would be required to obtain pre-construction permits. That single point alone provides dispositive support for the narrower, NAAQS-specific interpretation. *See, e.g., Taniguchi v. Kan Pacific Saipan, Ltd.*, 132 S. Ct. 1997, 2004-05 (2012) (statutory context supports narrower rather than broader reading of statutory term).

Moreover, other provisions in the Prevention of Significant Deterioration statute likewise plainly use the term "air pollutant" to refer to the NAAQS air pollutants. The Prevention of Significant Deterioration program is codified in Sections 7470 to 7479 of Title 42. Of relevance here, Section 7473 sets guidelines for areas designated as in attainment of the NAAQS and requires that the "concentration of any air pollutant" in those areas not exceed certain concentrations permitted by the NAAQS. 42 U.S.C. § 7473(b)(4). The term "air pollutant" in Section 7473(b)(4) necessarily refers to the NAAQS air pollutants. In addition, several other provisions in the Prevention of Significant Deterioration statute similarly refer to Section 7473(b)(4)'s maximum concentrations for NAAQS pollutants. Each of those references thus also necessarily employs a NAAQS-specific use of the term "air pollutant." *See, e.g.*, 42 U.S.C. § 7473(c)(1) (listing exclusions from "the maximum allowable increases in ambient concentrations of an air pollutant"); § 7474(a)(B) (redesignations cannot cause "concentrations of any air pollutant" to exceed the maximum); *see also* § 7475(a)(3)(A) (facility may not cause air pollution in excess of "maximum allowable concentration for any pollutant").

So it's clear that a variety of provisions in the Prevention of Significant Deterioration statute use "air pollutant" to refer to a NAAQS air pollutant. And we presume that, unless otherwise indicated, the term "air pollutant" is used the same way throughout the Prevention of Significant Deterioration statute—and here, we have no reason to conclude otherwise. *See IBP, Inc. v. Alvarez*, 546 U.S. 21, 34 (2005) ("identical words used in different parts of the same statute are generally presumed to have the same meaning").

By contrast, when Congress wanted, in the Prevention of Significant Deterioration statute, to refer to a broader set of pollutants than the NAAQS pollutants, it did so expressly. Thus, a facility that requires a pre-construction permit because of its emissions of NAAQS pollutants must employ the best available control technology for emissions not just of "air pollutants" but of "each pollutant subject to regulation under this chapter," which—now that EPA has regulated greenhouse gases in other parts of the Clean Air Act—*does* include greenhouse gases. 42 U.S.C. § 7475(a)(4). By its terms, Section 7475(a)(4) thus applies to greenhouse gases, not just the NAAQS. Importantly, however, Congress did not employ the language "each pollutant subject to regulation under this chapter" in the statutory provision setting forth which facilities must obtain a pre-construction permit, the provision at issue in this case. And the policy distinction drawn in Section 7475(a)(4) is rather intuitive: Congress designed the statute's permitting requirement based on facilities' NAAQS emissions, but, once those facilities are subject to the permitting requirement, they must also meet a range of other minimum environmental standards.[2]

The overall objectives of the Prevention of Significant Deterioration statute also suggest that "air pollutant" refers to the NAAQS air pollutants for purposes of the permitting requirement. Importantly, the Prevention of Significant Deterioration statute applies only in areas that have met the NAAQS—that is, areas that do not have excessive emissions of the NAAQS air pollutants. If the purpose of this statute were in part to address global warming by requiring pre-construction permits for facilities that emit greenhouse gases, as EPA's reading suggests, why would the statute target the construction of facilities only in areas that are in *compliance* with the NAAQS—and not elsewhere in the United States? That would make little sense, which in turn further suggests that EPA has misread the statute.

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[2] Section 7479(1)—the definition of "major emitting facility"—speaks of "any" air pollutant. But the word "any" just begs the question of what the term "air pollutant" covers in the Prevention of Significant Deterioration program. It's either any air pollutant regulated under the Clean Air Act or any of the NAAQS air pollutants.

Moreover, as its name indicates, the Prevention of Significant Deterioration statute is designed primarily to prevent "deterioration" of an attainment area's air quality. The relevant air quality standards that define whether an area is in attainment are the NAAQS. In a statute expressly linked to the NAAQS and designed to ensure that air quality does not "deteriorate" with respect to the NAAQS, it is somewhat illogical to read the statute as requiring pre-construction permits simply because a facility may emit substances that will *not* affect attainment of the NAAQS. Under EPA's approach, a facility could be covered by the permitting requirement even if it emits no NAAQS air pollutants at all. That, too, makes little sense and suggests that EPA has misread the statute.

A separate canon of interpretation further demonstrates that EPA's broad reading of the term "air pollutant" is at odds with Congress's design. By requiring a vastly increased number of facilities to obtain pre-construction permits, EPA's interpretation will impose enormous costs on tens of thousands of American businesses, with corresponding effects on American jobs and workers; on many American homeowners who move into new homes or plan other home construction projects; and on the U.S. economy more generally. Yet there is literally no indication in the text or legislative record that Members of Congress ever contemplated—much less intended—such a dramatic expansion of the permitting requirement of the Prevention of Significant Deterioration statute. Courts do not lightly conclude that Congress intended such major consequences absent some indication that Congress meant to do so. *See FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159-61 (2000). Here, as elsewhere, we should not presume that Congress hid an elephant in a mousehole.

For all of those reasons—the statutory text, the absurdity principle, the statutory context as demonstrated by related statutory provisions, the overarching objectives of the statute, the major unintended consequences of a broader interpretation—the Prevention of Significant Deterioration statute as a whole overwhelmingly indicates that the permitting requirement is based on emissions of the NAAQS air pollutants.

And just to reiterate, the simple and absolutely dispositive point in this case is the following: The broader interpretation of "air pollutant" adopted by EPA produces what even EPA itself admits are absurd consequences. When an agency is faced with two plausible readings of a statutory term, but one reading would cause absurd results, the agency cannot choose the absurd reading. Here, therefore, EPA was required to adopt the narrower and more sensible interpretation of "air pollutant," the interpretation limited to the NAAQS pollutants. As the Supreme Court has said, "interpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with the legislative purpose are available." *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982). Such an "alternative interpretation[] consistent with the legislative purpose" is readily available here.

II

If that were the end of the analysis, I would not hesitate to conclude that EPA had adopted an impermissibly broad reading of the term "air pollutant" for purposes of the permitting provision of the Prevention of Significant Deterioration statute. But before reaching that conclusion definitively, we need to consider whether EPA's approach was mandated by the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007). In that case, the Supreme Court considered the general statutory term "air pollutant" as applied to a different aspect of the Clean Air Act—the motor vehicle emissions program. The Court there interpreted "air pollutant" very broadly to mean "all airborne compounds of whatever stripe," including greenhouse gases. *Id.* at 529.

Does *Massachusetts v. EPA* dictate EPA's broader interpretation of "air pollutant" in the different context of the Prevention of Significant Deterioration statute? The panel opinion seemed to think so; its conclusion appears to have been heavily if not dispositively influenced by *Massachusetts v. EPA*. *See, e.g.*, *Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 134, 136 (D.C. Cir. 2012). In my view, however, the holding in *Massachusetts v. EPA* does not control the result in this case. Indeed, as explained more fully below, even EPA has concluded that *Massachusetts v. EPA* does not control here. The decision in *Massachusetts v. EPA* concerned the motor vehicle emissions program, a point the

Supreme Court expressly noted many times in its opinion. The case did not purport to say that every other use of the term "air pollutant" throughout the sprawling and multi-faceted Clean Air Act necessarily includes greenhouse gases. Each individual Clean Air Act program must be considered in context.[3]

Importantly, in *Massachusetts v. EPA*, the Supreme Court explicitly relied on the fact that the Clean Air Act's "capacious definition of 'air pollutant,'" did not appear "counterintuitive" or produce "extreme" consequences in the context of motor vehicle emissions. 549 U.S. at 531-32. But, as explained above, EPA's capacious definition of "air pollutant" *is* counterintuitive and *does* produce extreme consequences in the context of the Prevention of Significant Deterioration statute, as EPA itself acknowledges. Moreover, in this case, an alternative and sensible interpretation of the term "air pollutant" is readily discernible from the text, context, and structure of the Prevention of Significant Deterioration statute as a whole—namely, the NAAQS-specific interpretation.

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[3] As an analogy, take the familiar example of "no vehicles in the park." Assume that a court has decided that the term "vehicles" generally includes bicycles, and that no bicycles are allowed in the park. Next assume that another park regulation states that "all park service vehicles must have reinforced gas tanks." In that latter regulation, context tells us that the term "vehicles" obviously does not include bicycles. Bicycles are still vehicles in the abstract, but the gas-tank regulation logically applies only to a specific subset of vehicles (namely, motor vehicles).

So it is with "air pollutant" as used in different parts of the Clean Air Act. *Massachusetts v. EPA* held that the term "air pollutant" generally includes greenhouse gases. But that does not mean that the term "air pollutant" can never be used in a narrower sense. Greenhouse gases may qualify as "air pollutants" in the abstract, but context tells us that the Prevention of Significant Deterioration program uses the term "air pollutant" to refer only to a subset of all air pollutants (namely, the NAAQS pollutants).

To be sure, as noted earlier, the same words used in different parts of an Act are often construed to have the same meaning. *See IBP, Inc. v. Alvarez*, 546 U.S. 21, 34 (2005). If that were an inflexible command, the *Massachusetts v. EPA* interpretation of "air pollutant" would certainly control here and throughout the entire Clean Air Act. But as the Supreme Court recently reminded us—*in the context of interpreting the Clean Air Act*—"the natural presumption that identical words used in different parts of the same act are intended to have the same meaning is not rigid and readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent." *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561, 574 (2007) (internal quotation marks and ellipsis omitted). As instructed by the Supreme Court, we must interpret statutory terms based on their context and in light of the statute as a whole, even if that approach on some occasions means that the same term applies differently in different parts of a statute. *See, e.g.*, *General Dynamics Land Systems, Inc. v. Cline*, 540 U.S. 581, 596-97 (2004) (term "age" has different meanings within Age Discrimination in Employment Act); *United States v. Cleveland Indians Baseball Co.*, 532 U.S. 200, 212-13 (2001) (term "wages paid" has different meanings within Social Security Act Amendments of 1939); *Robinson v. Shell Oil Co.*, 519 U.S. 337, 343-44 (1997) (term "employee" has different meanings within Title VII).

The Supreme Court's application of that interpretive principle in *Environmental Defense v. Duke Energy*—a decision issued on the same day as *Massachusetts v. EPA*—is illuminating. There, the Supreme Court confronted the Clean Air Act's definition of a stationary source "modification." *See* 549 U.S. at 567-68. That term was relevant to both the New Source Performance Standards program and the Prevention of Significant Deterioration program. The Court ruled that EPA could interpret the term "modification" differently for each of those two Clean Air Act programs, even though "the terms share a common statutory definition." *Id.* at 574. In so holding, the Court analyzed the two programs' different regulatory goals, noting that a "given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies." *Id.*

The Supreme Court's interpretive approach in *Environmental Defense v. Duke Energy*—which recognizes that the meaning of a statutory term in the Clean Air Act may vary based on the particular program at issue—shows that the *Massachusetts v. EPA* interpretation of "air pollutant" in the context of the motor vehicle emissions program does not necessarily require the same interpretation of "air pollutant" in the context of the Prevention of Significant Deterioration program. In *Massachusetts v. EPA*, the Supreme Court emphasized that the regulation of greenhouse gases in the motor vehicle emissions program would not be "counterintuitive" and would not lead to any "extreme measures." 549 U.S. at 531. Greenhouse gas standards would simply be added to the other regulations already applicable to manufacturers of new motor vehicles, and any such standards would take into account both cost and technological feasibility. *See* 42 U.S.C. § 7521(a). By contrast, the regulation of greenhouse gases in the Prevention of Significant Deterioration program would be both counterintuitive and extreme. Tens of thousands of businesses and homeowners would be swept into the Clean Air Act's purview for the first time and hit with permitting costs averaging $60,000, not to mention the additional costs of trying to construct and maintain the facility in compliance with the relevant emissions limits and technological standards. *See* 75 Fed. Reg. 31,514, 31,556 (June 3, 2010). In addition, the costs associated with a vastly expanded permitting requirement would deter numerous projects from even starting in the first place. The major differences between the motor vehicle emissions program and the Prevention of Significant Deterioration program thus neatly fit the *Environmental Defense v. Duke Energy* paradigm of "distinct statutory objects calling for different implementation strategies."

In reaching that conclusion, it bears mention that the Clean Air Act is a very complicated statute encompassing several distinct environmental programs. It is no surprise, then, that the motor vehicle emissions program and the Prevention of Significant Deterioration program are not the only parts of the Act to employ a term like "air pollutant" in a context-dependent way. For example, the visibility program applies to facilities based on their emissions of "any pollutant." 42 U.S.C. § 7491(g)(7). In the context of that program, EPA has interpreted the term "any pollutant" to mean "any visibility-impairing pollutant," which obviously does not include greenhouse gases. 40 C.F.R. pt. 51, App. Y, § II.A. Similarly, the nonattainment program applies to areas that have been designated as nonattainment "for any air pollutant." 42 U.S.C. § 7501(2). In the context of that program, the term "air pollutant" is logically limited to the NAAQS air pollutants, which are the only pollutants for which an area can be designated as nonattainment. *Id.* § 7407(d)(1)(A). All of that simply underscores that a court should exercise caution before reflexively importing the interpretations applicable to one Clean Air Act program into a distinct Clean Air Act program.

Any lingering doubt that *Massachusetts v. EPA* does not control here is dispelled when we recall that EPA itself has rejected *Massachusetts v. EPA*'s interpretation of "air pollutant" for the Prevention of Significant Deterioration statute. The Court in *Massachusetts v. EPA* said that "air pollutant" meant "all airborne compounds of whatever stripe." 549 U.S. at 529. EPA has acknowledged, however, that such a broad definition cannot possibly extend to the use of the term "air pollutant" in the Prevention of Significant Deterioration statute. EPA understood that it would be absurd to require pre-construction permits because of emissions of any airborne compound, including emissions of airborne compounds that have not been deemed harmful and regulated under the Clean Air Act. To avoid rendering the Prevention of Significant Deterioration statute an absurdity, EPA construed "air pollutant" to mean *certain* air pollutants—in particular, "any regulated air pollutant."

The critical point for present purposes—and it really is a critical point in thinking about the significance of *Massachusetts v. EPA* to the present case—is that EPA itself recognized that the *Massachusetts v. EPA* definition of "air pollutant" cannot and does not control how to interpret "air pollutant" in the

Prevention of Significant Deterioration context. As it tries to justify its broad interpretation of the Prevention of Significant Deterioration statute, EPA cannot simultaneously latch on to *Massachusetts v. EPA* and reject *Massachusetts v. EPA*.

If *Massachusetts v. EPA* does not control here—and even EPA admits that it does not—then we are back where we started. EPA was faced with two initially plausible interpretations of "air pollutant" for purposes of the permitting requirement of the Prevention of Significant Deterioration statute. One interpretation created patent absurdities and made little sense given the other statutory provisions. The other interpretation fit comfortably and sensibly within the statutory text and context. EPA nonetheless chose the first option. In my view, EPA's reading of the statute was impermissible. An agency cannot adopt an admittedly absurd interpretation and discard an eminently sensible one.

Given all of this, the case seems reasonably straightforward. So how did the panel opinion reach the opposite conclusion? I respectfully have three main points of disagreement. First, as I read it, the panel opinion was decisively influenced by *Massachusetts v. EPA*'s interpretation of "air pollutant" in the context of the motor vehicle emissions program. But in light of the material differences between the motor vehicle emissions program and the Prevention of Significant Deterioration program, the *Massachusetts v. EPA* interpretation cannot control here, as even EPA acknowledges. Second, the panel opinion attempted to buttress its choice of a broad interpretation of the term "air pollutant" by pointing to Section 7475(a)(4), the provision in the Prevention of Significant Deterioration program requiring covered facilities to use the best available control technology. But as explained above, Section 7475(a)(4) actually cuts the other way because it specifically refers to "each pollutant subject to regulation under this chapter," which now does include greenhouse gases—whereas, by contrast, other statutory provisions in the Prevention of Significant Deterioration program clearly employ a NAAQS-specific interpretation of the unadorned term "air pollutant." Third, the panel gave insufficient weight to the most critical point in this case, the absurd consequences of EPA's broad interpretation. This was a mistake because the ultimate clincher in this case is one simple point: EPA chose an admittedly absurd reading over a perfectly natural reading of the relevant statutory text. An agency cannot do that.

III

In finding EPA's statutory interpretation legally impermissible, I do not in any way want to diminish EPA's vital policy objectives. EPA's regulations for the Prevention of Significant Deterioration statute may well be a good idea as a matter of policy. The task of dealing with global warming is urgent and important. But as in so many cases, the question here is: Who Decides? The short answer is that Congress (with the President) sets the policy through statutes, agencies implement that policy within statutory limits, and courts in justiciable cases ensure that agencies stay within the statutory limits set by Congress. A court's assessment of an agency's compliance with statutory limits does not depend on whether the agency's policy is good or whether the agency's intentions are laudatory. Even when that is true, we must enforce the statutory limits. *See Hamdan v. United States*, 696 F.3d 1238 (D.C. Cir. 2012) (ruling that Executive

Branch exceeded statutory authority in wartime prosecution of al Qaeda member).

In cases like this one, the bedrock underpinnings of our system of separation of powers are at stake. To be sure, courts must be wary of undue interference with an agency's action implementing its statutory responsibilities. *See American Radio Relay League, Inc. v. FCC*, 524 F.3d 227 (D.C. Cir. 2008) (separate opinion of Kavanaugh, J.); *see also Desert Citizens Against Pollution v. EPA*, 699 F.3d 524 (D.C. Cir. 2012); *National Environmental Development Association's Clean Air Project v. EPA*, 686 F.3d 803 (D.C. Cir. 2012); *American Petroleum Institute v. EPA*, 684 F.3d 1342 (D.C. Cir. 2012); *ATK Launch Systems, Inc. v. EPA*, 669 F.3d 330 (D.C. Cir. 2012); *Natural Resources Defense Council v. EPA*, 661 F.3d 662 (D.C. Cir. 2011); *Medical Waste Institute & Energy Recovery Council v. EPA*, 645 F.3d 420 (D.C. Cir. 2011). To take one salient and important example, the statutory scheme gives EPA significant discretion in setting the NAAQS for the NAAQS air pollutants—a discretion the courts must respect.

But at the same time, undue deference or abdication to an agency carries its own systemic costs. If a court mistakenly allows an agency's transgression of statutory limits, then we green-light a significant shift of power from the Legislative Branch to the Executive Branch. The Framers of the Constitution did not grant the Executive Branch the authority to set economic and social policy as it sees fit. Rather, the Framers gave Congress, along with the President, that legislative role (subject to constitutional limits), and they assigned the Executive Branch the executive power to issue rules and enforce the law *within the limits set by Congress*.[4]

It is true that the legislative process can be cumbersome and frustrating, and the Executive Branch often is well-intentioned in wanting to address pressing policy concerns quickly, before the sometimes glacial congressional machinery can be stirred to action.[5] The legislative process can be slow because the Constitution makes it far harder to enact legislation than to block it: Under the Constitution, three different entities must agree in order to enact legislation—the House, the Senate, and the President (or two-thirds of both the House and the Senate to override a President's veto). But the Framers knew the legislative process would be laborious. They designed it that way. The time and difficulty of enacting new legislation has never justified an agency's contravention of statutory limits. The Framers specifically contemplated, moreover, that there would be situations where the Executive Branch confronts a pressing need that it does not have current authority to address. In those circumstances, the Constitution's

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[4] In protecting national security, the Executive has some Article II authority to act in certain circumstances in the Nation's defense even without specific congressional authorization. This is known as *Youngstown* category two. *See Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 637 (1952) (Jackson, J., concurring). There is no general *Youngstown* category two authority in the domestic social and economic realms, where the Executive must have statutory authority in order to act.

[5] In 2009, the House of Representatives passed a global warming bill that was supported by the President. But the Senate did not pass it. In the early 2000s, Senators McCain and Lieberman sought to pass global warming legislation, but no law was ultimately enacted. Numerous other bills have been introduced over the years, and various legislative efforts are ongoing.

Recommendations Clause provides that the President may "recommend" to Congress "such Measures as he shall judge necessary and expedient." U.S. CONST. art. II, § 3.

Importantly, the separation of powers and checks and balances of our system are designed not just to ensure that the Branches operate within the proper spheres of their authority, but also to protect individual liberty. As the Supreme Court has explained many times, "while a government of opposite and rival interests may sometimes inhibit the smooth functioning of administration, the Framers recognized that, in the long term, structural protections against abuse of power were critical to preserving liberty. . . . The failures of . . . regulation may be a pressing national problem, but a judiciary that licensed extraconstitutional government with each issue of comparable gravity would, in the long run, be far worse." *Free Enterprise Fund v. Public Company Accounting Oversight Board*, 130 S. Ct. 3138, 3157 (2010) (internal quotation marks, alterations, and citations omitted).

As a court, it is not our job to make the policy choices and set the statutory boundaries, but it is emphatically our job to carefully but firmly enforce the statutory boundaries. That bedrock separation of powers principle accounts for my concern about this case. Here, as I see it, EPA went well beyond what Congress authorized for the Prevention of Significant Deterioration statute. I respectfully disagree with the panel's resolution of this issue, and given the overall importance of the case, I respectfully dissent from the denial of rehearing en banc.

UNITED STATES COURT OF APPEALS, DISTRICT OF COLUMBIA CIRCUIT

Nos. 09-1322, 10-1024, 10-1025, 10-1026, 10-1030,
10-1035, 10-1036, 10-1037, 10-1038, 10-1039,
10-1040, 10-1041, 10-1042, 10-1044, 10-1045,
10-1046, 10-1234, 10-1235, 10-1239, 10-1245,
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10-1166, 10-1182, 10-1167, 10-1168, 10-1169,
10-1170, 10-1173, 10-1174, 10-1175, 10-1176,
10-1177, 10-1178, 10-1179, 10-1180.

COALITION FOR RESPONSIBLE REGULATION, INC., *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

STATE OF MICHIGAN, *et al.*,
Intervenors.

COALITION FOR RESPONSIBLE REGULATION, INC., *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

AMERICAN FROZEN FOOD INSTITUTE, *et al.*,
Intervenors.

COALITION FOR RESPONSIBLE REGULATION, INC., *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

LANGBOARD, INC.-MDF, *et al.*,
Intervenors.

AMERICAN CHEMISTRY COUNCIL,
Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY AND LISA PEREZ JACKSON, ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondents,

CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, *et al.*,
Intervenors.

Argued Feb. 28 and 29, 2012.
Decided June 26, 2012.

On Petitions for Review of Final Actions of the Environmental Protection Agency

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Before: SENTELLE, Chief Judge; ROGERS and TATEL, Circuit Judges

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Opinion for the Court filed PER CURIAM

PER CURIAM:

Following the Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497, 127 S.Ct. 1438, 167 L.Ed.2d 248 (2007)—which clarified that greenhouse gases are an "air pollutant" subject to regulation under the Clean Air Act (CAA)—the Environmental Protection Agency promulgated a series of greenhouse gas-related rules. First, EPA issued an Endangerment Finding, in which it determined that greenhouse gases may "reasonably be anticipated to endanger public health or welfare." *See* 42 U.S.C. § 7521(a)(1). Next, it issued the Tailpipe Rule, which set emission standards for cars and light trucks. Finally, EPA determined that the CAA requires major stationary sources of greenhouse gases to obtain construction and operating permits. But because immediate regulation of all such sources would result in overwhelming permitting burdens on permitting authorities and sources, EPA issued the Timing and Tailoring Rules, in which it determined that only the largest stationary sources would initially be subject to permitting requirements.

Petitioners, various states and industry groups, challenge all these rules, arguing that they are based on improper constructions of the CAA and are otherwise arbitrary and capricious. But for the reasons set forth below, we conclude: 1) the Endangerment Finding and Tailpipe Rule are neither arbitrary nor capricious; 2) EPA's interpretation of the governing

CAA provisions is unambiguously correct; and 3) no petitioner has standing to challenge the Timing and Tailoring Rules. We thus dismiss for lack of jurisdiction all petitions for review of the Timing and Tailoring Rules, and deny the remainder of the petitions.

I.

We begin with a brief primer on greenhouse gases. As their name suggests, when released into the atmosphere, these gases act "like the ceiling of a greenhouse, trapping solar energy and retarding the escape of reflected heat." *Massachusetts v. EPA*, 549 U.S. at 505, 127 S.Ct. 1438. A wide variety of modern human activities result in greenhouse gas emissions; cars, power plants, and industrial sites all release significant amounts of these heat-trapping gases. In recent decades "[a] well-documented rise in global temperatures has coincided with a significant increase in the concentration of [greenhouse gases] in the atmosphere." *Id.* at 504-05, 127 S.Ct. 1438. Many scientists believe that mankind's greenhouse gas emissions are driving this climate change. These scientists predict that global climate change will cause a host of deleterious consequences, including drought, increasingly severe weather events, and rising sea levels.

The genesis of this litigation came in 2007, when the Supreme Court held in *Massachusetts v. EPA*, that greenhouse gases "unambiguous[ly]" may be regulated as an "air pollutant" under the Clean Air Act ("CAA"). *Id.* at 529, 127 S.Ct. 1438. Squarely rejecting the contention—then advanced by EPA—that "greenhouse gases cannot be 'air pollutants' within the meaning of the Act," *id.* at 513, 127 S.Ct.

1438, the Court held that the CAA's definition of "air pollutant" "embraces *all* airborne compounds of whatever stripe." *Id.* at 529, 127 S.Ct. 1438 (emphasis added). Moreover, because the CAA requires EPA to establish motor-vehicle emission standards for "*any* air pollutant . . . which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1) (emphasis added), the Court held that EPA had a "statutory obligation" to regulate harmful greenhouse gases. *Id.* at 534, 127 S.Ct. 1438. "Under the clear terms of the Clean Air Act," the Court concluded, "EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* at 533, 127 S.Ct. 1438. The Court thus directed EPA to determine "whether sufficient information exists to make an endangerment finding" for greenhouse gases. *Id.* at 534, 127 S.Ct. 1438.

Massachusetts v. EPA spurred a cascading series of greenhouse gas-related rules and regulations. First, in direct response to the Supreme Court's directive, EPA issued an Endangerment Finding for greenhouse gases. *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act* ("Endangerment Finding"), 74 Fed. Reg. 66,496 (Dec. 15, 2009). The Endangerment Finding defined as a single "air pollutant" an "aggregate group of six long-lived and directly-emitted greenhouse gases" that are "well mixed" together in the atmosphere and cause global climate change: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. *Id.* at 66,536-37. Following "common practice," EPA measured the impact of these gases on a "carbon dioxide equivalent basis," (CO_2e) which is based on the gases' "warming effect relative to carbon dioxide . . . over a specified timeframe." *Id.* at 66,519. (Using the carbon dioxide equivalent equation, for example, a mixture of X amount of nitrous oxide and Y amount of sulfur hexafluoride is expressed as Z amount of CO_2e). After compiling and considering a considerable body of scientific evidence, EPA concluded that motor-vehicle emissions of these six well-mixed gases "contribute to the total greenhouse gas air pollution, and thus to the climate change problem, which is reasonably anticipated to endanger public health and welfare." *Id.* at 66,499.

Next, and pursuant to the CAA's requirement that EPA establish motor-vehicle emission standards for "any air pollutant . . . which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. § 7521(a)(1), the agency promulgated its Tailpipe Rule for greenhouse gases. *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule* ("Tailpipe Rule"), 75 Fed. Reg. 25,324 (May 7, 2010). Effective January 2, 2011, the Tailpipe Rule set greenhouse gas emission standards for cars and light trucks as part of a joint rulemaking with fuel economy standards issued by the National Highway Traffic Safety Administration (NHTSA). *Id.* at 25,326.

Under EPA's longstanding interpretation of the CAA, the Tailpipe Rule automatically triggered regulation of stationary greenhouse gas emitters under two separate sections of the Act. The first, the Prevention of Significant Deterioration of Air Quality (PSD) program, requires state-issued construction permits for certain types of stationary sources—for example, iron and steel mill plants—if they have the potential to emit over 100 tons per year (tpy) of "any air pollutant." *See* 42 U.S.C. §§ 7475; 7479(1). All other stationary sources are subject to PSD permitting if they have the potential to emit over 250 tpy of "any air pollutant." *Id.* § 7479(1). The second provision, Title V, requires state-issued operating permits for stationary sources that have the potential to emit at least 100 tpy of "any air pollutant." *Id.* § 7602(j). EPA has long interpreted the phrase "any air pollutant" in both these provisions to mean any air pollutant that is regulated under the CAA. *See Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans* ("1980 Implementation Plan Requirements"), 45 Fed. Reg. 52,676, 52,711 (Aug. 7, 1980) (PSD program); *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule* ("Tailoring Rule"), 75 Fed. Reg. 31,514, 31,553-54 (June 3, 2010) (discussing history of Title V regulation and applicability). And once the Tailpipe Rule set motor-vehicle emission standards for greenhouse gases, they became a regulated pollutant under the Act, requiring PSD and Title V greenhouse permitting.

Acting pursuant to this longstanding interpretation of the PSD and Title V programs, EPA issued two rules phasing in stationary source greenhouse gas regulation. First, in the Timing Rule, EPA concluded that an air pollutant becomes "subject to regulation" under the Clean Air Act—and thus subject to PSD and Title V permitting—only once a regulation requiring control of that pollutant takes effect. *Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs* ("Timing Rule"), 75 Fed. Reg. 17,004 (Apr.

2, 2010). Therefore, EPA concluded, major stationary emitters of greenhouse gases would be subject to PSD and Title V permitting regulations on January 2, 2011—the date on which the Tailpipe Rule became effective, and thus, the date when greenhouse gases first became regulated under the CAA. *Id.* at 17,019.

Next, EPA promulgated the Tailoring Rule. In the Tailoring Rule, EPA noted that greenhouse gases are emitted in far greater volumes than other pollutants. Indeed, millions of industrial, residential, and commercial sources exceed the 100/250 tpy statutory emissions threshold for CO_2e. Tailoring Rule, 75 Fed. Reg. at 31,534-36. Immediately adding these sources to the PSD and Title V programs would, EPA predicted, result in tremendous costs to industry and state permitting authorities. *See id.* As a result, EPA announced that it was "relieving overwhelming permitting burdens that would, in the absence of this rule, fall on permitting authorities and sources." *Id.* at 31,516. Departing from the CAA's 100/250 tpy emissions threshold, the Tailoring Rule provided that only the largest sources—those exceeding 75,000 or 100,000 tpy CO_2e, depending on the program and project—would initially be subject to greenhouse gas permitting. *Id.* at 31,523. (The Tailoring Rule further provided that regulated sources must also emit greenhouse gases at levels that exceed the 100/250 tpy emissions threshold on a *mass* basis. That is, they must emit over 100/250 tpy of actual pollutants, in addition to exceeding the 75,000/100,000 tpy carbon dioxide equivalent. *Id.* at 31,523.)

A number of groups—including states and regulated industries—filed petitions for review of EPA's greenhouse gas regulations, contending that the agency misconstrued the CAA and otherwise acted arbitrarily and capriciously. This appeal consolidates the petitions for review of the four aforementioned rules: the Endangerment Finding, the Tailpipe Rule, the Timing Rule, and the Tailoring Rule.

"The Clean Air Act empowers us to reverse the Administrator's action in rulemaking if it is 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.'" *Med. Waste Inst. & Energy Recovery Council v. EPA*, 645 F.3d 420, 424 (D.C.Cir.2011) (quoting 42 U.S.C. § 7607(d)(9)(A)). Questions of statutory interpretation are governed by the familiar *Chevron* two-step: "First . . . if the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Chevron, U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). But "if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute." *Id.* at 843, 104 S.Ct. 2778.

This opinion proceeds in several steps. Part II explains why the Endangerment Finding was neither arbitrary nor capricious, while Part III does the same for the Tailpipe Rule. Turning to stationary source regulation, Part IV examines whether any petitioners may timely challenge EPA's longstanding interpretation of the PSD statute. Because we conclude that they may, Part V addresses the merits of their statutory arguments, and explains why EPA's interpretation of the CAA was compelled by the statute. Next, Part VI explains why petitioners lack standing to challenge the Timing and Tailoring Rules themselves. Finally, Part VII disposes of several arguments that have nothing to do with the rules under review, and thus are not properly before us.

II.

We turn first to State and Industry Petitioners' challenges to the Endangerment Finding, the first of the series of rules EPA issued after the Supreme Court remanded *Massachusetts v. EPA*. In the decision ordering the remand, the Supreme Court held that EPA had failed in its statutory obligations when it "offered no reasoned explanation for its refusal to decide whether greenhouse gases cause or contribute to climate change." *Massachusetts v. EPA*, 549 U.S. at 534, 127 S.Ct. 1438. On remand, EPA compiled a substantial scientific record, which is before us in the present review, and determined that "greenhouse gases in the atmosphere may reasonably be anticipated both to endanger public health and to endanger public welfare." Endangerment Finding, 74 Fed. Reg. at 66,497. EPA went on to find that motor-vehicle emissions of greenhouse gases "contribute to the total greenhouse gas air pollution, and thus to the climate change problem, which is reasonably anticipated to endanger public health and welfare." *Id*. at 66,499.

State and Industry Petitioners challenge several aspects of EPA's decision, including (1) EPA's interpretation of CAA § 202(a)(1), which sets out the endangerment-finding standard; (2) the adequacy of the scientific record supporting the Endangerment Finding; (3) EPA's decision not to "quantify" the risk of endangerment to public health or welfare created by climate change; (4) EPA's choice to define the "air pollutant" at issue as an aggregate of six greenhouse gases; (5) EPA's failure to consult its Science Advisory Board before issuing the Endangerment Finding; and

(6) EPA's denial of all petitions for reconsideration of the Endangerment Finding. We ultimately conclude that the Endangerment Finding is consistent with *Massachusetts v. EPA* and the text and structure of the CAA, and is adequately supported by the administrative record.

A.

Industry Petitioners contend that EPA improperly interpreted CAA § 202(a)(1) as restricting the Endangerment Finding to a science-based judgment devoid of considerations of policy concerns and regulatory consequences. They assert that CAA § 202(a)(1) requires EPA to consider, *e.g.*, the benefits of activities that require greenhouse gas emissions, the effectiveness of emissions regulation triggered by the Endangerment Finding, and the potential for societal adaptation to or mitigation of climate change. They maintain that eschewing those considerations also made the Endangerment Finding arbitrary and capricious.

These contentions are foreclosed by the language of the statute and the Supreme Court's decision in *Massachusetts v. EPA*. Section 202(a) of the CAA states in relevant part that EPA's Administrator

> shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1). This language requires that the endangerment evaluation "relate to whether an air pollutant 'cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare.'" ***Massachusetts v. EPA***, 549 U.S. at 532-33, 127 S.Ct. 1438. At bottom, § 202(a)(1) requires EPA to answer only two questions: whether particular "air pollution"—here, greenhouse gases—"may reasonably be anticipated to endanger public health or welfare," and whether motor-vehicle emissions "cause, or contribute to" that endangerment.

These questions require a "scientific judgment" about the potential risks greenhouse gas emissions pose to public health or welfare—not policy discussions. ***Massachusetts v. EPA***, 549 U.S. at 534, 127 S.Ct. 1438. In ***Massachusetts v. EPA***, the Supreme Court rebuffed an attempt by EPA itself to inject considerations of policy into its decision. At the time, EPA had "offered a laundry list of reasons not to regulate" greenhouse gases, including

> that a number of voluntary Executive Branch programs already provide an effective response to the threat of global warming, that regulating greenhouse gases might impair the President's ability to negotiate with "key developing nations" to reduce emissions, and that curtailing motor-vehicle emissions would reflect "an inefficient, piecemeal approach to address the climate change issue."

Id. at 533, 127 S.Ct. 1438 (citations omitted). The Court noted that "these policy judgments . . . have nothing to do with whether greenhouse gas emissions contribute to climate change. Still less do they amount to a reasoned justification for declining to form a scientific judgment." *Id.* at 533-34, 127 S.Ct. 1438. In the Court's view, EPA's policy-based explanations contained "no reasoned explanation for [EPA's] refusal to decide" the key part of the endangerment inquiry: "whether greenhouse gases cause or contribute to climate change." *Id.* at 534, 127 S.Ct. 1438.

As in *Massachusetts v. EPA*, a "laundry list of reasons not to regulate" simply has "nothing to do with whether greenhouse gas emissions contribute to climate change." *Id.* at 533-34, 127 S.Ct. 1438. The additional exercises State and Industry Petitioners would have EPA undertake—*e.g.*, performing a cost-benefit analysis for greenhouse gases, gauging the effectiveness of whatever emission standards EPA would enact to limit greenhouse gases, and predicting society's adaptive response to the dangers or harms caused by climate change—do not inform the "scientific judgment" that § 202(a)(1) requires of EPA. Instead of focusing on the question whether greenhouse gas emissions may reasonably be anticipated to endanger public health or welfare, the factors State and Industry Petitioners put forth only address what might happen were EPA to answer that question in the affirmative. As EPA stated in the Endangerment Finding, such inquiries "muddle the rather straightforward scientific judgment about whether there may be endangerment by throwing the potential impact of responding to the danger into the initial question." 74 Fed. Reg. at 66,515. To be sure, the subsection following § 202(a)(1), § 202(a)(2), requires that EPA address limited questions about the cost of compliance with new emission standards and the availability of technology for meeting those standards, *see infra* Part III, but these judgments are not part of the § 202(a)(1) endangerment inquiry. The Supreme Court made clear in *Massachusetts v. EPA* that it was not addressing the question "whether policy concerns can inform EPA's actions in the event that it makes such a finding," 549 U.S. at 534-35, 127 S.Ct. 1438, but that policy concerns were not part of the calculus for the determination of the endangerment finding in the first instance. The Supreme Court emphasized that it was holding "that EPA must ground its reasons for action or inaction in the statute." *Id.* at 535, 127 S.Ct. 1438. The statute speaks in terms of endangerment, not in terms of policy, and EPA has complied with the statute.

State and Industry Petitioners insist that because statutes should be interpreted to avoid absurd results, EPA should have considered at least the "absurd" consequences that would follow from an endangerment finding for greenhouse gases. Specifically: having made an endangerment finding, EPA will proceed to promulgate emission standards under § 202(a)(1). Issuing those standards triggers regulation—under EPA's PSD and Title V programs—of stationary sources that emit greenhouse gases at levels above longstanding statutory thresholds. Because greenhouse gases are emitted in much higher volumes than other air pollutants, hundreds of thousands of small stationary sources would exceed those thresholds. This would subject those sources to PSD and Title V permitting requirements despite what Petitioners claim was Congress's clear intent that the requirements apply only to large industrial sources. Petitioners assert that even EPA believed such overbroad regulation to be an absurd result, which it attempted to rectify by adopting the Tailoring

Rule to raise the statutory thresholds, *see infra* Part VI.

However "absurd" Petitioners consider this consequence, though, it is still irrelevant to the endangerment inquiry. That EPA adjusted the statutory thresholds to accommodate regulation of greenhouse gases emitted by stationary sources may indicate that the CAA is a regulatory scheme less-than-perfectly tailored to dealing with greenhouse gases. But the Supreme Court has already held that EPA indeed wields the authority to regulate greenhouse gases under the CAA. *See Massachusetts v. EPA*. The plain language of § 202(a)(1) of that Act does not leave room for EPA to consider as part of the endangerment inquiry the stationary-source regulation triggered by an endangerment finding, even if the degree of regulation triggered might at a later stage be characterized as "absurd."

B.

State and Industry Petitioners next challenge the adequacy of the scientific record underlying the Endangerment Finding, objecting to both the type of evidence upon which EPA relied and EPA's decision to make an Endangerment Finding in light of what Industry Petitioners view as significant scientific uncertainty. Neither objection has merit.

1.

As an initial matter, State and Industry Petitioners question EPA's reliance on "major assessments" addressing greenhouse gases and climate change issued by the Intergovernmental Panel on Climate Change (IPCC), the U.S. Global Climate Research Program (USGCRP), and the National Research

Council (NRC). Endangerment Finding, 74 Fed. Reg. at 66,510-11. These peer-reviewed assessments synthesized thousands of individual studies on various aspects of greenhouse gases and climate change and drew "overarching conclusions" about the state of the science in this field. *Id.* at 66,511. The assessments provide data and information on, *inter alia*, "the amount of greenhouse gases being emitted by human activities"; their continued accumulation in the atmosphere; the resulting observed changes to Earth's energy balance, temperature and climate at global and regional levels, and other "climate-sensitive sectors and systems of the human and natural environment"; the extent to which these changes "can be attributed to human-induced buildup of atmospheric greenhouse gases"; "future projected climate change"; and "projected risks and impacts to human health, society and the environment." *Id.* at 66,510-11.

State and Industry Petitioners assert that EPA improperly "delegated" its judgment to the IPCC, USGCRP, and NRC by relying on these assessments of climate-change science. *See U.S. Telecom Ass'n v. FCC*, 359 F.3d 554, 566 (D.C.Cir.2004). This argument is little more than a semantic trick. EPA did not delegate, explicitly or otherwise, any decision-making to any of those entities. EPA simply did here what it and other decision-makers often must do to make a science-based judgment: it sought out and reviewed existing scientific evidence to determine whether a particular finding was warranted. It makes no difference that much of the scientific evidence in large part consisted of "syntheses" of individual studies and research. Even individual studies and research papers often synthesize past work in an area and then build upon it. This is how science works. EPA is not required to re-prove the existence of the atom every time it approaches a scientific question.

Moreover, it appears from the record that EPA used the assessment reports not as substitutes for its own judgment but as evidence upon which it relied to make that judgment. EPA evaluated the processes used to develop the various assessment reports, reviewed their contents, and considered the depth of the scientific consensus the reports represented. Based on these evaluations, EPA determined the assessments represented the best source material to use in deciding whether greenhouse gas emissions may be reasonably anticipated to endanger public health or welfare. Endangerment Finding, 74 Fed. Reg. at 66,510-11. It then reviewed those reports along with comments relevant to the scientific considerations involved to determine whether the evidence warranted an endangerment finding for greenhouse gases as it was required to do under the Supreme Court's mandate in *Massachusetts v. EPA*.

2.

Industry Petitioners also assert that the scientific evidence does not adequately support the Endangerment Finding. As we have stated before in reviewing the science-based decisions of agencies such as EPA, "[a]lthough we perform a searching and careful inquiry into the facts underlying the agency's decisions, we will presume the validity of agency action as long as a rational basis for it is presented." *Am. Farm Bureau Fed'n v. EPA*, 559 F.3d 512, 519 (D.C.Cir.2009) (internal quotation marks omitted). In so doing, "we give an extreme degree of deference to the agency when it is evaluating scientific data within its technical expertise." *Id.* (internal quotation marks omitted).

The body of scientific evidence marshaled by EPA in support of the Endangerment Finding is substantial. EPA's scientific evidence of record included support for the proposition that greenhouse gases trap heat on earth that would otherwise dissipate into space; that this "greenhouse effect" warms the climate; that human activity is contributing to increased atmospheric levels of greenhouse gases; and that the climate system is warming.

Based on this scientific record, EPA made the linchpin finding: in its judgment, the "root cause" of the recently observed climate change is "very likely" the observed increase in anthropogenic greenhouse gas emissions. Endangerment Finding, 74 Fed. Reg. at 66,518. EPA found support for this finding in three lines of evidence. First, it drew upon our "basic physical understanding" of the impacts of various natural and manmade changes on the climate system. For instance, EPA relied on evidence that the past half-century of warming has occurred at a time when natural forces such as solar and volcanic activity likely would have produced cooling. Endangerment Finding, Response to Comments (RTC) Vol. 3, at 20. Other evidence supports EPA's conclusion that the observed warming pattern—warming of the bottommost layer of the atmosphere and cooling immediately above it—is consistent with greenhouse-gas causation. *Id.*

EPA further relied upon evidence of historical estimates of past climate change, supporting EPA's conclusion that global temperatures over the last half-century are unusual. Endangerment Finding, 74 Fed. Reg. at 66,518. Scientific studies upon which EPA relied place high confidence in the assertion that global mean surface temperatures over the last few decades are higher than at any time in the last four centuries. Technical Support Document for the Endangerment Finding (TSD), at 31. These studies also show, albeit with significant uncertainty, that temperatures at many individual locations were higher over the last twenty-five years than during any period of comparable length since 900 A.D. *Id.*

For its third line of evidence that anthropogenic emissions of greenhouse gases spurred the perceived warming trend, EPA turned to computer-based climate-model simulations. Scientists have used global climate models built on basic principles of physics and scientific knowledge about the climate to try to simulate the recent climate change. These models have only been able to replicate the observed warming by including anthropogenic emissions of greenhouse gases in the simulations. Endangerment Finding, 74 Fed. Reg. at 66,523.

To recap, EPA had before it substantial record evidence that anthropogenic emissions of greenhouse gases "very likely" caused warming of the climate over the last several decades. EPA further had evidence of current and future effects of this warming on public health and welfare. Relying again upon substantial scientific evidence, EPA determined that anthropogenically induced climate change threatens both public health and public welfare. It found that extreme weather events, changes in air quality, increases in food- and water-borne pathogens, and increases in temperatures are likely to have adverse health effects. *Id.* at 66,497-98. The record also supports EPA's conclusion that climate change endangers human welfare by creating risk to food production and agriculture, forestry, energy, infrastructure, ecosystems, and wildlife. Substantial evidence further supported EPA's conclusion that the warming resulting from the greenhouse gas emissions could be expected to create risks to water resources and in general to coastal areas as a result of expected increase in sea level. *Id.* at 66,498. Finally, EPA determined from substantial evidence that motor-vehicle emissions of greenhouse gases contribute to climate change and thus to the endangerment of public health and welfare.

Industry Petitioners do not find fault with much of the substantial record EPA amassed in support of the Endangerment Finding. Rather, they contend that the record evidences too much uncertainty to support that judgment. But the existence of some uncertainty does not, without more, warrant invalidation of an endangerment finding. If a statute is "precautionary in nature" and "designed to protect the public health," and the relevant evidence is "difficult to come by, uncertain, or conflicting because it is on the frontiers of scientific knowledge," EPA need not provide "rigorous step-by-step proof of cause and effect" to support an endangerment finding. *Ethyl Corp. v. EPA*, 541 F.2d 1, 28 (D.C.Cir.1976). As we have stated before, "Awaiting certainty will often allow for only reactive, not preventive, regulation." *Id.* at 25.

Congress did not restrict EPA to remedial regulation when it enacted CAA § 202(a). That section mandates that EPA promulgate new emission standards if it determines that the air pollution at issue "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1). This language requires a precautionary, forward-looking scientific judgment about the risks of a particular air pollutant, consistent with the CAA's "precautionary and preventive orientation." *Lead Indus. Ass'n, Inc. v. EPA*, 647 F.2d 1130, 1155 (D.C.Cir.1980). Requiring that EPA find "certain" endangerment of public health or welfare before regulating greenhouse gases would effectively prevent EPA from doing the job Congress gave it in § 202(a)—utilizing emission standards to prevent reasonably anticipated endangerment from maturing into concrete harm. *Cf. id.* ("[R]equiring EPA to wait until it can conclusively demonstrate that a particular effect is adverse to health before it acts is inconsistent with both the [CAA]'s precautionary and preventive orientation and the nature of the Administrator's statutory responsibilities. Congress provided that the Administrator is to use his judgment in setting air quality standards precisely to permit him to act in the face of uncertainty.").

In *Massachusetts v. EPA* the Supreme Court confirmed that EPA may make an endangerment finding despite lingering scientific uncertainty. Indeed, the Court held that the existence of "some residual uncertainty" did not excuse EPA's decision to decline to regulate greenhouse gases. *Massachusetts v. EPA*, 549 U.S. at 534, 127 S.Ct. 1438. To avoid regulating emissions of greenhouse gases, EPA would need to show "scientific uncertainty . . . so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming." *Id.* Clearly, then, EPA may issue an endangerment finding even while the scientific record still contains at least "some residual uncertainty." Industry Petitioners have shown no more than that.

In the end, Petitioners are asking us to re-weigh the scientific evidence before EPA and reach our own conclusion. This is not our role. As with other reviews of administrative proceedings, we do not determine the convincing force of evidence, nor the conclusion it should support, but only whether the conclusion reached by EPA is supported by substantial evidence when considered on the record as a whole. *See, e.g.*, *New York v. EPA*, 413 F.3d 3, 30 (D.C.Cir.2005). When EPA evaluates scientific evidence in its bailiwick, we ask only that it take the scientific record into account "in a rational manner." *Am. Petroleum Inst. v. Costle*, 665 F.2d 1176, 1187 (D.C.Cir.1981). Industry Petitioners have not shown that EPA failed to do so here.

C.

State Petitioners, here led by Texas, contend that the Endangerment Finding is arbitrary and capricious because EPA did not "define," "measure," or "quantify" either the atmospheric concentration at which greenhouse gases endanger public health or welfare, the rate or type of climate change that it anticipates will endanger public health or welfare, or the risks or impacts of climate change. According to Texas, without defining these thresholds and distinguishing "safe" climate change from climate change that endangers, EPA's Endangerment Finding is just a "subjective conviction."

It is true that EPA did not provide a quantitative threshold at which greenhouse gases or climate change will endanger or cause certain impacts to public health or welfare. The text of CAA § 202(a)(1) does not require that EPA set a precise numerical value as part of an endangerment finding. Quite the opposite; the § 202(a)(1) inquiry necessarily entails a case-by-case, sliding-scale approach to endangerment because "[d]anger . . . is not set by a fixed probability of harm, but rather is composed of reciprocal elements of risk and harm, or probability and severity." *Ethyl*, 541 F.2d at 18. EPA need not establish a minimum threshold of risk or harm before determining whether an air pollutant endangers. It may base an endangerment finding on "a lesser risk of greater harm . . . or a greater risk of lesser harm" or any combination in between. *Id.*

Ethyl is instructive. There, EPA made an endangerment finding for airborne lead. During its endangerment inquiry, EPA initially tried to do what Texas asks of it here: find a specific concentration of the air pollutant below which it would be considered "safe" and above which it would endanger public health. *Id.* at 56. However, EPA abandoned that approach because it failed to account for "the wide variability of dietary lead intake" and lacked predictive value. EPA substituted a "more qualitative" approach, which relied on "predictions based on uncertain data" along with clinical studies. *Id.* at 56-57. This court upheld the endangerment finding that used that qualitative approach despite the lack of a specific endangerment "threshold."

In its essence, Texas's call for quantification of the endangerment is no more than a specialized version of Industry Petitioners' claim that the scientific record contains too much uncertainty to find endangerment. EPA relied on a substantial record of empirical data and scientific evidence, making many specific and often quantitative findings regarding the impacts of greenhouse gases on climate change and the effects of climate change on public health and welfare. Its failure to distill this ocean of evidence into a specific number at which greenhouse gases cause "dangerous" climate change is a function of the precautionary thrust of the CAA and the multivariate and sometimes uncertain nature of climate science, not a sign of arbitrary or capricious decision-making.

D.

EPA defined both the "air pollution" and the "air pollutant" that are the subject of the Endangerment Finding as an aggregate of six greenhouse gases, which EPA called "well mixed greenhouse gases": carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Industry Petitioners argue that EPA's decision to include PFCs and SF_6 in this group of greenhouse gases was arbitrary and capricious primarily because motor vehicles generally do not emit these two gases.

No petitioner for review of the Endangerment Finding has established standing to make this argument. Industry Petitioners concede that EPA's decision to regulate PFCs and SF_6 along with the other four greenhouse gases does not injure any motor-vehicle-related petitioner. Nor has any non-motor-vehicle-related petitioner shown an injury-in-fact resulting from EPA's inclusion of these two gases in the six-gas amalgam of "well-mixed greenhouse gases." At oral argument, Industry Petitioners asserted for the first time that certain utility companies—members of associations that petitioned for review of the Endangerment Finding—own utility transformers that emit SF_6. However, they never demonstrated or even definitively asserted that any of these companies would not be subject to regulation or permitting requirements but for EPA's decision to include SF_6 as part of the "well-mixed greenhouse gases" that are the subject of the Endangerment

Finding. *See Sierra Club v. EPA*, 292 F.3d 895, 898-900 (D.C.Cir.2002) (requiring that a petitioner seeking review of agency action demonstrate standing by affidavit or other evidence if standing is not "self-evident" from the administrative record). Absent a petitioner with standing to challenge EPA's inclusion of PFCs and SF_6 in the "air pollution" at issue, this court lacks jurisdiction to address the merits of Industry Petitioners' contention.

E.

EPA did not submit the Endangerment Finding for review by its Science Advisory Board (SAB). Industry Petitioners claim that EPA's failure to do so violates its mandate to "make available" to the SAB "any proposed criteria document, standard, limitation, or regulation under the Clean Air Act" at the time it provides the same "to any other Federal agency for formal review and comment." 42 U.S.C. § 4365(c)(1); *see Am. Petroleum Inst.*, 665 F.2d at 1188.

To begin with, it is not clear that EPA provided the Endangerment Finding "to any other Federal agency for formal review and comment," which triggers this duty to submit a regulation to the SAB. EPA only submitted a draft of the Endangerment Finding to the Office of Information and Regulatory Affairs pursuant to Executive Order 12,866. EPA contends that this was merely an *informal* review process, not "formal review and comment"—at least when compared with a statutory review-and-comment requirement in which other agencies are given the opportunity to provide written comments about the impacts of a proposed regulation on the reviewing agency's universe of responsibility. *See, e.g.*, 49 U.S.C. § 32902(j). Industry Petitioners failed to respond to this contention.

In any event, even if EPA violated its mandate by failing to submit the Endangerment Finding to the SAB, Industry Petitioners have not shown that this error was "of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made." 42 U.S.C. § 7607(d)(8); *see Am. Petroleum Inst.*, 665 F.2d at 1188-89 (applying this standard to EPA's failure to submit an ozone standard to the SAB).

F.

Lastly, State Petitioners maintain that EPA erred by denying all ten petitions for reconsideration of the Endangerment Finding. Those petitions asserted that internal e-mails and documents released from the University of East Anglia's Climate Research Unit (CRU)—a contributor to one of the global temperature records and to the IPCC's assessment report—undermined the scientific evidence supporting the Endangerment Finding by calling into question whether the IPCC scientists adhered to "best science practices." *EPA's Denial of the Petitions To Reconsider the Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act* ("Reconsideration Denial"), 75 Fed. Reg. 49,556, 49,556-57 (Aug. 13, 2010). The petitions pointed to factual mistakes in the IPCC's assessment report resulting from the use of non-peer-reviewed studies and several scientific studies postdating the Endangerment Finding as evidence that the Endangerment Finding was flawed. *Id.*

On August 13, 2010, EPA issued a denial of the petitions for reconsideration accompanied by a 360-page response to petitions (RTP). *Id.* at 49,556. It determined that the petitions did not provide substantial support for the argument that the Endangerment Finding should be revised. According to EPA, the petitioners' claims based on the CRU documents were exaggerated, contradicted by other evidence, and not a material or reliable basis for questioning the credibility of the body of science at issue; two of the factual inaccuracies alleged in the petitions were in fact mistakes, but both were "tangential and minor" and did not change the key IPCC conclusions; and the new scientific studies raised by some petitions were either already considered by EPA, misinterpreted or misrepresented by petitioners, or put forth without acknowledging other new studies. *Id.* at 49,557-58.

1.

EPA is required to convene a proceeding for reconsideration of a rule if a party raising an objection to the rule

> can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule.

42 U.S.C. § 7607(d)(7)(B). For the purpose of determining whether to commence reconsideration of a rule, EPA considers an objection to be of "central relevance to the outcome" of that rule "if it provides substantial support for the argument that the regulation should be revised." Reconsideration Denial, 75 Fed. Reg. at 49,561.

State Petitioners have not provided substantial support for their argument that the Endangerment Finding should be revised. State Petitioners point out that some studies the IPCC referenced in its assessment were not peer-reviewed, but they ignore the fact that (1) the IPCC assessment relied on around 18,000 studies that were peer-reviewed, and (2) the IPCC's report development procedures expressly permitted the inclusion in the assessment of some non-peer-reviewed studies ("gray" literature).

Moreover, as EPA determined, the limited inaccurate information developed from the gray literature does not appear sufficient to undermine the substantial overall evidentiary support for the Endangerment Finding. State Petitioners have not, as they assert, uncovered a "pattern" of flawed science. Only two of the errors they point out seem to be errors at all, and EPA relied on neither in making the Endangerment Finding. First, as State Petitioners assert, the IPCC misstated the percentage of the Netherlands that is below sea level, a statistic that was used for background information. However, the IPCC corrected the error, and EPA concluded that the error was "minor and had no impact," and the Endangerment Finding did not refer to the statistic in any way. *Id.* at 49,576-77. Second, the IPCC acknowledged misstating the rate at which Himalayan glaciers are receding. EPA also did not rely on that projection in the Endangerment Finding. *Id.* at 49,577.

State Petitioners also contend that a new study contradicts EPA's reliance on a projection of more violent storms in the future as a result of climate change, but the study they cite only concerns past trends, not projected future storms. The record shows that EPA considered the new studies on storm trends and concluded that the studies were consistent with the Endangerment Finding. In sum, State Petitioners have failed to show that these isolated "errors" provide substantial support for their argument to overturn the Endangerment Finding.

2.

State Petitioners' further argument that EPA erred in denying reconsideration fails as well. These Petitioners claim EPA erred by failing to provide notice and comment before denying the petitions for reconsideration because EPA's inclusion of a 360-page RTP amounted to a revision of the Endangerment Finding, and revision of a rule requires notice and comment. The RTP, however, appears to be exactly what EPA called it—a response to the petitions for reconsideration, not a revision of the Endangerment Finding itself. EPA certainly may deny petitions for reconsideration of a rule and provide an explanation for that denial, including by providing support for that decision, without triggering a new round of notice and comment for the rule.

III.

State and Industry Petitioners contend that in promulgating the Tailpipe Rule, EPA relied on an improper interpretation of CAA § 202(a)(1), and was arbitrary and capricious in failing to justify and consider the cost impacts of its conclusion that the Rule triggers stationary-source regulation under the PSD and Title V provisions. They do not challenge the substantive standards of the Rule and focus principally on EPA's failure to consider the cost of stationary-source permitting requirements triggered by the

Rule. Positing an absurd-consequences scenario, Petitioners maintain that if EPA had considered these costs it "would have been forced" to exclude carbon dioxide from the scope of the emission standards, to decline to issue greenhouse gas emission standards at all, or "to interpret the statute so as not to automatically trigger stationary source regulation." Industry Tailpipe Br. 17; *see also* Industry Tailpipe Reply Br. 8-9. Both the plain text of Section 202(a) and precedent refute Petitioners' contentions.

A.

Section 202(a)(1) provides:

> The Administrator shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

42 U.S.C. § 7521(a)(1). By employing the verb "shall," Congress vested a non-discretionary duty in EPA. *See Sierra Club v. Jackson*, 648 F.3d 848, 856 (D.C.Cir.2011). The plain text of Section 202(a)(1) thus refutes Industry Petitioners' contention that EPA had discretion to defer issuance of motor-vehicle emission standards on the basis of stationary-source costs. Neither the adjacent text nor the statutory context otherwise condition this clear "language of command," *id.* (citation omitted). Having made the Endangerment Finding pursuant to CAA § 202(a), 42 U.S.C. § 7521(a), EPA lacked discretion to defer promulgation of the Tailpipe Rule on the basis of its trigger of stationary-

source permitting requirements under the PSD program and Title V.

The Supreme Court's decision in ***Massachusetts v. EPA*** compels this interpretation of Section 202(a)(1). "If EPA makes a finding of endangerment, the Clean Air Act requires the [a]gency to regulate emissions of the deleterious pollutant from new motor vehicles." 549 U.S. at 533, 127 S.Ct. 1438. "Under the clear terms of the Clean Air Act, EPA can avoid taking further action *only if* it determines that greenhouse gases do not contribute to climate change *or if* it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." *Id.* (emphasis added). In the Endangerment Finding, EPA determined that motor-vehicle emissions contribute to greenhouse gas emissions that, in turn, endanger the public health and welfare; the agency therefore was in no position to "avoid taking further action," *id.*, by deferring promulgation of the Tailpipe Rule. Given the non-discretionary duty in Section 202(a)(1) and the limited flexibility available under Section 202(a)(2), which this court has held relates only to the motor-vehicle industry, *see infra* Part III.C, EPA had no statutory basis on which it could "ground [any] reasons for" further inaction, ***Massachusetts v. EPA***, 549 U.S. at 535, 127 S.Ct. 1438.

The plain text of Section 202(a)(1) also negates Industry Petitioners' contention that EPA had discretion to defer the Tailpipe Rule on the basis of NHTSA's authority to regulate fuel economy. The Supreme Court dismissed a near-identical argument in ***Massachusetts v. EPA***, rejecting the suggestion that EPA could decline to regulate carbon-dioxide emissions because the Department of Transportation (DOT) had independent authority to set fuel-efficiency standards. *Id.* at 531-32, 127 S.Ct. 1438. "[T]hat DOT sets mileage standards in no way licenses EPA to shirk its environmental responsibilities," because EPA's duty to promulgate emission standards derives from "a statutory obligation wholly independent of DOT's mandate to promote energy efficiency." *Id.* at 532, 127 S.Ct. 1438. Just as EPA lacks authority to refuse to regulate on the grounds of NHTSA's regulatory authority, EPA cannot defer regulation on that basis. A comparison of the relevant statutes bolsters this conclusion. *Compare* 49 U.S.C. § 32902(f) ("When deciding maximum feasible average fuel economy . . . , the Secretary of Transportation shall consider . . . the effect of other motor vehicle standards of the Government on fuel economy. . . ."), *with* 42 U.S.C. § 7521(a) (including no such direction). Nor, applying the same reasoning, was EPA required to treat NHTSA's proposed regulations as establishing the baseline for the Tailpipe Rule. Furthermore, the Tailpipe Rule provides benefits above and beyond those resulting from NHTSA's fuel-economy standards. *See, e.g.*, Tailpipe Rule, 75 Fed. Reg. at 25,490 (Table III.F.1-2), 25,636 (Table IV.G.1-4). Petitioners' related contentions regarding the PSD permitting triggers are addressed in Part V.

B.

Turning to the APA, Industry Petitioners contend, relying on *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 525 (D.C.Cir.1983), and *Ethyl Corp. v. EPA*, 541 F.2d 1 (D.C.Cir.1976), that EPA failed both to justify the Tailpipe Rule in terms of the risk identified in the Endangerment Finding and to show that the proposed standards "would meaningfully mitigate the alleged endangerment," Industry Tailpipe Br. 35. Instead, they maintain that EPA "separated these two integral steps," *id.* at 11, and "concluded that it had no obligation to show . . . 'the resulting emissions control strategy or strategies will have some significant degree of harm reduction or effectiveness in addressing the endangerment,'" *id.* at 11-12 (quoting Endangerment Finding, 74 Fed. Reg. at 66,508). These contentions fail.

Petitioners' reliance on *Small Refiner*, 705 F.2d at 525, is misplaced; the court there laid out guidelines for assessing EPA's discretion to set numerical standards and Petitioners do not challenge the substance of the emission standards. In *Ethyl*, 541 F.2d at 7, the court assessed the scope of EPA's authority, under CAA § 211(c)(1), 42 U.S.C. § 1857f-6c(c)(1) (1970) (*currently codified as amended at* 42 U.S.C. § 7545(c)(1)), to regulate lead particulate in motor-vehicle emissions. The court rejected the argument that the regulations had to "be premised upon factual proof of actual harm," *Ethyl*, 541 F.2d at 12, and instead deferred to EPA's reasonable interpretation that regulations could be based on a "significant risk of harm," *id.* at 13. Nothing in *Ethyl* implied that EPA's authority to regulate was conditioned on evidence of a particular level of mitigation; only a showing of significant *contribution* was required. EPA made such a determination in the Endangerment Finding, concluding that vehicle emissions are a significant contributor to domestic greenhouse gas emissions. *See, e.g.*, Endangerment Finding, 74 Fed. Reg. at 66,499. Further, in the preamble to the Tailpipe Rule itself, EPA found that the emission standards would result in meaningful mitigation of greenhouse gas emissions. For example, EPA estimated that the Rule would result in a reduction of about 960 million metric tons of CO_2e emissions over the lifetime of the model year 2012-2016 vehicles affected by the new standards. *See*

Tailpipe Rule, 75 Fed. Reg. at 25,488-90. Other precedent is likewise unhelpful to Petitioners: in *Chemical Manufacturers Association v. EPA*, 217 F.3d 861, 866 (D.C.Cir.2000), "nothing in the record" indicated that the challenged regulatory program would "directly or indirectly, further the Clean Air Act's environmental goals," whereas here the record is fulsome, *see supra* Part II.

C.

Petitioners also invoke Section 202(a)(2) as support for their contention that EPA must consider stationary-source costs in the Tailpipe Rule. Section 202(a)(2) provides:

> Any regulation prescribed under paragraph (1) of this subsection . . . shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

42 U.S.C. § 7521(a)(2). State Petitioners maintain the reference to compliance costs encompasses those experienced by stationary sources under the PSD program, while Industry Petitioners maintain stationary-source costs are a relevant factor in EPA's Section 202(a)(1) rulemaking. This court, however, has held that the Section 202(a)(2) reference to compliance costs encompasses only the cost to the motor-vehicle industry to come into compliance with the new emission standards, and does not mandate consideration of costs to other entities not directly subject to the proposed standards. *See Motor & Equip. Mfrs. Ass'n, Inc. v. EPA*, 627 F.2d 1095, 1118 (D.C.Cir.1979).

D.

Petitioners' remaining challenges to the Tailpipe Rule fail as well. In Part II, the court rejects the contention that the Tailpipe Rule fails due to flaws in the underlying Endangerment Finding. The record also refutes Industry Petitioners' suggestion that EPA "employed a shell game to avoid," Industry Tailpipe Reply Br. 9 (capitalization removed), responding to comments regarding stationary-source costs. Industry Tailpipe Br. 19-20; *see also* Industry Tailpipe Reply Br. 14-15. EPA adequately responded to "significant comments," 42 U.S.C. § 7607(d)(6)(B). *See, e.g.*, Tailpipe Rule, 75 Fed. Reg. at 25,401-02; Tailpipe Rule, Response to Comments at 7-65 to 7-69. And, assuming other statutory mandates provide a basis for judicial review, *see* Industry Tailpipe Br. 21-22 (listing mandates); *see, e.g.*, *Small Refiner*, 705 F.2d at 537-39, the record shows EPA's compliance, *see* Tailpipe Rule, 75 Fed. Reg. at 25,539-42, and that EPA was not arbitrary and capricious by not considering stationary-source costs in its analyses. *See, e.g.*, *Michigan v. EPA*, 213 F.3d 663, 689 (D.C.Cir.2000); *Mid-Tex Elec. Coop., Inc. v. FERC*, 773 F.2d 327, 341-42 (D.C.Cir.1985). EPA's economic impact assessment conducted pursuant to CAA § 317, 42 U.S.C. § 7617, does not provide grounds for granting the petitions because Petitioners' contentions that EPA, "[i]n defiance of these requirements, . . . refused to estimate or even consider the costs of the [Tailpipe Rule] for stationary sources," Industry Tailpipe Br. 22, are no more than another attempt to avoid the plain text of Section 202(a). *See also* 42 U.S.C. § 7617(e).

IV.

We turn next to the stationary source regulations. As noted *supra* in Part I, EPA's interpretation of the

CAA requires PSD and Title V permits for stationary sources whose potential emissions exceed statutory thresholds for *any* regulated pollutant—including greenhouse gases. Industry Petitioners now challenge EPA's longstanding interpretation of the scope of the permitting requirements for construction and modification of major emitting facilities under CAA Sections 165(a) and 169(1), 42 U.S.C. §§ 7475(a) & 7479(1) ("the PSD permitting triggers"). EPA maintains that this challenge is untimely because its interpretation of the PSD permitting triggers was set forth in its 1978, 1980, and 2002 Rules.

In 1978, EPA defined "major stationary source" as a source that emits major amounts of "any air pollutant regulated under the [CAA]." *Part 51—Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Prevention of Significant Air Quality Deterioration* ("1978 Implementation Plan Requirements"), 43 Fed. Reg. 26,380, 26,382 (June 19, 1978). Industry petitioners' challenge to the 1978 Rule in *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C.Cir.1980) reflected their understanding that EPA would apply the PSD permitting program to both pollutants regulated pursuant to National Ambient Air Quality Standards (NAAQS) and other regulated pollutants. *See* Br. for Industry Pet'rs on Regulation of Pollutants other than Sulfur Dioxide and Particulates, No. 78-1006 (and consolidated cases) (Dec. 19, 1978) at 10, 12. In the 1980 Rule, EPA highlighted that to be subject to PSD review, a "source need only emit *any* pollutant in major amounts (i.e., the amounts specified in [CAA § 169(1)]) and be located in an area designated attainment or unclassifiable for that or any other pollutant." 1980 Implementation Plan Requirements, 45 Fed. Reg. at 52,711 (emphasis in original). EPA explained that "any pollutant" meant "both criteria pollutants, for which national ambient air quality standards have been promulgated, and non-criteria pollutants subject to regulation under the Act." *Id*. The same explanation of EPA's interpretation appeared in the 2002 Rule. *Prevention of Significant Deterioration and Nonattainment New Source Review*, 67 Fed. Reg. 80,186, 80,239-40, 80,264 (Dec. 31, 2002).

CAA Section 307(b)(1) provides that a petition for review of any promulgated nationally applicable regulations:

> "shall be filed within sixty days from the date notice of such promulgation . . . appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review . . . shall be filed within sixty days after such grounds arise."

42 U.S.C. § 7607(b)(1). The exception encompasses the occurrence of an event that ripens a claim. *See Chamber of Commerce v. EPA*, 642 F.3d 192, 208 n. 14 (D.C.Cir.2011); *Am. Rd. & Transp. Builders Ass'n v. EPA*, 588 F.3d 1109, 1113 (D.C.Cir.2009). EPA acknowledges this precedent, but maintains that the "new grounds" exception is narrow and inapplicable because Industry Petitioners' challenge to EPA's interpretation of the PSD permitting triggers is based on legal arguments that were available during the normal judicial review periods for the 1978, 1980, and 2002 Rules, and the "new ground" on which they now rely is a factual development, namely the regulation of greenhouse gases by the Tailpipe Rule. This is correct so far as it goes, but fails to demonstrate that Industry Petitioners' challenge is untimely.

Industry Petitioners point out that two petitioners—the National Association of Home Builders (NAHB) and National Oilseed Processors Association (NOPA)—have newly ripened claims as a result of the Tailpipe Rule, which had the effect of expanding the PSD program to never-regulated sources:

- NAHB's members construct single family homes, apartment buildings, and commercial buildings. According to the Vice President of Legal Affairs, prior to the Tailpipe Rule, no member of NAHB was a major source of any regulated pollutant, and thus no member was ever required to obtain a PSD permit. Decl. of Thomas J. Ward, Vice President of Legal Affairs for NAHB, ¶ 6 (May 10, 2011). Since the Tailpipe Rule rendered greenhouse gases a regulated pollutant, it is now certain that NAHB members that engage in construction projects that emit greenhouse gases in major amounts will have to obtain PSD permits sometime in the future. *Id.* at ¶¶ 7, 8. Indeed, EPA estimated that 6,397 multifamily buildings and 515 single family homes would trigger PSD review annually absent the Tailoring Rule. *See Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Proposed Rule* ("Proposed Tailoring Rule"), 74 Fed. Reg. 55,292, 55,338 (Oct. 27, 2009).

- NOPA's members are large companies that monthly produce millions of tons of vegetable meals and over a billion pounds of oils from oilseeds, such as soybeans. *See, e.g.*, NOPA, January 2012 Statistical Report (Feb. 14, 2012) *available at www.nopa.org*; NOPA, February 2012 Statistical Report (Mar. 14, 2012), *available at www.nopa.org*. According

> to the Executive Vice President of Regulatory Affairs, NOPA members operate facilities that are major sources of criteria pollutants and, for this reason, are subject to PSD review. Decl. of David C. Ailor, Executive Vice President of Regulatory Affairs of NOPA, ¶ 8 (May 10, 2011). Prior to promulgation of the Tailpipe Rule, no member's facility had triggered PSD review by virtue of emissions of a non-criteria pollutant. *Id*. Now that greenhouse gases are a regulated non-criteria pollutant, many NOPA members will have to obtain PSD permits as result of their facilities' emissions of a non-criteria pollutant. *Id*. at ¶¶ 9, 10. For some NOPA members this time is not far off because renovations to their facilities will result in greenhouse gas emissions above the significance thresholds set by the Tailoring Rule, 75 Fed. Reg. at 31,567. *Id*. at ¶ 9.

Industry Petitioners thus maintain that because NAHB and NOPA filed their petitions on July 6, 2010, within 60 days of the promulgation of the Tailpipe Rule in the Federal Register on May 7, 2010, their challenges are timely.

"Ripeness, while often spoken of as a justiciability doctrine distinct from standing, in fact shares the constitutional requirement of standing that an injury in fact be certainly impending." *Nat'l Treasury Emp. Union v. United States*, 101 F.3d 1423, 1427 (D.C.Cir.1996). During an initial review period, although purely legal claims may be justiciable and, thus, prudentially ripe, a party without an immediate or threatened injury lacks a constitutionally ripe claim. *See Baltimore Gas & Elec. Co. v. ICC*, 672 F.2d 146, 149 (D.C.Cir.1982). EPA's position would conflate the constitutional and prudential considerations. Constitutional ripeness exists where a challenge "involve[s], at least in part, the existence of a live 'Case or Controversy.'" *Duke Power Co. v. Carolina Envtl. Study Group*, 438 U.S. 59, 81, 98 S.Ct. 2620, 57 L.Ed.2d 595 (1978). Prudential considerations embodied in the ripeness doctrine relate to "the fitness of the issues for judicial decision and the hardship to the parties of withholding court consideration." *Abbott Labs. v. Gardner*, 387 U.S. 136, 149, 87 S.Ct. 1507, 18 L.Ed.2d 681 (1967); *see Duke Power*, 438 U.S. at 81, 98 S.Ct. 2620. Standing to challenge agency action exists where a petitioner can demonstrate an "injury in fact" that is fairly traceable to the challenged action and is likely to be redressed by a favorable judicial decision. *Reytblatt v. NRC*, 105 F.3d 715, 721 (D.C.Cir.1997) (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992)).

Had NAHB and NOPA challenged EPA's interpretation of the PSD permitting triggers in 1978, 1980, or 2002, as EPA suggests, the court would have lacked jurisdiction under Article III of the Constitution because their alleged injuries were only speculative. *See, e.g., Occidental Permian Ltd. v. FERC*, 673 F.3d 1024, 1026 (D.C.Cir.2012); *Baltimore Gas & Elec. Co.*, 672 F.2d at 149. At that time, NAHB and NOPA could have shown only the possibility that their members would be injured if EPA were someday to determine that greenhouse gases were a pollutant that endangers human health and welfare and to adopt a rule regulating the greenhouse gas emissions of stationary sources. EPA does not challenge the assertions in the NAHB and NOPA declarations, which establish no such rule was promulgated prior to the Tailpipe Rule.

The NAHB and NOPA challenges ceased to be speculative when EPA promulgated the Tailpipe Rule regulating greenhouse gases and their challenges ripened because of the "substantial probability" of injury to them. *See Baltimore Gas & Elec. Co.*, 672 F.2d at 149. Although, as EPA notes, other Industry Petitioners' challenges to EPA's interpretation of the PSD permitting triggers ripened decades earlier, this court has assured petitioners with unripe claims that "they will not be foreclosed from judicial review when the appropriate time comes," *Grand Canyon Air Tour Coalition v. FAA*, 154 F.3d 455, 473 (D.C.Cir.1998), and that they "need not fear preclusion by reason of the 60-day stipulation [barring judicial review]," *Baltimore Gas & Elec. Co.*, 672 F.2d at 149-50. EPA expresses concern that allowing NAHB and NOPA to litigate their newly ripened claims will have far-reaching implications for finality of agency actions, but "the ripeness doctrine reflects a judgment that the disadvantages of a premature review that may prove too abstract or unnecessary ordinarily outweigh the additional costs of—even repetitive—. . . litigation." *Ohio Forestry Ass'n, Inc. v. Sierra Club*, 523 U.S. 726, 735, 118 S.Ct. 1665, 140 L.Ed.2d 921 (1998). Some limitations inhere in doctrines such as *stare decisis* or the law-of-the-circuit doctrine, *see LaShawn A. v. Barry*, 87 F.3d 1389, 1395 (D.C.Cir.1996) (en banc).

Because petitioners NAHB and NOPA's challenges to EPA's PSD permitting triggers are newly ripened upon promulgation of the Tailpipe Rule and they filed petitions for review within sixty days thereof, their challenge to EPA's interpretation of the PSD permitting triggers is timely.

V.

Having established that Industry Petitioners' challenges to the PSD permitting triggers are both timely and ripe, we turn to the merits of their claims.

A.

CAA Title I, Part C—entitled "Prevention of Significant Deterioration of Air Quality" (PSD)—largely focuses on the maintenance of national ambient air quality standards (NAAQS). Under the PSD program, EPA designates specific pollutants as "NAAQS pollutants" and sets national ambient air quality standards for those pollutants—requiring, for example, that the concentration of a given NAAQS pollutant may not exceed more than a certain number of parts per billion in the ambient air. *See generally* 42 U.S.C. § 7407. Thus far, EPA has designated six NAAQS pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. None of these NAAQS pollutants is one of the six well-mixed greenhouse gases defined as an "air pollutant" in the Endangerment Finding. *See* Environmental Protection Agency, National Ambient Air Quality Standards, *available at* http://www.epa.gov/air/criteria.html (last visited May 3, 2012); Endangerment Finding, 74 Fed. Reg. 66,536-37.

Acting upon information submitted by states, EPA then determines whether each region of the country is in "attainment" or "nonattainment" with the promulgated air quality standard for each NAAQS pollutant, or, alternatively, whether a region is "unclassifiable" for that pollutant. 42 U.S.C. § 7407(d)(1)(A). An area in attainment for a NAAQS pollutant is "any area . . . that meets the . . . ambient air quality standard for the pollutant." *Id.* § 7407(d)(1)(A)(ii). By contrast, an area in nonattainment for a NAAQS pollutant is "any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national . . . ambient air quality standard for the pollutant." *Id.* § 7407(d)(1)(A)(i). Finally, an unclassifiable area is any area that "cannot be classified on the basis of available information as meeting or not meeting the . . . ambient air quality standard for the pollutant." *Id.* § 7407(d)(1)(A)(iii).

The PSD program applies to those areas of the United States designated as in "attainment" or "unclassifiable" for any NAAQS pollutant, *see id.* § 7471, and requires permits for major emitting facilities embarking on construction or modification projects in those regions. *Id.* § 7475(a). A separate part of Title I of the CAA, Part D, governs the construction and modification of sources in nonattainment regions. *See id.* §§ 7501, 7502. It bears emphasis that attainment classifications are pollutant-specific: depending on the levels of each NAAQS pollutant in an area, a region can be designated as in attainment for NAAQS pollutant A, but in nonattainment for NAAQS pollutant B. If a major emitting facility in such a region wishes to undertake a construction or modification project, both Part C and Part D's substantive requirements apply—that is, the source must obtain a general PSD permit and must also abide by Part D's more stringent, pollutant-specific requirements for any NAAQS pollutants for which the area is in nonattainment. *See* 1980 Implementation Plan Requirements, 45 Fed. Reg. at 52,711-12 ("where a source emits in major amounts a pollutant for which the area in which the source would locate is designated nonattainment, Part D NSR rather than Part C PSD review should apply *to those pollutants*.") (emphasis added).

The key substantive provision in the PSD program is CAA Section 165(a), which establishes permitting requirements for "major emitting facilities" located in attainment or unclassifiable regions. In relevant part, section 165(a) provides that "[n]o major emitting facility . . . may be constructed in any area to which this part applies unless" the facility obtains a PSD permit. 42 U.S.C. § 7475(a). To obtain a PSD permit, a covered source must, among other things, install the "best available control technology [BACT] for each pollutant subject to regulation under [the CAA]"—regardless of whether that pollutant is a NAAQS pollutant. *Id.* § 7475(a)(4). Since the Tailpipe Rule became effective, EPA has regulated automotive greenhouse gas emissions under Title II of the Act. Thus, greenhouse gases are now a "pollutant subject to regulation under" the Act, and, as required by the statute itself, any "major emitting facility" covered by the PSD program must install BACT for greenhouse gases. *See id.*

The dispute in this case centers largely on the scope of the PSD program—specifically, which stationary sources count as "major emitting facilities" subject to regulation. CAA Section 169(1) defines "major emitting facility," for the purposes of the PSD program, as a stationary source "which emit[s], or [has] the potential to emit" either 100 tons per year (tpy) or 250 tpy of "*any air pollutant*." 42 U.S.C. § 7479(1) (emphasis added). As discussed *supra* in Part I, whether the 100 or 250 tpy threshold applies depends on the type of source. Certain listed categories of sources—for example, iron and steel mill plants—qualify as "major emitting facilities" if they have the potential to emit over 100 tons per year of "any air pollutant." *Id.* All other stationary sources are "major emitting facilities" if they have the potential to emit over 250 tons per year of "any air pollutant." *Id.*

As mentioned above, since 1978 EPA has interpreted the phrase "any air pollutant" in the definition of "major emitting facility" as "any air pollutant regulated under the CAA." *See* 1978 Implementation Plan Requirements, 43 Fed. Reg. at 26,388, 26,403; *supra* Part IV. Thus, because the PSD program covers "major emitting facilities" in "any area to which this part applies," 42 U.S.C. § 7475, EPA requires PSD permits for stationary sources that 1) are located in an area designated as attainment or unclassifiable for any NAAQS pollutant, and 2) emit 100/250 tpy of any regulated air pollutant, regardless of whether that pollutant is itself a NAAQS pollutant. *See* 1980 Implementation Plan Requirements, 45 Fed. Reg. at 52,710-11. Consequently, once the Tailpipe Rule took effect and made greenhouse gases a regulated pollutant under Title II of the Act, the PSD program automatically applied to facilities emitting over 100/250 tpy of greenhouse gases. But because immediate regulation of greenhouse gas-emitting sources exceeding the 100/250 tpy benchmark would result in "overwhelming permitting burdens that would . . . fall on permitting authorities and sources," Tailoring Rule, 75 Fed. Reg. at 31,516, EPA's Tailoring Rule provided that, for now, sources are subject to PSD permitting requirements only if they have the potential to emit over 100,000 tpy of greenhouse gases (for a construction project) or 75,000 tpy (for a modification project). *Id.* at 31,523; *see also infra*, Part VI.

According to EPA, its longstanding interpretation of the phrase "any air pollutant"—"any air pollutant regulated under the CAA"—is compelled by the statute. *See id.* at 31,517. Disputing this point, Industry Petitioners argue that the phrase is capable of a far more circumscribed meaning and that EPA could have—and should have—avoided extending the PSD permitting program to major greenhouse gas emitters. For the reasons discussed below, we agree with EPA that its longstanding interpretation of the PSD permitting trigger is statutorily compelled. Thus, as EPA argues, it "must give effect to the unambiguously expressed intent of Congress," *Chevron*, 467 U.S. at 843, 104 S.Ct. 2778, which here requires PSD coverage for major emitters of any regulated air pollutant.

We begin our analysis, as we must, with the statute's plain language. *See Chevron*, 467 U.S. at 842, 104 S.Ct. 2778 ("First, always, is the question whether Congress has directly spoken to the precise question at issue."). CAA Section 169(1) requires PSD permits for stationary sources emitting major amounts of "*any* air pollutant." 42 U.S.C. § 7479(1) (emphasis added). On its face, "the word 'any' has an expansive meaning, that is, 'one or some indiscriminately of whatever kind,'" *United States v. Gonzales*, 520 U.S. 1, 5, 117 S.Ct. 1032, 137 L.Ed.2d 132 (1997) (quoting WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 97 (1976)). Greenhouse gases are indisputably an "air pollutant." *See Massachusetts v. EPA*, 549 U.S. at 528-29, 127 S.Ct. 1438. Congress's use of the broad, indiscriminate modifier "any" thus strongly suggests that the phrase "any air pollutant" encompasses greenhouse gases.

This plain-language reading of the statute is buttressed by the Supreme Court's decision in *Massachusetts v. EPA*. There the Court determined that CAA's overarching definition of "air pollutant" in

Section 302(g)—which applies to all provisions of the Act, including the PSD program—unambiguously includes greenhouse gases. Noting that "[t]he Clean Air Act's sweeping definition of 'air pollutant' includes '*any* air pollution agent or combination of such agents. . . . which is emitted into or otherwise enters the ambient air," the Court held that "the definition embraces *all* airborne compounds of whatever stripe, *and underscores that intent through repeated use of the word 'any.'*" *Id.* at 529, 127 S.Ct. 1438 (quoting 42 U.S.C. § 7602(g)) (second and third emphases added). Crucially for purposes of the issue before us, the Court concluded that "[t]he statute is unambiguous." *Id.*

Thus, we are faced with a statutory term—"air pollutant"—that the Supreme Court has determined unambiguously encompasses greenhouse gases. This phrase is preceded by the expansive term "any," a word the Court held "underscores" Congress's intent to include "all" air pollutants "of whatever stripe." *See id.* Absent some compelling reason to think otherwise, "'any' . . . means any," *Ford v. Mabus*, 629 F.3d 198, 206 (D.C.Cir.2010), and Petitioners have given us no reason to construe that word narrowly here. To the contrary: given both the statute's plain language and the Supreme Court's decision in *Massachusetts v. EPA*, we have little trouble concluding that the phrase "any air pollutant" includes *all* regulated air pollutants, including greenhouse gases.

In reaching this conclusion, we recognize that EPA's definition of "any air pollutant" slightly narrows the literal statutory definition, which nowhere requires that "any air pollutant" be a *regulated* pollutant. *See* 42 U.S.C. § 7479(1). But this does not make the statutory language ambiguous. Indeed, "any regulated air pollutant" is the only logical reading of the statute.

The CAA's universal definition of "air pollutant"—the one at issue in ***Massachusetts v. EPA***—provides that the term includes "any physical, chemical, biological [or] radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air." *Id.* § 7602(g). Of course, nothing in the CAA requires regulation of a substance simply because it qualifies as an "air pollutant" under this broad definition. As discussed *supra* in Parts II and III, for example, the Act requires EPA to prescribe motor vehicle "standards applicable to the emission of any air pollutant" only if that pollutant "cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." *Id.* § 7521(a)(1). But if "any air pollutant" in the definition of "major emitting facility" was read to encompass both regulated and nonregulated air pollutants, sources could qualify as major emitting facilities—and thus be subjected to PSD permitting requirements—if they emitted 100/250 tpy of a "physical, chemical, [or] biological" substance EPA had determined was harmless. It is absurd to think that Congress intended to subject stationary sources to the PSD permitting requirements due to emissions of substances that do not "endanger public health or welfare." *Id.* § 7521(a)(1). Thus, "any regulated air pollutant" is, in this context, the only plausible reading of "any air pollutant."

We find further support for this definition throughout the CAA. First, as previously mentioned, the PSD program provides that all major emitting facilities must install BACT for "each pollutant subject to regulation under [the CAA]." *Id.* § 7475(a)(4). "Each pollutant subject to regulation under" the Act is, of course, synonymous with "any air pollutant regulated under the Act." Thus, EPA's interpretation of "any air pollutant" in the definition of "major emitting facilities" harmonizes the PSD program's scope (*i.e.*, which pollutants trigger PSD coverage) with its substantive requirements (*i.e.*, which pollutants must be controlled to obtain a permit). In other words, because a covered source must control greenhouse gas emissions, it makes sense that major emissions of greenhouse gases would subject that source to the PSD program.

Second, a PSD permittee is required to establish that it

> will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission standard or standard of performance under [the CAA].

Id. § 7475(a)(3). Subsections (A) and (B) prohibit a permitted source from contributing to a concentration of NAAQS pollutants that exceeds EPA's standards. By contrast, subsection (C) has an entirely different focus: it prohibits a permitted source from causing or contributing to air pollution in excess of *any* CAA emission standard. Thus, as EPA notes, "what this provision establishes is that while the PSD program was certainly directed towards NAAQS-criteria pollutants, it also was directed at maintaining air quality for other pollutants regulated under other provisions." EPA Timing & Tailoring Br. 101. EPA's determination that "any air pollutant" means "any air pollutant regulated under the Act"—encompassing the greenhouse gases regulated under Title II—is entirely consistent with this focus.

Finally, Congress made perfectly clear that the PSD program was meant to protect against precisely the types of harms caused by greenhouse gases. The PSD provision contains a section entitled "Congressional declaration of purpose," which provides, in relevant part, that "[t]he purposes of this part are . . . to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipated to occur from air pollution." 42 U.S.C. § 7470(1). The CAA further provides that "[a]ll language referring to effects on welfare includes, but is not limited to, effects on . . . weather . . . and climate." *Id.* § 7602(h). As previously noted, EPA in the Endangerment Finding "marshaled . . . substantial. . . . scientific evidence . . . for the proposition that greenhouse gases trap heat on earth that would otherwise dissipate into space [and] that this 'greenhouse effect' warms the climate." Part II, *supra* at 28-29. It further concluded that this "anthropogenically induced climate change" was likely to threaten the public welfare through, among other things, "extreme weather events." *Id.* at 15-16. Thus, one express purpose of the program is to protect against the harms caused by greenhouse gases.

In sum, we are faced with a statutory term—"any air pollutant"—that the Supreme Court has determined is "expansive," and "unambiguous[ly]" includes greenhouse gases. *Massachusetts v. EPA*, 549 U.S. at 529, 127 S.Ct. 1438. Moreover, the PSD program requires covered sources to install control technology for "each pollutant" regulated under the CAA, 42 U.S.C. § 7475(a)(4), and to establish that they "will not cause, or contribute to, air pollution in excess of *any* . . . emission standard . . . under [the CAA]." *Id.* § 7475(a)(3) (emphasis added). These provisions demonstrate that the PSD program was intended to control pollutants regulated under every section of the Act. Finally, Congress's "Declaration of Purpose" expressly states that the PSD program was meant, in part, to protect against adverse effects on "weather" and "climate"—precisely the types of harm caused by greenhouse gases. *See id*. § 7470(1). Given all this, we have little trouble concluding that "any air pollutant" in the definition of "major emitting facility" unambiguously means "any air pollutant regulated under the CAA."

B.

Industry Petitioners offer three alternative interpretations of the PSD permitting triggers, none of which cast doubt on the unambiguous nature of the statute.

As a preliminary matter, we note that none of Petitioners' alternative interpretations applies to Title V. To the contrary, all of the proposed alternative interpretations are based on the structure of—and purported Congressional intent behind—the PSD program. Indeed, Industry Petitioners never argue that their proposed alternative interpretations are relevant to Title V. Petitioners have thus forfeited any challenges to EPA's greenhouse gas-inclusive interpretation of Title V. *See, e.g., Nat'l Steel & Shipbuilding Co. v. NLRB*, 156 F.3d 1268, 1273 (D.C.Cir.1998) (petitioners forfeit an argument by failing to raise it in their opening brief).

Industry Petitioners' first alternative is simple enough. Because the PSD program focuses on "the air people breathe in certain geographically defined . . . areas," Coalition for Responsible Reg. Timing & Tailoring Br. 38, Industry Petitioners contend that the term "pollutant" in the PSD statute encompasses only air pollutants that, unlike greenhouse gases, "pollute locally." *Id.* at 35. Industry Petitioners would thus apply a greenhouse gas-exclusive interpretation of "pollutant" throughout the statute's PSD provision. Under this reading, a source would qualify as a "major emitting facility" only if it emits 100/250 tpy of "any air pollutant" except greenhouse gases. *See* 42 U.S.C. § 7479(1). Moreover, sources that *are* subject to PSD permitting requirements would be required to install BACT for "each pollutant subject to regulation under [the CAA]"—except greenhouse gases. *Id.* § 7475(a)(4).

We can easily dispose of Industry Petitioners' argument that the PSD program's "concerns with local emissions," Coalition for Responsible Reg. Timing & Tailoring Br. 36, somehow limit the BACT provision. The statutory text provides, without qualification, that covered sources must install the "best available control technology for *each pollutant subject to regulation* under [the CAA]." 42 U.S.C. § 7475(a)(4) (emphasis added). Because greenhouse gases are indisputably a pollutant subject to regulation under the Act, it is crystal clear that PSD permittees must install BACT for greenhouse gases. "When the words of a statute are unambiguous . . . judicial inquiry is complete." *Connecticut Nat'l Bank v. Germain*, 503 U.S. 249, 254, 112 S.Ct. 1146, 117 L.Ed.2d 391 (1992) (internal quotation marks omitted).

Equally without merit is Industry Petitioners' argument that the PSD program's regional focus requires a greenhouse gas-exclusive interpretation of "any air pollutant" in the definition of "major emitting facility." In support of this contention, Industry Petitioners note that CAA Section 161 provides that states' implementation plans for the PSD program "shall contain emission limitations and such other measures as may be necessary . . . to prevent *significant deterioration of air quality in each region.*" 42 U.S.C. § 7471 (emphasis added). The term "air quality," Industry Petitioners contend, implies a focus on "the air people breathe," and the term "in each region" suggests that Congress was concerned about local, not global, effects. *See* Coalition for Responsible Reg. Timing & Tailoring Br. 36. Moreover, Industry Petitioners note that when Congress enacted the PSD program in 1977, it did so "against the backdrop of a known universe of CAA-regulated pollutants." *Id.* All these pollutants, Industry Petitioners argue, "were regulated because they could cause elevated ground-level concentrations in ambient air people breathe." *Id.* And as Industry Petitioners point out, EPA itself has concluded that greenhouse gases are problematic for reasons other than local health and environmental concerns. In EPA's Advance Notice of Proposed Rulemaking for the regulations at issue here, for example, the agency noted that "[a] significant difference between the major [greenhouse gases] and most air pollutants regulated under the CAA is that [greenhouse gases] have much longer atmospheric lifetimes [and] . . . can remain in the atmosphere for decades to centuries." *Regulating Greenhouse Gas Emissions Under the Clean Air Act* ("Greenhouse Gas Advance Notice"), 73 Fed. Reg. 44,354, 44,400-01 (July 30, 2008). Moreover, "unlike traditional air pollutants," greenhouse gases "become well mixed throughout the global atmosphere so that the long-term distribution of [greenhouse gas] concentrations is not dependant on local emission sources." *Id.* Thus, Industry Petitioners conclude, greenhouse gases are problematic for reasons entirely distinct from the local concerns that provided the basis for the PSD program. Given this, the phrase "any air pollutant" cannot be applied to greenhouse gases in the context of the regionally-focused PSD program.

As an initial matter, we note that the Supreme Court rejected a very similar argument in *Massachusetts v. EPA*. There, EPA attempted to distinguish between greenhouse gases and other air pollution agents "because greenhouse gases permeate the world's atmosphere rather than a limited area near the earth's surface." *Massachusetts v. EPA*, 549 U.S. at 529 n. 26, 127 S.Ct. 1438. The Court held that this was "a plainly unreasonable reading of a sweeping statutory provision designed to capture '*any* physical, chemical . . . substance or matter which is emitted into or otherwise enters the ambient air,'" *id*. (quoting 42 U.S.C. § 7602(g)), thus rejecting the dissent's view that "EPA's exclusion of greenhouse gases . . . is entitled to deference." *Id*. As the Court noted, the purported distinction between greenhouse gases and "traditional" air pollutants "finds no support in the text of the statute, which uses the phrase 'the ambient air' without distinguishing between atmospheric layers." *Id*. *Massachusetts v. EPA* thus forecloses Industry Petitioners' argument that because greenhouse gases do not "cause elevated ground-level concentrations in ambient air people breathe," Coalition for Responsible Reg. Timing & Tailoring Br. 36, EPA should have adopted a greenhouse gas-exclusive interpretation of "any air pollutant."

We also have little trouble disposing of Industry Petitioners' argument that the PSD program is specifically focused solely on localized air pollution. True, as Industry Petitioners note, one part of the PSD program requires states to "prevent significant deterioration of air quality in each region." 42 U.S.C. § 7471 (emphasis added). But while localized air quality is obviously one concern of the PSD program, a comprehensive reading of the statute shows it was also meant to address a much broader range of harms. As an initial matter, the PSD provision's "Congressional declaration of purpose" section expansively provides that the program is intended "to protect public health and welfare from *any* actual or potential adverse effect . . . *from air pollution*." *Id.* § 7470(1) (emphasis added). Nothing in this section limits the PSD program to adverse effects on local air quality; to the contrary, the word "any" here gives this clause an "expansive meaning" which we see "no reason to contravene." *New York*, 443 F.3d at 885 (internal quotation marks omitted). Indeed, the CAA expressly provides that effects on "welfare" means "effects on . . . weather . . . and climate." 42 U.S.C. § 7602(h). It seems quite clear to us, then, that the PSD program was intended to protect against precisely the types of harms caused by greenhouse gases. This broad understanding of the PSD program's scope is buttressed by the fact that the program requires covered sources to control "each pollutant subject to regulation under [the CAA]," and further requires sources to comply with "*any* . . . emission standard" under the CAA. *Id.* § 7475(a)(3); (a)(4) (emphasis added). These substantive requirements amount to further evidence that Congress wanted the PSD program to cover all regulated pollutants, regardless of the type of harm those pollutants cause.

In light of the PSD program's broad scope of regulation and the express purposes of the program, we conclude—consistent with the Supreme Court in *Massachusetts v. EPA*—that Industry Petitioners' greenhouse gas-exclusive interpretation of "pollutant" is "a plainly unreasonable reading" of the statute.

Massachusetts v. EPA, 549 U.S. at 529 n. 26, 127 S.Ct. 1438.

1.

For their second alternative interpretation, Industry Petitioners argue that the PSD program's definition of "major emitting facility" establishes a "pollutant-specific situs requirement." Am. Chemistry Council Br. 33. Under this reading of the statute, a stationary source is subject to PSD permitting requirements only if "(1) a source has major emissions of a NAAQS criteria pollutant and (2) the source is located in an area attaining *that pollutant's*" air quality standard. Coalition for Responsible Reg. Timing & Tailoring Br. 23. Thus, for example, a source would be subject to the PSD permitting requirements if it 1) emits over 100/250 tpy of sulfur dioxide (a NAAQS criteria pollutant), and 2) is located in an area that is in "attainment," or is "unclassifiable," for sulfur dioxide. But under this approach, a stationary source could never be subject to the PSD program solely because of its greenhouse gas emissions. After all, Industry Petitioners observe, EPA declined to make greenhouse gases a NAAQS criteria pollutant. Instead, EPA regulated greenhouse gases only under Title II of the Act, dealing with motor vehicle emissions. Because "no major source of [greenhouse gases] can be located in an area attaining the nonexistent [air quality standard] for [greenhouse gases]," *id.* at 24, Industry Petitioners point out that their reading of the statute would bring no new stationary sources under the PSD program's ambit—alleviating any "absurd results" caused by excessive permitting requirements, *id.* at 25.

Industry Petitioners emphasize that, unlike their first proposed alternative, nothing in this approach would "wholly exempt [greenhouse gases] from PSD." Coalition for Responsible Reg. Timing & Tailoring Reply Br. 20. Although a pollutant-specific situs requirement would limit the *number* of sources subject to the PSD program, nothing in this proposed reading of the statute would alter the substantive requirements for PSD permits, including the requirement that all regulated sources install BACT "for each pollutant subject to regulation under [the CAA]." 42 U.S.C. § 7475(a)(4). So, for example, under this interpretation, a hypothetical stationary source emitting more than 100/250 tpy of sulfur dioxide and located in an area designated as "in attainment" for sulfur dioxide, must still install BACT for "each pollutant subject to regulation" under the Act, including greenhouse gases. Their key point, though, is that sources emitting only major amounts of greenhouse gases—but not major amounts of a NAAQS criteria pollutant—would escape PSD permitting requirements.

Industry Petitioners' argument in support of this interpretation proceeds in several steps. First, they argue that the term "any air pollutant," though "capacious and flexible by itself," "is a chameleon term" when placed in certain contexts. Am. Chemistry Council Br. 38. Indeed, Industry Petitioners note that EPA has already narrowed the literal meaning of the term "any air pollutant" here. After all, and as discussed *supra*, although the statutory term "air pollutant" includes "any physical [or] chemical . . . substance or matter," 42 U.S.C. § 7602(g), EPA has long maintained that the term "any air pollutant" in the definition of "major emitting facility" encompasses only air pollutants regulated under the Act. Moreover, Industry Petitioners point out that when interpreting CAA Part C, Subpart 2, entitled "Visibility

Protection," EPA determined that the term "any pollutant" in the definition of "major stationary source" meant "any visibility-impairing pollutant." *See* Coalition for Responsible Reg. Timing & Tailoring Br. 34 (emphasis added). The statute's definition of "major stationary source" in the visibility-protection subpart is quite similar to the definition of "major emitting facility" in the PSD subpart: for the purposes of the visibility program, a "major stationary source" is defined as a "stationary source[ ] with the potential to emit 250 tons or more of any pollutant." 42 U.S.C. § 7491(g)(7); *compare* 42 U.S.C. § 7479(1) ("major emitting facility" for the purposes of the PSD program is a source which "emit[s], or [has] the potential to emit," either 100 or 250 tons per year "of any air pollutant"). These narrowed interpretations, Industry Petitioners argue, prove that the seemingly capacious term "any air pollutant" is, notwithstanding that the Supreme Court called this term "expansive" and "sweeping," *Massachusetts v. EPA*, 549 U.S. at 529 nn. 25-26, 127 S.Ct. 1438, capable of a far more circumscribed meaning.

According to Industry Petitioners, EPA should have adopted that more circumscribed meaning by interpreting "any air pollutant" as establishing a pollutant-specific situs requirement. As Industry Petitioners point out, the PSD program requires permits for "major emitting facilit[ies] . . . in any area to which this part applies," 42 U.S.C. § 7479(1), and defines "major emitting facilities" as stationary sources emitting 100/250 tpy of "any air pollutant." *Id.* § 7475(a). In this context, Industry Petitioners contend, the phrases "any air pollutant" and "in any area to which this part applies" must be read in concert. And, Industry Petitioners argue, these phrases "*together* mean" that a source is subject to PSD permitting requirements only if it emits major amounts of "any [NAAQS] air pollutant whose NAAQS an area is attaining." Am. Chemistry Council Br. 33.

In support of this supposedly holistic interpretation of the statute, Industry Petitioners cite CAA § 163(b), a different section of the PSD provision in which the phrase "any air pollutant" and "any area to which this part applies" are used in conjunction with one another. Unlike § 165(a), which sets permitting requirements for sources covered by the PSD program, § 163 provides guidelines for *areas* designated as "in attainment" under the program. Specifically, § 163(b) limits the "maximum allowable increase in concentrations of" airborne NAAQS pollutants that may occur in an attainment area before that area's "attainment" status is jeopardized. *See* 42 U.S.C. § 7473(b)(1). Subsections (1) through (3) of § 163(b)—not directly relevant here—set limits on the maximum allowable increases for two specific NAAQS pollutants, sulfur dioxide and particulate matter. Subsection (4) is a catchall provision, which limits the maximum allowable increases for all other NAAQS pollutants. It is in subsection (4) that Industry Petitioners find what they believe is their payoff: the terms "any air pollutant" and "any area to which this part applies" in conjunction with one another. Section 163(b)(4) provides:

> The maximum allowable concentration of *any air pollutant in any area to which this part applies* shall not exceed a concentration for such pollutant for each period of exposure equal to—
>
> > (A) the concentration permitted under the national secondary ambient air quality standard, or

> (B) the concentration permitted under the national primary ambient air quality standard,
>
> whichever concentration is lowest for such pollutant for such period of exposure.

42 U.S.C. § 7473(b)(4) (emphasis added). As Industry Petitioners correctly point out, in this context the phrase "any air pollutant" must mean "any NAAQS pollutant," and "in any area to which this part applies" must mean "any area that is in attainment for that NAAQS pollutant." After all, the statute states that the "maximum allowable concentration of any air pollutant . . . shall not exceed" either the primary or secondary national ambient air quality standards. But, as Industry Petitioners observe, national ambient air standards exist only for NAAQS pollutants, so even if "any air pollutant" in CAA § 163(b)(4) was read to include non-NAAQS pollutants, the phrase, in context, would have no practical effect for those pollutants. Moreover, "any area to which this part applies" must mean "any area that is in attainment for that NAAQS pollutant," because if an area was in nonattainment for a particular pollutant, Part D—rather than the PSD program—would govern emissions limits for that specific pollutant. *See id.* § 7501(2) ("[t]he term 'nonattainment area' means, for any air pollutant, an area which is designated 'nonattainment' with respect to that pollutant"); § 7502(c) (setting out required "Nonattainment plan provisions"). Finally, Industry Petitioners correctly note that a pollutant-specific reading of the phrase "air pollutant" must also apply to CAA § 165(a)(3)(A), which prohibits PSD permittees from "caus[ing], or contribut[ing] to, air pollution in excess of any . . . maximum allowable concentration for *any air pollutant in any area to which this part applies* more than one time per year." *Id.* § 7475(a)(3)(A)

(emphasis added). This clause, as Industry Petitioners point out, piggybacks off the NAAQS pollutant-specific definition of "maximum allowable concentration" in § 163(b)(4), prophylactically restricting PSD permittees from endangering an area's attainment status. *See* Am. Chemistry Council Br. 32 (describing the interplay between the two provisions as "Section 163(b)(4) (and Section 165(a)(3)(A), which implements it) . . .").

Based on all of this, Industry Petitioners conclude that because the phrase "any air pollutant in any area to which this part applies" in § 163(b)(4) means "any NAAQS pollutant in any area in attainment for that NAAQS pollutant," an identical reading must apply to the definition of "major emitting facility." As a result, a stationary source may be subject to the PSD program only if it emits 100/250 tpy of any NAAQS pollutant and is located in an area designated as in attainment for that NAAQS pollutant. We are unpersuaded.

Although we agree that the term "any air pollutant" is, in some contexts, capable of narrower interpretations, we see nothing in the definition of "major emitting facility" that would allow EPA to adopt a NAAQS pollutant-specific reading of that phrase. The contrast with the visibility program is instructive. There, EPA determined that "any pollutant" in the definition of "major stationary source" meant "any visibility-impairing pollutant." *See* 40 C.F.R. pt. 51, App. Y, § II.A. But as EPA notes, the entire visibility program, codified in CAA Part C, Subpart 2, deals with visibility-impairing pollutants, as reflected in that subpart's title: "Visibility Protection." *See* 42 U.S.C. prec. § 7491. From this, "it naturally follows that EPA's regulations under that section should address 'visibility-impairing pollutants.'" EPA Timing &

Tailoring Br. 99 n.19. No similar guidance can be garnered from Part C, Subpart 1, which contains the phrase "any air pollutant" at issue here. Dealing with far more than NAAQS pollutants, Part C, Subpart 1 requires, for example, covered sources to install BACT for "each pollutant subject to regulation under [the CAA]." 42 U.S.C. § 7475(a)(4). Indeed, Subpart 1 is simply—and expansively—entitled "Clean Air." *Id.* prec. § 7470. Moreover, Congress designed the PSD program broadly to protect against "adverse effect[s]" on "public health and welfare," *Id.* § 7470(1), including effects on global problems like weather and climate. *Id.* § 7602(h).

Furthermore, the phrases "any air pollutant" and "in any area to which this part applies" are used differently in Section 163(b)(4) and in the PSD program's definition of "major emitting facility." The presumption that "[a] term appearing in several places in a statutory text is generally read the same way each time it appears," *Ratzlaf v. United States*, 510 U.S. 135, 143, 114 S.Ct. 655, 126 L.Ed.2d 615 (1994), "readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent," *Atl. Cleaners & Dyers, Inc. v. United States*, 286 U.S. 427, 433, 52 S.Ct. 607, 76 L.Ed. 1204 (1933). Here, the focus and structure of § 163(b)(4) is entirely distinct from the PSD permitting trigger. Section 163(b)(4) provides that "[t]he maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a [particular] concentration." 42 U.S.C. § 7473(b)(4). By contrast, § 165(a) provides that "[n]o major emitting facility . . . may be constructed in any area to which this part applies" unless certain conditions are met, *id.* § 7475(a), and § 169(1) defines "major emitting facility" as any stationary source that emits or has the potential to emit threshold amounts of "any air pollutant," *id.* § 7479(1). The differences between these two provisions are manifest. In § 163(b)(4), the phrases "any air pollutant" and "in any area to which this part applies" appear next to one another, and it is the concentration of the pollutant in an area that matters. In the PSD permitting trigger, the phrases appear in different subsections and it is the location of the facility that matters. Section 163(b)(4) thus does nothing to undermine the unambiguous meaning of "any air pollutant" in the definition of "major emitting facility."

Industry Petitioners' pollutant-specific reading of "any air pollutant" is further undermined by contrasting Part C of the Act (the PSD program) with Part D (which regulates areas in nonattainment). Unlike Part C, Part D is expressly pollutant-specific, providing that "[t]he term 'nonattainment area' means, for any air pollutant, an area which is designated 'nonattainment' *with respect to that pollutant.*" *Id.* § 7501(2) (emphasis added). Congress thus clearly knew how to promulgate a narrow, pollutant-specific definition of "any air pollutant." That it did so in Part D but not in Part C strongly suggests that the phrase "any air pollutant" in Part C was meant to be construed broadly. *Keene Corp. v. United States*, 508 U.S. 200, 208, 113 S.Ct. 2035, 124 L.Ed.2d 118 (1993) ("[W]here Congress includes particular language in one section of a statute but omits it in another . . . , it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.") (quoting *Russello v. United States*, 464 U.S. 16, 23, 104 S.Ct. 296, 78 L.Ed.2d 17 (1983)).

A final point: Industry Petitioners observe that every area in the country has always been in attainment for at least one NAAQS criteria pollutant. *See* Tailoring Rule, 75 Fed. Reg. at 31,561. Thus, pursuant to EPA's pollutant-indifferent reading of § 165(a), under which a major emitting facility must abide by PSD requirements so long as it is located in an attainment area for *any* NAAQS pollutant, every facility in the United States has always been in an "area to which this part applies." Consequently, Industry Petitioners argue, "[i]f EPA's interpretation were right, Congress simply could have left out the phrase 'in any area to which this part applies'" in the PSD permitting trigger. Am. Chemistry Council Br. 36. But "Congress does not enact 'stillborn' laws," *id.* (quoting *Sosa v. Alvarez-Machain*, 542 U.S. 692, 714, 124 S.Ct. 2739, 159 L.Ed.2d 718 (2004)), and interpretations that render statutory language superfluous are disfavored. Am. Chemistry Council Reply Br. 19. The fact that the PSD program has applied nationwide since its inception, Industry Petitioners conclude, thus militates against EPA's pollutant-indifferent approach.

This argument fails at its premise, for Industry Petitioners confuse a lack of practical import with a lack of meaning. To say that the phrase "in any area to which this part applies" is currently without practical import is quite different than showing that the phrase means nothing. Indeed, under different circumstances, the phrase would have a significant effect. If, hypothetically, one area of the country was designated as "nonattainment" for every NAAQS pollutant, the phrase "in any area to which this part applies" would limit PSD coverage, as covered sources in that area would be subject only to Part D requirements. In fact, Environmental Intervenors point out that when Congress drafted the PSD permitting triggers "the prospect that some areas could be in nonattainment for all NAAQS was not farfetched." Sierra Club Historic Reg. Br. 23. "In the years leading up to 1977, EPA air quality data identified a number of areas that failed to meet all five of the then-current [air quality standards] for which EPA had gathered data." *Id*. Accordingly, "in any area to which this part applies" is a meaningful phrase under EPA's pollutant-indifferent interpretation of the PSD permitting triggers: it provides that sources need not obtain PSD permits if they are located in areas designated "nonattainment" for all six NAAQS pollutants.

In short, although we agree with Industry Petitioners that phrases like "any air pollutant" are, in certain contexts, capable of a more limited meaning, they have failed to identify any reasons that the phrase should be read narrowly here. Nor do we know of one. We thus conclude that EPA's 34-year-old interpretation of the PSD permitting triggers is statutorily compelled: a source must obtain a permit if it emits major amounts of any regulated pollutant and is located in an area that is in attainment or unclassifiable for any NAAQS pollutant.

2.

We can quickly dispose of Industry Petitioners' third alternative interpretation, namely, that in order to regulate new pollutants through the PSD program, EPA was required to go through the process prescribed by CAA § 166. Section 166 provides specific steps that EPA must take when designating new "pollutants for which national ambient air quality standards" apply. 42 U.S.C. § 7476(a). Here, Industry Petitioners argue, EPA unlawfully failed to follow the steps laid out in Section 166, including a required study of the pollutant and a one-year delay before the effective date of regulations, before adding greenhouse gases "to the PSD [c]onstellation." Coalition for Responsible Reg. Timing & Tailoring Br. 41.

This argument fails on its face. By its terms, § 166 applies only to new "pollutants *for which national ambient air quality standards*" apply, 42 U.S.C. § 7476(a) (emphasis added), i.e., NAAQS criteria pollutants for which regions may be classified as in "attainment," "non-attainment," or "unclassifiable." And EPA never classified greenhouse gases as a NAAQS criteria pollutant. Instead, it simply determined that under § 165, major emitters of greenhouse gases are subject to the PSD program and all covered sources must install BACT for greenhouse gases. Contrary to Industry Petitioners' arguments, then, § 166 has no bearing on this addition of greenhouse gases into "the PSD [c]onstellation." Coalition for Responsible Reg. Timing & Tailoring Br. 41. Indeed, we rejected a nearly identical argument in *Alabama Power*, holding that there is "no implied or apparent conflict between sections 165 and 166; nor . . . must the requirements of section 165 be 'subsumed' with those of section 166." *Alabama Power*, 636 F.2d at 406. Stating what should have been obvious from the text of the statute, we concluded: "[S]ection 166 has a different focus from section 165." *Id.*

Thus, because EPA has never classified greenhouse gases as a NAAQS criteria pollutant, the § 166 requirements are entirely inapplicable here. This section of the CAA has absolutely no bearing on our conclusion that EPA's interpretation of the PSD permitting trigger is compelled by the statute itself.

VI.

Having concluded that the CAA requires PSD and Title V permits for major emitters of greenhouse gases, we turn to Petitioners' challenges to the Tailoring and Timing Rules themselves.

As an initial matter, we note that Petitioners fail to make any real arguments against the Timing Rule. To be sure, at one point State Petitioners contend that the Timing Rule constitutes an attempt "to extend the PSD and Title V permitting requirements to greenhouse-gas emissions," State Pet'rs' Timing & Tailoring Br. 67. This is plainly incorrect. As discussed in the previous section, greenhouse gases are regulated under PSD and Title V pursuant to automatic operation of the CAA. All the Timing Rule did was delay the applicability of these programs, providing that major emitters of greenhouse gases would be subject to PSD and Title V permitting requirements only once the Tailpipe Rule actually took effect on January 2, 2011. *See* Timing Rule, 75 Fed. Reg. at 17,017-19. Despite this, Petitioners confusingly urge us to vacate "[t]he Tailoring *and* Timing Rules," *e.g.* State Pet'rs' Timing & Tailoring Br. 24 (emphasis added), although it is unclear what practical effect vacature of the Timing Rule would have. Nonetheless, given this phrasing of their argument, and given our conclusion that Petitioners lack Article III standing to challenge *both* rules, we shall, where appropriate, discuss the Timing Rule in conjunction with the Tailoring Rule.

In the Tailoring Rule, EPA announced that it was "relieving overwhelming permitting burdens that would, in the absence of this rule, fall on permitting authorities and sources." Tailoring Rule, 75 Fed. Reg.

at 31,516. Although the PSD statute requires permits for sources with the potential to emit 100/250 tpy of "any air pollutant," 42 U.S.C. § 7479(1), EPA noted that immediate application of that threshold to greenhouse gas-emitting sources would cause permit applications to jump from 280 per year to over 81,000 per year. Tailoring Rule, 75 Fed. Reg. at 31,554. Many of these applications would come from commercial and residential sources, which would "each incur, on average, almost $60,000 in PSD permitting expenses." *Id.* at 31,556. Similarly, if the Title V 100 tpy threshold applied immediately to greenhouse gases, sources needing operating permits would jump from 14,700 per year to 6.1 million per year. *Id.* at 31,562. "The great majority of these sources would be small commercial and residential sources" which "would incur, on average, expenses of $23,175." *Id.* And were permitting authorities required to hire the 230,000 full-time employees necessary to address these permit applications, "authorities would face over $21 billion in additional permitting costs each year due to [greenhouse gases], compared to the current program cost of $62 million each year." *Id.* at 31,563.

Thus, instead of immediately requiring permits for all sources exceeding the 100/250 tpy emissions threshold, EPA decided to "phas[e] in the applicability of these programs to [greenhouse gas] sources, starting with the largest [greenhouse gas] emitters." *Id.* at 31,514. The Tailoring Rule established the first two steps in this phased-in process. During Step One, only sources that were "subject to PSD requirements for their conventional pollutants anyway" (*i.e.*, those sources that exceeded the statutory emissions threshold for non-greenhouse gas pollutants) were required to install BACT for their greenhouse gas emissions. *Id.* at 31,567. Step Two, which took effect on July 1, 2011, also requires PSD permits for sources with the potential to emit over 100,000 tpy CO_2e after a proposed construction project, or 75,000 tpy CO_2e after a proposed modification project. *Id.* at 31,523. Step Two further requires Title V permits for sources which have the potential to emit over 100,000 tpy CO_2e. *Id.* at 31,516. EPA has since proposed—but has yet to finalize—a "Step Three," which would maintain the current thresholds while the agency evaluates the possibility of regulating smaller sources. *See* EPA's 28(j) Letter 1-2, February 27, 2012.

In the Tailoring Rule, EPA justified its phased-in approach on three interrelated grounds, each of which rests on a distinct doctrine of administrative law. First, EPA concluded "the costs to sources and administrative burdens . . . that would result from [immediate] application of the PSD and title V programs . . . at the statutory levels . . . should be considered 'absurd results,'" which Congress never intended. *Id.* at 31,517; *see Am. Water Works Ass'n v. EPA*, 40 F.3d 1266, 1271 (D.C.Cir.1994) ("[W]here a literal reading of a statutory term would lead to absurd results, the term simply has no meaning . . . and is the proper subject of construction by EPA and the courts."). Thus, under the "absurd results" doctrine, EPA concluded that the PSD and Title V programs "should not [immediately] be read to apply to all [greenhouse gas] sources at or above the 100/250 tpy threshold." Tailoring Rule, 75 Fed. Reg. at 31,554. Second, emphasizing that immediate regulation at the 100/250 tpy threshold would cause tremendous administrative burden, EPA justified its deviation from this threshold on the basis of the "administrative necessity" doctrine. *Id.* at 31,576; *see Envtl. Def. Fund, Inc. v. EPA*, 636 F.2d 1267, 1283 (D.C.Cir.1980) ("[A]n agency may depart from the requirements of a regulatory statute . . . to cope with the administrative impossibility of applying the commands of the substantive statute."). Finally, asserting that there exists a judicial doctrine that allows agencies to implement regulatory programs in a piecemeal fashion, EPA stated that the Tailoring Rule was justified pursuant to this "one-step-at-a-time" doctrine. Tailoring Rule, 75 Fed. Reg. at 31,578; *see Massachusetts v. EPA*, 549 U.S. at 524, 127 S.Ct. 1438 ("Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop.").

Petitioners—particularly State Petitioners—argue that none of these doctrines permit EPA to "depart unilaterally from the [CAA's] permitting thresholds and replace them with numbers of its own choosing." State Pet'rs' Timing & Tailoring Br. 29. Admitting the "lamentable policy consequences of adhering to the unambiguous numerical thresholds in the Clean Air Act," State Petitioners rather colorfully argue that EPA's attempts to alleviate those burdens "establish only that EPA is acting as a benevolent dictator rather than a tyrant." *Id.* at 26. And because EPA exceeded the boundaries of its lawful authority Petitioners urge us to vacate the Tailoring Rule.

Before we may address the merits of these claims, however, we must determine whether we have jurisdiction. "No principle," the Supreme Court has repeatedly explained, "is more fundamental to the judiciary's proper role in our system of government than the constitutional limitation of federal-court jurisdiction to actual cases or controversies." *Raines v. Byrd*, 521 U.S. 811, 818, 117 S.Ct. 2312, 138 L.Ed.2d 849 (1997) (internal quotation marks omitted). The doctrine of standing "is an essential and unchanging part of the case-or-controversy requirement." *Lujan v.*

Defenders of Wildlife, 504 U.S. 555, 560, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992). To establish standing, a petitioner must have suffered an "injury in fact" that is 1) "concrete and particularized . . . [and] actual or imminent, not conjectural or hypothetical," 2) was caused by the conduct complained of, and 3) is "likely, as opposed to merely speculative [to] be redressed by a favorable decision." *Id.* at 560-61, 112 S.Ct. 2130 (internal quotation marks and citations omitted).

Petitioners fall far short of these "irreducible constitutional . . . elements" of standing, *id.* at 560, 112 S.Ct. 2130. Simply put, Petitioners have failed to establish that the Timing and Tailoring Rules caused them "injury in fact," much less injury that could be redressed by the Rules' vacatur. Industry Petitioners contend that they are injured because they are subject to regulation of greenhouse gases, Coalition for Responsible Reg. Timing & Tailoring Br. 14. State Petitioners claim injury because they own some regulated sources and because they now carry a heavier administrative burden. State Pet'rs' Timing & Tailoring Br. 22-23. But as discussed above, *see supra* Part V, the CAA mandates PSD and Title V coverage for major emitters of greenhouse gases. Thus, Industry Petitioners were regulated and State Petitioners required to issue permits not because of anything EPA did in the Timing and Tailoring Rules, but by automatic operation of the statute. Given this, neither the Timing nor Tailoring Rules caused the injury Petitioners allege: having to comply with PSD and Title V for greenhouse gases.

Indeed, the Timing and Tailoring Rules actually mitigate Petitioners' purported injuries. Without the Timing Rule, Petitioners may well have been subject to PSD and Title V for greenhouse gases before

January 2, 2011. Without the Tailoring Rule, an even greater number of industry and state-owned sources would be subject to PSD and Title V, and state authorities would be overwhelmed with millions of additional permit applications. Thus, Petitioners have failed to "show that, absent the government's allegedly unlawful actions, there is a substantial probability that they would not be injured and that, if the court affords the relief requested, the injury will be removed." *Chamber of Commerce v. EPA*, 642 F.3d 192, 201 (D.C.Cir.2011) (quotations and alterations omitted). Far from it. If anything, vacature of the Tailoring Rule would significantly exacerbate Petitioners' injuries.

Attempting to remedy this obvious jurisdictional defect, State Petitioners present two alternative theories, neither of which comes close to meeting the "irreducible constitutional . . . elements" of standing. Lujan, 504 U.S. at 560, 112 S.Ct. 2130. First, State Petitioners counterintuitively suggest that they actually want EPA to immediately "appl[y] the 100/250 tpy permitting thresholds to greenhouse-gas emissions." State Pet'rs' Timing & Tailoring Reply Br. 15. Admitting that vacature of the Tailoring Rule would result in astronomical costs and unleash chaos on permitting authorities, State Petitioners predict that Congress will be forced to enact "corrective legislation" to relieve the overwhelming permitting burdens on permitting authorities and sources, thus mitigating their purported injuries. *Id.*

This theory fails. To establish standing, plaintiffs must demonstrate that it is "likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision," *Lujan*, 504 U.S. at 561, 112 S.Ct. 2130 (internal quotation marks omitted), but here, State Petitioners simply hypothesize that Congress will enact "corrective legislation." State Pet'rs' Timing & Tailoring Reply Br. 15. We have serious doubts as to whether, for standing purposes, it is ever "likely" that Congress will enact legislation at all. After all, a proposed bill must make it through committees in both the House of Representatives and the Senate and garner a majority of votes in both chambers—overcoming, perhaps, a filibuster in the Senate. If passed, the bill must then be signed into law by the President, or go back to Congress so that it may attempt to override his veto. As a generation of schoolchildren knows, "by that time, it's very unlikely that [a bill will] become a law. It's not easy to become a law." Schoolhouse Rock, *I'm Just a Bill*, at 2:41, *available at* http://video.google.com/videoplay?docid=7266360872513258185# (last visited June 1, 2012).

And even if the astronomical costs associated with a 100/250 tpy permitting threshold make *some* Congressional action likely, State Petitioners are still unable to show that it is "likely, as opposed to merely speculative," *Lujan*, 504 U.S. at 561, 112 S.Ct. 2130, that Congress will redress their injury. State Petitioners apparently assume that if the 100/250 tpy permitting threshold was immediately applied to greenhouse gases, Congress would exempt those pollutants from the PSD and Title V programs entirely. But this is just one of many forms "corrective legislation" could take. For example, were we to vacate the Tailoring Rule, Congress could decide to readopt its key provisions in the PSD and Title V statutes. Or it could set PSD and Title V permitting thresholds at 25,000 tpy for greenhouse gases—higher than the 100/250 tpy threshold, but lower (and thus more costly to Petitioners) than the thresholds promulgated in the Tailoring Rule. Or it could do something else entirely.

All of this is guesswork, which is precisely the point: State Petitioners' faith that Congress will alleviate their injury is inherently speculative.

State Petitioners' second alternative theory of standing fares no better. In their reply brief, they contend that even if vacating the Timing or Tailoring Rules would indeed exacerbate their costs and administrative burdens (the purported injuries they claimed in their opening brief), "then State Petitioners can establish Article III standing under ***Massachusetts*** by asserting injuries caused by EPA's failure to regulate sooner." State Pet'rs' Timing & Tailoring Reply Br. 5. Essentially, State Petitioners' reply brief contends that, contrary to the position taken in the opening brief, they want more regulation, not less, and that they wanted regulation sooner rather than later. And because the Commonwealth of Massachusetts had standing to seek regulation of greenhouse gases in *Massachusetts v. EPA*, State Petitioners argue that they now have standing to seek more regulation of greenhouse gases as well.

This argument is completely without merit. As an initial matter, we are aware of no authority which permits a party to assert an entirely new injury (and thus, an entirely new theory of standing) in its reply brief. Quite to the contrary, we have held that, where standing is not self-evident, "[i]n its *opening* brief, the petitioner should . . . include . . . a concise recitation of the basis upon which it claims standing." *Sierra Club v. EPA*, 292 F.3d 895, 901 (D.C.Cir.2002) (emphasis added); *see also* D.C.Cir. R. 28(a)(7) ("[i]n cases involving direct review in this court of administrative actions, the brief of the appellant or petitioner must set forth the basis for the claim of standing."); *American Library Ass'n v. FCC*, 401 F.3d 489, 493-94

(D.C.Cir.2005) (discussing limitations on this principle). After all, "it is often the case . . . that some of the relevant facts are known only to the petitioner, to the exclusion of both the respondent and the court." *Sierra Club*, 292 F.3d at 901. If "the petitioner does not submit evidence of those facts with its opening brief," the respondent is "left to flail at the unknown in an attempt to prove the negative." *Id*. This principle is particularly important here, for State Petitioners' asserted fear of global warming stands in stark contrast to the position they took throughout this litigation. In an earlier brief, for example, they characterized the Endangerment Finding as "a subjective conviction" State Pet'rs' Endangerment Br. 19, "supported by highly uncertain climate forecasts," *id*. at 18, and "offer[ing] no criteria for determining a harmful, as opposed to a safe, climate," *id*. at 17. Given this, EPA could not possibly have anticipated that State Petitioners, abruptly donning what they themselves call "an environmentalist hat," State Pet'rs' Timing & Tailoring Reply Br. 4, would assert that global warming causes them concrete and particularized harm.

In any event, State Petitioners fail to cite any record evidence to suggest that they are adversely affected by global climate change. This is in stark contrast to the evidence put forward in *Massachusetts v. EPA*, where the Commonwealth submitted unchallenged affidavits and declarations showing that 1) rising sea tides due to global warming had "already begun to swallow Massachusetts' coastal land," and 2) "[t]he severity of that injury will only increase over the course of the next century." *Massachusetts v. EPA*, 549 U.S. at 522-23, 127 S.Ct. 1438. These specific, factual submissions were key to the standing analysis in *Massachusetts v. EPA*: the Court held that "petitioners' *submissions as* *they pertain to Massachusetts* have satisfied the most demanding standards of the adversarial process." *Id.* at 521, 127 S.Ct. 1438 (emphasis added). It is true, as State Petitioners emphasize, that the Supreme Court held that states are "entitled to special solicitude in our standing analysis." *Id.* at 522, 127 S.Ct. 1438. But nothing in the Court's opinion remotely suggests that states are somehow exempt from the burden of establishing a concrete and particularized injury in fact. State Petitioners, like Industry Petitioners, failed to do so here. We shall thus dismiss all challenges to the Timing and Tailoring Rules for lack of jurisdiction.

VII.

Following promulgation of the Timing and Tailoring Rules, EPA issued a series of rules ordering states to revise their PSD State Implementation Plans (SIPs) to accommodate greenhouse gas regulation. *See Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Substantial Inadequacy and SIP Call*, 75 Fed. Reg. 53,892 (Sept. 2, 2010), 75 Fed. Reg. 77,698 (Dec. 13, 2010); *Action to Ensure Authority to Issue Permits Under the Prevention of Significant Deterioration Program to Sources of Greenhouse Gas Emissions: Finding of Failure to Submit State Implementation Plan Revisions Required for Greenhouse Gases*, 75 Fed. Reg. 81,874 (Dec. 29, 2010). Industry Petitioners present several challenges to these SIP-related rules. But our review in this case is limited to four EPA decisions: the Endangerment Finding, the Tailpipe Rule, and the Timing and Tailoring Rules. We thus lack jurisdiction over the SIP-related rules. Moreover, challenges to these rules are currently pending in at least two separate cases before this court. *See Utility*

Air Regulatory Group v. EPA, No. 11-1037 (consolidating various challenges); *Texas v. EPA*, No. 10-1425 (challenge brought by Texas). We decline Industry Petitioners' invitation to rule on the merits of cases which are properly before different panels.

VIII.

For the foregoing reasons, we dismiss all petitions for review of the Timing and Tailoring Rules, and deny the remainder of the petitions.

So ordered.

ENVIRONMENTAL PROTECTION AGENCY
40 CFR Parts 51, 52, 70, and 71
[EPA-HQ-OAR-2009-0517; FRL-9152-8]
RIN 2060-AP86

Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

Thursday, June 3, 2010

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is tailoring the applicability criteria that determine which stationary sources and modification projects become subject to permitting requirements for greenhouse gas (GHG) emissions under the Prevention of Significant Deterioration (PSD) and title V programs of the Clean Air Act (CAA or Act). This rulemaking is necessary because without it PSD and title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year (tpy) levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from PSD and title V permitting for GHG emissions until at least April 30, 2016.

DATES: This action is effective on August 2, 2010.

ADDRESSES: EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2009-0517. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.*, Confidential Business Information or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the EPA Docket Center EPA/DC, EPA West, Room 3334, 1301 Constitution Avenue, Northwest, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Mr. Joseph Mangino, Air Quality Policy Division, Office of Air Quality Planning and Standards (C504-03), Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541-9778; fax number: (919) 541-5509; e-mail address: *mangino.joseph@epa.gov*.

SUPPLEMENTARY INFORMATION:

I. General Information

A. *Does this action apply to me?*

Entities affected by this action include sources in all sectors of the economy, including commercial and residential sources. Entities potentially affected by this action also include States, local permitting authorities, and tribal authorities. The majority of categories and entities potentially affected by this action are expected to be in the following groups:

Industry group	NAICS[a]
Agriculture, fishing, and hunting	11.
Mining	21.
Utilities (electric, natural gas, other systems)	2211, 2212, 2213.
Manufacturing (food, beverages, tobacco, textiles, leather)	311, 312, 313, 314, 315, 316.
Wood product, paper manufacturing	321, 322.
Petroleum and coal products manufacturing	32411, 32412, 32419.
Chemical manufacturing	3251, 3252, 3253, 3254, 3255, 3256, 3259.
Rubber product manufacturing	3261, 3262.
Miscellaneous chemical products	32552, 32592, 32591, 325182, 32551.
Nonmetallic mineral product manufacturing	3271, 3272, 3273, 3274, 3279.
Primary and fabricated metal manufacturing	3311, 3312, 3313, 3314, 3315, 3321, 3322, 3323, 3324, 3325, 3326, 3327, 3328, 3329.

Machinery manufacturing	3331, 3332, 3333, 3334, 3335, 3336, 3339.
Computer and electronic products manufacturing	3341, 3342, 3343, 3344, 3345, 4446.
Electrical equipment, appliance, and component manufacturing	3351, 3352, 3353, 3359.
Transportation equipment manufacturing	3361, 3362, 3363, 3364, 3365, 3366, 3366, 3369.
Furniture and related product manufacturing	3371, 3372, 3379.
Miscellaneous manufacturing	3391, 3399.
Waste management and remediation	5622, 5629.
Hospitals/Nursing and residential care facilities	6221, 6231, 6232, 6233, 6239.
Personal and laundry services	8122, 8123.
Residential/private households	8141.
Non-Residential (Commercial)	Not available. Codes only exist for private households, construction, and leasing/sales industries.

[a] North American Industry Classification System.

B. How is this preamble organized?

The information presented in this preamble is organized as follows:

Outline

- I. General Information
  - A. Does this action apply to me?
  - B. How is this preamble organized?
  - C. Preamble Acronyms and Abbreviations
- II. Overview of the Final Rule
- III. Background
  - A. What are GHGs and their sources?
  - B. Endangerment Finding and the LDVR
    - 1. Endangerment Finding
    - 2. Light-Duty Vehicle Rule
  - C. What are the general requirements of the PSD program?
    - 1. Overview of the PSD Program
    - 2. General Requirements for PSD
  - D. What are the general requirements of the Title V operating permits program?
    - 1. Overview of Title V
    - 2. Title V Permit Requirements
  - E. The Interpretive Memo
- IV. Summary of Final Actions
  - A. How do you define the GHG pollutant for PSD and Title V purposes?

1. GHG Pollutant Defined as the Sum-of-Six Well-Mixed GHGs
2. What GWP values should be used for calculating CO_2e?

B. When will PSD and Title V applicability begin for GHGs and emission sources?

1. What are the Step 1 thresholds, timing, and calculation methodology?
2. What are the Step 2 thresholds, timing, and calculation methodology?
3. What about Step 3?
4. What about the proposed 6-year exclusion for smaller sources?
5. When and how will EPA take further action on smaller sources?

C. How do state, local, and tribal area programs adopt the final GHG applicability thresholds?

D. How do you treat GHGs for purposes of Title V permit fees?

E. Other Actions and Issues

1. Timing for Permit Streamlining Techniques
2. Guidance for BACT Determinations
3. Requests for Higher Category-Specific Thresholds and Exemptions From Applicability
4. Transitional Issues Including Requests for Grandfathering

V. What is the legal and policy rationale for the final actions?

A. Rationale for Our Approach to Calculating GHG Emissions for PSD and Title V Applicability Purposes
   1. Grouping of GHGs Into a Single Pollutant
   2. Identifying Which GHGs Are Included in the Group
   3. Use of GWP vs. Mass-Based GHG Thresholds
   4. Determining What GWP Values Are To Be Used
   5. Use of Short Tons vs. Metric Tons

B. Rationale for Thresholds and Timing for PSD and Title V Applicability to GHG Emissions Sources
   1. Overview
   2. Data Concerning Costs to Sources and Administrative Burdens to Permitting Authorities
   3. "Absurd Results," "Administrative Necessity," and "One-Step-at-a-Time" Legal Doctrines
   4. The PSD and Title V Programs
   5. Application of the "Absurd Results" Doctrine for the PSD Program
   6. Application of the "Absurd Results" Doctrine for the Title V Program
   7. Additional Rulemaking for the PSD and Title V Programs
   8. Rationale for the Phase-in Schedule for Applying PSD and Title V to GHG Sources

- 9. "Administrative Necessity" Basis for PSD and Title V Requirements in Tailoring Rule
- 10. "One-Step-at-a-Time" Basis for Tailoring Rule

C. Mechanisms for Implementing and Adopting the Tailoring Approach

- 1. PSD Approach: Background and Proposal
- 2. Rationale for Our Final Approach to Implementing PSD
- 3. Other Mechanisms
- 4. Codification of Interpretive Memo
- 5. Delaying Limited Approvals and Request for Submission of Information From States Implementing a SIP-Approved PSD Program
- 6. Title V Programs

D. Rationale for Treatment of GHGs for Title V Permit Fees

E. Other Actions and Issues

- 1. Permit Streamlining Techniques
- 2. Guidance for BACT Determinations
- 3. Requests for Higher Category-Specific Thresholds or Exemptions From Applicability
- 4. Transitional Issues Including Requests for Grandfathering

VI. What are the economic impacts of the final rule?

A. What entities are affected by this final rule?

- B. What are the estimated annual benefits to sources due to regulatory relief from the statutory requirements?
    - 1. What are annual estimated benefits or avoided burden costs for title V permits?
    - 2. What are annual benefits or avoided costs associated with NSR permitting regulatory relief?
- C. What are the economic impacts of this rulemaking?
- D. What are the costs of the final rule for society?
- E. What are the net benefits of this final rule?

VII. Comments on Statutory and Executive Order Reviews

- A. Comments on Executive Order 12866—Regulatory Planning and Review
- B. Comments on the Paperwork Reduction Act
- C. Comments on the RFA
- D. Comments on the Unfunded Mandates Reform Act
- E. Comments on Executive Order 13132—Federalism
- F. Comments on Executive Order 13175—Consultation and Coordination With Indian Tribal Governments
- G. Comments on Executive Order 13211—Actions That Significantly Affect Energy Supply, Distribution, or Use

VIII. Statutory and Executive Order Reviews

- A. Executive Order 12866—Regulatory Planning and Review
- B. Paperwork Reduction Act
- C. Regulatory Flexibility Act
- D. Unfunded Mandates Reform Act
- E. Executive Order 13132—Federalism
- F. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments
- G. Executive Order 13045—Protection of Children From Environmental Health and Safety Risks
- H. Executive Order 13211—Actions That Significantly Affect Energy Supply, Distribution, or Use
- I. National Technology Transfer and Advancement Act
- J. Executive Order 12898—Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations
- K. Congressional Review Act
- L. Judicial Review

IX. Statutory Authority

C. Preamble Acronyms and Abbreviations

The following are abbreviations of terms used in this preamble.

ANPR	Advance Notice of Proposed Rulemaking
APA	Administrative Procedure Act
AQRVs	Air Quality Related Values
BACT	Best Available Control Technology

Btu British thermal units
Btu/hr British thermal units per hour
CAA or Act Clean Air Act
CAAAC Clean Air Act Advisory Committee
CAFE Corporate Average Fuel Economy
CH_4 Methane
CO Carbon Monoxide
CO_2 Carbon Dioxide
CO_2e Carbon Dioxide Equivalent
EPA U.S. Environmental Protection Agency
FDA Food and Drug Administration
FIP Federal Implementation Plan
FTEs Full-Time Equivalents
GHG Greenhouse Gas
GHz Gigahertz
GWP Global Warming Potential
HAP Hazardous Air Pollutant
HFCs Hydrofluorocarbons
ICR Information Collection Request
IPCC Intergovernmental Panel on Climate Change
LDVR Light-Duty Vehicle Rule
MACT Maximum Achievable Control Technology
MCL Maximum Contaminant Level
N_2O Nitrous Oxide
NAAQS National Ambient Air Quality Standard
NHTSA National Highway Traffic Safety Administration
NMOC Nonmethane Organic Compounds
NO_X Nitrogen Oxides
NPDES National Pollutant Discharge Elimination System

NSPS New Source Performance Standard
NSR New Source Review
NTAA National Tribal Air Association
NTTAA National Technology Transfer and Advancement Act
OMB Office of Management and Budget
PFCs Perfluorocarbons
PM Particulate Matter
PSD Prevention of Significant Deterioration
PTE Potential to Emit
RFA Regulatory Flexibility Act
RIA Regulatory Impact Analysis
RTC Response to Comment
SBA Small Business Administration
SBAR Small Business Advocacy Review
SBREFA Small Business Regulatory Enforcement Fairness Act
SF_6 Sulfur Hexafluoride
SIP State Implementation Plan
SNPR Supplemental Notice of Proposed Rulemaking
TIP Tribal Implementation Plan
TRS Total Reduced Sulfur
TSD Technical Support Document
tpy Tons Per Year
UMRA Unfunded Mandates Reform Act
UNFCCC United Nations Framework Convention on Climate Change
VOC Volatile Organic Compound

II. Overview of the Final Rule

EPA is relieving overwhelming permitting burdens that would, in the absence of this rule, fall on permitting authorities and sources. We accomplish this by tailoring the applicability criteria that determine which GHG emission sources become subject to the PSD and title V programs[1] of the CAA. In particular, EPA is establishing with this rulemaking a phase-in approach for PSD and title V applicability, and is establishing the first two steps of the phase-in for the largest emitters of GHGs. We also commit to certain follow-up actions regarding future steps beyond the first two, discussed in more detail later. Our legal basis for this rule is our interpretation of the PSD and title V applicability provisions under the familiar *Chevron*[2] two-step framework for interpreting administrative statutes, taking account of three legal doctrines, both separately and interdependently: They are what we will call (1) The "absurd results" doctrine, which authorizes agencies to apply statutory requirements differently than a literal reading would indicate, as necessary to effectuate congressional intent and avoid absurd results, (2) the "administrative necessity" doctrine, which authorizes agencies to apply statutory requirements in a way that avoids impossible administrative burdens; and (3) the "one-step-at-a-time" doctrine, which authorizes agencies to implement statutory requirements a step at a time.

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[1] Unless otherwise indicated, references in this preamble to "title V," "title V requirements," the "title V program," and similar references are to the operating permit provisions in CAA sections 501-506, and not the "small business stationary source technical and environmental compliance assistance program" under CAA section 507.

[2] *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837 (1984).

This legal basis justifies each of the actions we take with this rule—*e.g.*, each of the first two steps of the phase-in approach—both (1) as part of the overall tailoring approach, and (2) independently of each other action we take with this rule. EPA also has authority for this Tailoring Rule under CAA section 301(a)(1), which authorizes the Administrator "to prescribe such regulations as are necessary to carry out his functions under [the CAA]."

For the first step of this Tailoring Rule, which will begin on January 2, 2011, PSD or title V requirements will apply to sources' GHG emissions only if the sources are subject to PSD or title V anyway due to their non-GHG pollutants. Therefore, EPA will not require sources or modifications to evaluate whether they are subject to PSD or title V requirements solely on account of their GHG emissions. Specifically, for PSD, Step 1 requires that as of January 2, 2011, the applicable requirements of PSD, most notably, the best available control technology (BACT) requirement, will apply to projects that increase net GHG emissions by at least 75,000 tpy carbon dioxide equivalent (CO_2e), but only if the project also significantly increases emissions of at least one non-GHG pollutant. For the title V program, only existing sources with, or new sources obtaining, title V permits for non-GHG pollutants will be required to address GHGs during this first step.

The second step of the Tailoring Rule, beginning on July 1, 2011, will phase in additional large sources of GHG emissions. New sources as well as existing sources not already subject to title V that emit, or have the potential to emit, at least 100,000 tpy CO_2e will become subject to the PSD and title V requirements. In addition, sources that emit or have the potential to emit at least 100,000 tpy CO_2e and that undertake a modification that increases net emissions of GHGs by at least 75,000 tpy CO_2e will also be subject to PSD requirements. For both steps, we also note that if sources or modifications exceed these CO_2e-adjusted GHG triggers, they are not covered by permitting requirements unless their GHG emissions also exceed the corresponding mass-based triggers (*i.e.*, unadjusted for CO_2e.)

EPA believes that the costs to the sources and the administrative burdens to the permitting authorities of PSD and title V permitting will be manageable at the levels in these initial two steps, and that it would be administratively infeasible to subject additional sources to PSD and title V requirements at those times. However, we also intend to issue a supplemental notice of proposed rulemaking (SNPR) in 2011, in which we will propose or solicit comment on a third step of the phase-in that would include more sources, beginning by July 1, 2013. In the same rulemaking, we may propose or solicit comment on a permanent exclusion from permitting for some category of sources, based on the doctrine of "absurd results," within the *Chevron* framework. We are establishing an enforceable commitment that we will complete this rulemaking by July 1, 2012, which will allow for 1 year's notice before Step 3 would take effect.

In addition, we commit to explore streamlining techniques that may well make the permitting programs much more efficient to administer for GHGs, and that therefore may allow their expansion to smaller sources. We expect that the initial streamlining techniques will take several years to develop and implement.

We are also including in this action a rule that no source with emissions below 50,000 tpy CO_2e, and no modification resulting in net GHG increases of less than 50,000 tpy CO_2e, will be subject to PSD or title V permitting before at least 6 years from now, April 30, 2016. This is because we are able to conclude at the present time that the administrative burdens that would accompany permitting sources below this level will be so great that even the streamlining actions that EPA may be able to develop and implement in the next several years, and even with the increases in permitting resources that we can reasonably expect the permitting authorities to acquire, it will be impossible to administer the permit programs for these sources until at least 2016.

Further, we are establishing an enforceable commitment that we will (1) Complete a study by April 30, 2015, to evaluate the status of PSD and title V permitting for GHG-emitting sources, including progress in developing streamlining techniques; and (2) complete further rulemaking based on that study by April 30, 2016, to address the permitting of smaller sources. That rulemaking may also consider additional permanent exclusions based on the "absurd results" doctrine, where applicable.

This Tailoring Rulemaking is necessary because without it, PSD and title V would apply to all stationary sources that emit or have the potential to emit more than 100 or 250 tons of GHGs per year beginning on January 2, 2011. This is the date when EPA's recently promulgated Light-Duty Vehicle Rule (LDVR) takes effect, imposing control requirements for the first time on carbon dioxide (CO_2) and other GHGs. If this January 2, 2011 date were to pass without this Tailoring Rule being in effect, PSD and title V requirements would apply at the 100/250 tpy applicability levels provided under a literal reading of the CAA as of that date. From that point forward, a source owner proposing to construct any new major source that emits at or higher than the applicability levels (and which therefore may be referred to as a "major" source) or modify any existing major source in a way that would increase GHG emissions would need to obtain a permit under the PSD program that addresses these emissions before construction or modification could begin. Similarly, title V would apply to a new or existing source exceeding the 100 tpy applicability level in the Act, if the source did not already have a title V permit.

Under these circumstances, many small sources would be burdened by the costs of the individualized PSD control technology requirements and permit applications that the PSD provisions, absent streamlining, require. Additionally, state and local permitting authorities would be burdened by the extraordinary number of these permit applications, which are orders of magnitude greater than the current inventory of permits and would vastly exceed the current administrative resources of the permitting authorities. Permit gridlock would result with the permitting authorities able to issue only a tiny fraction of the permits requested.

These impacts—the costs to sources and administrative burdens to permitting authorities—that would result from application of the PSD and title V programs for GHG emissions at the statutory levels as of January 2, 2011, are so severe that they bring the judicial doctrines of "absurd results," "administrative necessity," and "one-step-at-a-time" into the *Chevron* two-step analytical framework for statutes administered by agencies. Under the U.S. Supreme Court's decision in *Chevron*, the agency must, at Step 1, determine whether Congress's intent as to the specific matter at issue is clear, and, if so, the agency must give effect to that intent.[3] If congressional intent is not clear, then, at Step 2, the agency has discretion to fashion an interpretation that is a reasonable construction of the statute.

To determine congressional intent, the agency must first consider the words of the statutory requirements, and if their literal meaning answers the question at hand, then, in most cases, the agency must implement those requirements by their terms. However, under the "absurd results" doctrine, the literal meaning of statutory requirements should not be considered to indicate congressional intent if that literal meaning would produce a result that is senseless or that is otherwise inconsistent with—and especially one that undermines—underlying congressional purpose. In these cases, if congressional intent for how the requirements apply to the question at hand is clear, the agency should implement the statutory requirements not in accordance with their literal meaning, but rather in a manner that most closely effectuates congressional intent. If congressional intent is not clear, then an agency may select an interpretation that is reasonable under the statute.

Under the "administrative necessity" doctrine, Congress is presumed, at *Chevron* Step 1, to intend that its statutory directives to agencies be administrable, and not to have intended to have written statutory requirements that are impossible to administer. Therefore, under this doctrine, an agency may depart from statutory requirements that, by their terms, are impossible to administer, but the agency may depart no more than necessary to render the requirements administrable. Under the "one-step-at-a-time" doctrine, Congress is presumed at *Chevron* Step 1 to have intended to allow the agency to administer the statutory requirements on a step-by-step basis, as appropriate, when the agency remains on track to implement the requirements as a whole. Each of these doctrines supports our action separately, but the three also are intertwined and support our action in a comprehensive manner.

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[3] *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 842-43 (1984).

Here, we have determined, through analysis of burden and emissions data as well as consideration of extensive public comment, that the costs to sources and administrative burdens to permitting authorities that would result from application of the PSD and title V programs for GHG emissions at the statutory levels as of January 2, 2011 should be considered "absurd results." Therefore, we conclude that under the "absurd results" doctrine, Congress could not have intended that the PSD or title V applicability provisions—in particular, the threshold levels and timing requirements—apply literally to GHG sources as of that date.

Even so, the PSD and title V provisions and their legislative history do indicate a clear congressional intent, under *Chevron* Step 1, as to *whether* the two permitting programs applied to GHG sources, and that the intent was in the affirmative, that the permitting programs do apply to GHG sources. Our previous regulatory action defining the applicability provisions made this clear, and we do not reopen this issue in this rulemaking. Moreover, even if this long-established regulatory position were not justifiable based on *Chevron* Step 1—on the grounds that in fact, congressional intent on this point is not clear—then we believe that this position, that the statutory provisions to apply PSD and title V generally to GHG sources, was justified under *Chevron* step 2.[4]

As to how to apply the PSD program to GHG sources, congressional intent, as expressed in the various statutory provisions and statements in the legislative history, is clear that PSD should apply at least to the largest sources initially, at least to as many more sources as possible and as promptly as possible over time—consistent with streamlining actions that we intend to consider coupled with increases in permitting authority resources—and at least to a certain point. This is the approach we take in this Tailoring Rule, and because it is consistent with congressional intent, we believe it is required under *Chevron* Step 1. Even if congressional intent were not clear as to how to apply the PSD requirements to GHG sources, we would have authority under *Chevron* Step 2 to establish a reasonable interpretation that is consistent with the PSD provisions, and we believe that the tailoring approach so qualifies.

As for title V, the statutory provisions and legislative history, which of course are different than those concerning the PSD program, do not express a clear intent as to how title V applies to GHG sources, which leads our analysis to *Chevron* Step 2, and here, again, we believe that the tailoring approach is a reasonable interpretation that is consistent with the title V provisions.

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[4] In this preamble and the response to comments document we fully address arguments that commenters and others have presented about congressional intent and coverage of GHGs. We do so to be fully responsive, even though we believe that this is a settled matter for which the time for judicial review has passed.

For both PSD and title V, we intend to use the tailoring approach to address smaller GHG sources over time, consistent with Congress's expectations that the programs would not impose undue costs to sources or undue administrative burdens to permitting authorities. However, we cannot say at this point how close to the statutory thresholds we will eventually reach. Because this rule establishes only the first two phases of the tailoring approach, we do not find it necessary to answer these questions in this rule, and instead we expect to resolve them through future rulemaking. We will remain mindful of the concerns that Congress expressed about including small sources in either program. We intend to consider the issue of the applicability of title V to GHG sources without applicable requirements (*i.e.*, "empty permits") in future steps of our tailoring approach. When we do so, we will further assess the potential for the approach of excluding empty permits from title V to relieve burden consistent with statutory requirements.

In addition, because Congress can be said to have intended the PSD and title V programs to apply to GHG sources, the Tailoring Rule is also justifiable under the "administrative necessity" and "one-step-at-a-time" doctrines.

The legal analysis just described justifies each of the actions in this rule. The first two steps that we promulgate in this rule, which take effect on January 2, 2011 and July 1, 2011, constitute the most that permitting authorities can reasonably be expected to do by those times. Similarly, the 50,000 tpy floor that we promulgate through at least April 30, 2016 is reasonable because the information we have available now shows that it constitutes the most that permitting authorities can reasonably be expected to do by that date. Finally, the study and two additional rulemakings—to take effect by July 1, 2013 and April 30, 2016—to which we commit in this rule establish a track for acquiring additional information and for taking further steps to address the application of PSD and title V more closely to the literal statutory levels. We intend to apply them as closely to those levels as is consistent with congressional intent and administrative imperatives, in light of the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines, although, as noted previously, we will consider in future rulemaking how closely to the statutory thresholds we will be able to implement the PSD and title V programs as well as what to require with respect to a potentially large number of sources with empty title V permits.

In this rule, we are adopting regulatory language codifying our phase-in approach. As we will explain, many state, local and tribal area programs will likely be able to immediately implement our approach without rule or statutory changes by, for example, interpreting the term "subject to regulation" that is part of the applicability provisions for PSD and title V. We ask permitting authorities to confirm that they will follow this implementation approach for their programs, and if they cannot, then we ask them to notify us so that we can take appropriate follow-up action to narrow our federal approval of their programs before GHGs become subject to regulation for PSD and title V programs on January 2, 2011. Narrowing our approval will ensure that for federal purposes, GHG sources below the size thresholds we establish in this Tailoring Rule are not obligated to hold PSD or title V permits until the states develop and submit revised PSD and title V programs that EPA approves, either because they adopt our tailoring approach or because, if they continue to cover smaller GHG sources, the states have demonstrated that they have adequate resources to administer those programs.

The thresholds we are establishing are based on CO_2e for the aggregate sum of six greenhouse gases that constitute the pollutant that will be subject to regulation, which we refer to as GHGs.[5] These gases are: CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Thus, in this rule, we provide that PSD and title V applicability is based on the quantity that results when the mass emissions of each of these gases is multiplied by the Global Warming Potential (GWP) of that gas, and then summed for all six gases. However, we further provide that in order for a source's GHG emissions to trigger PSD or title V requirements, the quantity of the GHGs must equal or exceed both the applicability thresholds established in this rulemaking on a CO_2e basis and the statutory thresholds of 100 or 250 tpy on a mass basis.[6] Similarly, in order for a source to be subject to the PSD modification requirements, the source's net GHG emissions increase must exceed the applicable significance level on a CO_2e basis and must also result in a net mass increase of the constituent gases combined.

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[5] The term "greenhouse gases" is commonly used to refer generally to gases that have heat-trapping properties. However, in this notice, unless noted otherwise, we use it to refer to specifically to the pollutant regulated in the LDVR.

[6] The relevant thresholds are 100 tpy for title V, and 250 tpy for PSD, except for 28 categories listed in EPA regulations for which the PSD threshold is 100 tpy.

We are adopting this rule after careful consideration of numerous public comments. On October 27, 2009 (74 FR 55292), EPA proposed the GHG Tailoring Rule. EPA held two public hearings on the proposed rule, and received over 400,000 written public comments. The public comment period ended on December 28, 2009. The comments have provided detailed information that has helped EPA understand better the issues and potential impacts of this rule, and the final rule described in this preamble incorporates many of the suggestions we received. We respond to many of these comments in explaining our rationale for the final rule, which is described in section V. The final rule adopts many elements of the proposal but differs from the proposal in several important respects. We proposed to apply PSD and title V to GHG sources that emit or have the potential to emit at least 25,000 tpy CO_2e, and we proposed a PSD significance level in a range between 10,000 and 25,000 tpy CO_2e, but based on consideration of the additional information we received and our further analysis, we are finalizing the threshold levels in the amounts and on the schedule described previously. In addition, the mechanism for state, local, and tribal program implementation has been significantly changed to reflect the comments received that we needed to develop an implementation approach that states could adopt under state law more expeditiously.

The remainder of this notice describes our approach and rationale in more detail. Following this overview, section III of this preamble provides background information on the nature of GHG emissions, recent regulatory developments that affect when and how

GHG emissions are subject to stationary source permitting, and the general requirements of the PSD and title V programs. Section IV describes in detail the summary of the key actions being taken in this rule, including the determination of emissions, the thresholds and timing for the phase-in, our approach to implementing the phase-in, and the additional future actions we will take. Section V provides a more detailed description of each action, explaining the policy and legal rationale and responding to comments received. Section V begins with our decisions on how to calculate the mass-based and CO_2e-based emissions used in the phase-in. Section V then turns to our legal and policy rationale for the first two steps of the phase-in, the 50,000 tpy floor, and the subsequent study and rulemakings to determine whether and how smaller sources should be subject to permitting. This section then describes key implementation issues including the approach to state adoption. After describing our plans for follow-up on title V fee programs, the section concludes by describing permit streamlining techniques; guidance on BACT for the GHG sources that are affected under the first two steps of the Tailoring Rule phase-in; requests for exemptions; and transitional issues, including grandfathering. Finally, section VI describes the expected impacts that will result from the phase-in approach (*i.e.*, the narrower application of PSD and title V requirements during the phase-in period) and sections VII and VIII address administrative requirements.

III. Background

A. *What are GHGs and their sources?*

Greenhouse gases trap the Earth's heat that would otherwise escape from the atmosphere into space, and form the greenhouse effect that helps keep the Earth warm enough for life. Greenhouse gases are naturally present in the atmosphere and are also emitted by human activities. Human activities are intensifying the naturally occurring greenhouse effect by increasing the amount of GHGs in the atmosphere, which is changing the climate in a way that endangers human health, society, and the natural environment.

Some GHGs, such as CO_2, are emitted to the atmosphere through natural processes as well as human activities. Other gases, such as fluorinated gases, are created and emitted solely through human activities. As previously noted, the well-mixed GHGs of concern directly emitted by human activities include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. These six GHGs will, for the purposes of this final rule, be referred to collectively as "the six well-mixed GHGs," or, simply, GHGs, and together constitute the "air pollutant" upon which the GHG thresholds in this action are based. These six gases remain in the atmosphere for decades to centuries where they become well-mixed globally in the atmosphere. When they are emitted more quickly than natural processes can remove them from the atmosphere, their concentrations increase, thus increasing the greenhouse effect. The heating effect caused by the human-induced buildup of GHGs in the atmosphere is very likely the cause of most of the observed global warming over the last 50 years. A detailed explanation of greenhouse gases, climate change and its impact on health, society, and the environment is included in EPA's technical support document (TSD) for the endangerment finding final rule (Docket ID No. EPA-HQ-OAR-2009-0472-11292).

In the United States, the combustion of fossil fuels (*e.g.*, coal, oil, gas) is the largest source of CO_2 emissions and accounts for 80 percent of the total GHG emissions. Anthropogenic CO_2 emissions released from a variety of sources, including through the use of fossil fuel combustion and cement production from geologically stored carbon (*e.g.*, coal, oil, and natural gas) that is hundreds of millions of years old, as well as anthropogenic CO_2 emissions from land-use changes such as deforestation, perturb the atmospheric concentration of CO_2 and the distribution of carbon within different reservoirs readjusts. More than half of the energy related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Of the six well-mixed GHGs, four (CO_2, CH_4, N_2O, and HFCs) are emitted by motor vehicles. In the United States industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important sources of GHGs.

Different GHGs have different heat-trapping capacities. The concept of GWP was developed to compare the heat-trapping capacity and atmospheric lifetime of one GHG to another. The definition of a GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period. When quantities of the different GHGs are multiplied by their GWPs, the different GHGs can be summed and compared on a CO_2e basis. For example, CH_4 has a GWP of 21, meaning each ton of CH_4 emissions would have 21 times as much impact on global warming over a 100-year time horizon as 1 ton of CO_2 emissions. Thus, on the basis of heat-trapping capability, 1 ton of CH_4 would equal 21 tons of CO_2e. The GWPs of the non-CO_2 GHGs range from 21 (for CH_4) up to 23,900 (for SF_6). Aggregating all GHGs on a CO_2e basis at the source level allows a facility to evaluate its total GHG emissions contribution based on a single metric.

B. Endangerment Finding and the LDVR

1. Endangerment Finding

On April 2, 2007, the U.S. Supreme Court found that GHGs are air pollutants under CAA section 302(g). *Massachusetts v. EPA*, 549 U.S. 497 (2007). As a result, the Supreme Court found that EPA was required to determine, under CAA section 202(a), whether (1) GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or (2) the science is too uncertain to make a reasoned decision. After issuing a proposal and receiving comment, on December 7, 2009, the Administrator signed two distinct findings regarding GHGs under CAA section 202(a):

- *Endangerment Finding*: The Administrator found that the current and projected atmospheric concentrations of the mix of six long-lived and directly emitted GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 (referred to as "well-mixed greenhouse gases" in the endangerment finding)—are reasonably anticipated to endanger the public health and welfare of current and future generations.

- *Cause or Contribute Finding*: The Administrator found that the emissions of the single air pollutant defined as the aggregate group of six well-mixed greenhouses gases from new motor vehicles and new motor vehicle engines contributes to the GHG air pollution that threatens public health and welfare.

These findings, which were published December 15, 2009 (74 FR 66496), do not themselves impose any requirements on industry or other entities. However, they were a prerequisite to finalizing the GHG standards for light-duty vehicles, described next.

2. Light-Duty Vehicle Rule

The LDVR, 75 FR 25324 (May 7, 2010), is a joint rule between EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) that establishes a national program consisting of new standards for light-duty vehicles that will reduce GHG emissions and improve fuel economy. EPA finalized the national GHG emissions standards under the Act, and NHTSA finalized Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act, as amended. The new standards apply to new passenger cars, light-duty trucks, and medium-duty passenger vehicles, starting with model year 2012. The EPA GHG standards are projected to result in an estimated combined average emissions level of 250 grams of CO_2 per mile for model year 2016 vehicles. The standards begin with the 2012 model year, with standards increasing in stringency through model year 2016. The standards are a fleet average for each manufacturer, based on a footprint attribute curve, meaning that the actual target for a vehicle will vary depending on the size of the vehicle. Under the footprint-based standards, each manufacturer will have a GHG standard unique to its fleet, depending on the footprints of the vehicle models produced by that manufacturer. A manufacturer will have separate footprint-based standards for cars and for trucks.

The endangerment and contribution findings described previously require EPA to issue standards under section 202(a) "applicable to emission" of the air pollutant that EPA found causes or contributes to the air pollution that endangers public health and welfare. The final emissions standards satisfy this requirement for GHGs from light-duty vehicles. Under section 202(a), the Administrator has significant discretion in how to structure the standards that apply to the emission of the air pollutant at issue here, the aggregate group of six GHGs. EPA has the discretion under section 202(a) to adopt separate standards for each gas, a single composite standard covering various gases, or any combination of these. In the LDVR, EPA finalized separate standards for N_2O and CH_4, and a CO_2 standard that provides for credits based on reductions of HFCs, as the appropriate way to issue standards applicable to emission of the single air pollutant, the aggregate group of six GHGs. EPA did not set any standards for PFCs or SF_6, as they are not emitted by motor vehicles.

C. *What are the general requirements of the PSD program?*

1. Overview of the PSD Program

The PSD program is a preconstruction review and permitting program applicable to new major stationary sources and major modifications at existing major stationary sources. The PSD program applies in areas that are designated "attainment" or "unclassifiable" for a National Ambient Air Quality Standard (NAAQS). The PSD program is contained in part C of title I of the CAA. The "nonattainment new source review (NSR)" program applies in areas not in attainment of a NAAQS or in the Ozone Transport Region and is implemented under the requirements of part D of title I of the CAA. Collectively, we commonly refer to these two programs as the major NSR program. The governing EPA rules are contained in 40 CFR 51.165, 51.166, 52.21, 52.24, and part 51, Appendices S and W. There is no NAAQS for CO_2 or any of the other well-mixed GHGs, nor has EPA proposed any such NAAQS; therefore, unless and until we take further such action, we do not anticipate that the nonattainment NSR program will apply to GHGs.

The applicability of PSD to a particular source must be determined in advance of construction or modification and is pollutant-specific. The primary criterion in determining PSD applicability for a proposed source is whether the source is a "major emitting facility," based on its predicted potential emissions of regulated pollutants, within the meaning of CAA section 169(1) and either constructs or undertakes a modification. EPA has implemented these requirements in its regulations, which use somewhat different terminology for determining PSD applicability, which is whether the source is a "major stationary source" or whether the proposed project is a "major modification."

a. Major Stationary Source

Under PSD, a "major stationary source" is any source belonging to a specified list of 28 source categories which emits or has the potential to emit 100 tpy or more of any pollutant subject to regulation under the CAA, or any other source type which emits or has the potential to emit such pollutants in amounts equal to or greater than 250 tpy. We refer to these levels as the 100/250-tpy thresholds. A new source with a potential to emit (PTE) at or above the applicable "major stationary source threshold" is subject to major source NSR. These limits originate from section 169 of the CAA, which applies PSD to any "major emitting facility" and defines the term to include any source that emits or has a PTE of 100 or 250 tpy, depending on the source category. Note that the major source definition incorporates the phrase "subject to regulation," which, as described later, will begin to include GHGs on January 2, 2011, under our interpretation of that phrase discussed in the recent Interpretive Memo notice. 75 FR 17004, April 2, 2010.

b. Major Modifications

PSD also applies to existing sources that undertake a "major modification," which occurs: (1) When there is a physical change in, or change in the method of operation of, a "major stationary source;" (2) the change results in a "significant" emission increase of a pollutant subject to regulation (equal to or above the significance level that EPA has set for the pollutant in 40 CFR 52.21(b)(23)); and (3) there is a "significant net emissions increase" of a pollutant subject to regulation that is equal to or above the significance level (defined in 40 CFR 52.21(b)(23)). Significance levels, which EPA has promulgated for criteria pollutants and certain other pollutants, represent a *de minimis* contribution to air quality problems. When EPA has not set a significance level for a regulated NSR pollutant, PSD applies to an increase of the pollutant in any amount (that is, in effect, the significance level is treated as zero).

2. General Requirements for PSD

This section provides a very brief summary of the main requirements of the PSD program. One principal requirement is that a new major source or major modification must apply BACT, which is determined on a case-by-case basis taking into account, among other factors, the cost effectiveness of the control and energy and environmental impacts. EPA has developed a "top-down" approach for BACT review, which involves a decision process that includes identification of all available control technologies, elimination of technically infeasible options, ranking of remaining options by control and cost effectiveness, and then selection of BACT. Under PSD, once a source is determined to be major for any regulated NSR pollutant, a BACT review is performed for each attainment pollutant that exceeds its PSD significance level as part of new construction or for modification projects at the source, where there is a significant increase and a significant net emissions increase of such pollutant.[7]

In addition to performing BACT, the source must analyze impacts on ambient air quality to assure that no violation of any NAAQS or PSD increments will result, and must analyze impacts on soil, vegetation, and visibility. In addition, sources or modifications that would impact Class I areas (*e.g.*, national parks) may be subject to additional requirements to protect air quality related values (AQRVs) that have been identified for such areas. Under PSD, if a source's proposed project may impact a Class I area, the Federal Land Manager is notified and is responsible for evaluating a source's projected impact on the AQRVs and recommending either approval or disapproval of the source's permit application based on anticipated impacts. There are currently no NAAQS or PSD increments established for GHGs, and therefore these PSD requirements would not apply for GHGs, even when PSD is triggered for GHGs. However, if PSD is triggered for a GHG emissions source, all regulated NSR pollutants which the new source emits in significant amounts would be subject to PSD requirements. Therefore, if a facility triggers review for regulated NSR pollutants that are non-GHG pollutants for which there are established NAAQS or increments, the air quality, additional impacts, and Class I requirements would apply to those pollutants.

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[7] We note that the PSD program has historically operated in this fashion for all pollutants—when new sources or modifications are "major," PSD applies to all pollutants that are emitted in significant quantities from the source or project. This rule does not alter that for sources or modifications that are major due to their GHG emissions.

The permitting authority must provide notice of its preliminary decision on a source's application for a PSD permit, and must provide an opportunity for comment by the public, industry, and other interested persons. After considering and responding to comments, the permitting authority must issue a final determination on the construction permit. Usually NSR permits are issued by state or local air pollution control agencies, which have their own permit programs approved by EPA in their State Implementation Plans (SIPs). In some cases, EPA has delegated its authority to issue PSD permits to the state or local agency. In other areas, EPA issues the permits under its own authority.

D. *What are the general requirements of the title V operating permits program?*

1. Overview of Title V

The operating permit requirements under title V are intended to improve sources' compliance with other CAA requirements. The title V program is implemented through regulations promulgated by EPA, 40 CFR part 70, for programs implemented by state and local agencies and tribes, and 40 CFR part 71, for programs generally implemented by EPA.

In summary, the title V program requires major sources (defined and interpreted by EPA to include sources that emit or have a PTE of 100 tpy of any pollutant subject to regulation) and certain other sources to apply for operating permits. Under EPA's long-standing interpretation, a pollutant, such as a GHG, is "subject to regulation" when it is subject to a CAA requirement establishing actual control of emissions. Title V generally does not add new pollution control requirements, but it does require that each permit contain all pollution control requirements or "applicable requirements" required by the CAA (*e.g.*, New Source Performance Standard (NSPS), and SIP requirements, including PSD), and it requires that certain procedural requirements be followed, especially with respect to compliance with these requirements. "Applicable requirements" for title V purposes include stationary source requirements, but do not include mobile source requirements. Other procedural requirements include providing review of permits by EPA, states, and the public, and requiring permit holders to track, report, and annually certify their compliance status with respect to their permit requirements.

2. Title V Permit Requirements

This section provides a brief summary of the requirements of the title V program that are most relevant to this action. A source generally must apply for a title V permit within 1 year of first becoming subject to permitting—for new sources, this is usually within 1 year of commencing operation. The application must include, among other things, identifying information, a description of emissions and other information necessary to determine applicability of requirements and information concerning compliance with those requirements. The permitting authority uses this information to develop the source's operating permit.

Title V permits generally contain the following elements: (1) Emissions limitations and standards to assure compliance with all applicable requirements; (2) monitoring, recordkeeping, and reporting requirements, including submittal of a semiannual monitoring report and prompt reporting of deviations from permit terms; (3) fee payment; and (4) an annual certification of certification by a responsible official. The detailed requirements are set forth at 40 CFR 70.6.

In addition to the permit content requirements, there are procedural requirements that must be followed in issuing title V permits, including (1) Application completeness determination; (2) public notice and a 30-day public comment period, including an opportunity for a public hearing, on draft permits; (3) EPA and affected state review; and (4) a statement of the legal and factual basis of the draft permit. The permitting authority must take final action (issue or deny) on the permit applications within 18 months of receipt. EPA also has 45 days from receipt of a proposed permit to object to its issuance, and citizens have 60 days after that to petition EPA to object to a permit. Permits may also need to be revised or reopened if new requirements come into effect during the permit terms or if the source makes changes that conflict with, or necessitate changes to, the current permit. Permit revisions and re-openings follow procedural requirements which vary depending on the nature of the necessary change to the permit.

E. The Interpretive Memo

On December 18, 2008, EPA issued a memorandum, "EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program" (known as the "Johnson Memo" or the "PSD Interpretive Memo," and referred to in this preamble as the "Interpretive Memo") that set forth EPA's interpretation regarding which EPA and state actions, with respect to a previously unregulated pollutant, cause that pollutant to become "subject to regulation" under the Act. Whether a pollutant is "subject to regulation" is important for the purposes of determining whether it is covered under the federal PSD and title V permitting programs. The Interpretive Memo established that a pollutant is "subject to regulation" only if it is subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant (referred to as the "actual control interpretation"). On February 17, 2009, EPA granted a petition for reconsideration on the Interpretive Memo, and announced its intent to conduct a rulemaking to allow for public comment on the issues raised in the memorandum and on related issues. EPA also clarified that the Interpretive Memo would remain in effect pending reconsideration.

On March 29, 2010, EPA signed a notice conveying its decision to continue applying (with one limited refinement) the Interpretive Memo's interpretation of "subject to regulation" ("Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs"). *See* 75 FR 17004. EPA concluded that the "actual control interpretation" is the most appropriate interpretation to apply given the policy implications. However, we refined our interpretation in one respect: we established that PSD permitting requirements apply to a newly regulated pollutant at the time a regulatory requirement to control emissions of that pollutant "takes effect" (rather than upon promulgation or the legal effective date of the regulation containing such a requirement). In addition, based on the anticipated promulgation of the LDVR, we stated that the GHG requirements of the vehicle rule would take effect on January 2, 2011, because that is the earliest date that a 2012 model year vehicle may be introduced into commerce. In other words, the compliance obligation under the LDVR does not occur until a manufacturer may introduce into commerce vehicles that are required to comply with GHG standards, which will begin with model year 2012 and will not occur before January 2, 2011. We also reiterated EPA's interpretation that the 100 tpy major source threshold for title V is triggered only by pollutants "subject to regulation" under the Act, and we defined and applied that term for title V purposes in the same way that we did for PSD purposes. That is, we stated that a pollutant is "subject to regulation" if it is subject to a CAA requirement establishing "actual control of emissions;" that a pollutant is considered "subject to regulation" for title V purposes when such a requirement "takes effect"; and, based on the anticipated promulgation of the LDVR, that the GHG requirements of the vehicle rule would take effect on January 2, 2011.

On April 1, 2010, we finalized the LDVR as anticipated, confirming that manufacturer certification can occur no earlier than January 2, 2011. Thus, under the terms of the final notice for the Interpretive Memo, GHGs become subject to regulation on that date, and

PSD and title V program requirements will also begin to apply upon that date.

IV. Summary of Final Actions

This section describes the specific actions we are taking in this final rule. It describes the overall tailoring approach for NSR and title V applicability, the steps we are taking to put it into place, and future actions that we commit to take. The next section, V, provides the legal and policy rationale for these actions. In that section, we provide a description of our rationale and response to comments for each action, presented in the same order as we describe the actions here.

A. *How do you define the GHG pollutant for PSD and title V purposes?*

1. GHG Pollutant Defined as the Sum-of-Six Well-Mixed GHGs

We are identifying the air pollutant for purposes of PSD and title V applicability to be the pollutant subject to regulation, which is the air pollutant for GHGs identified in EPA's LDVR, as well as EPA's endangerment and contribution findings.[8] In the LDVR, EPA set emissions standards under section 202(a) that were "applicable to emission" of a single air pollutant defined as the aggregate sum of six GHGs. The six GHGs, which are well-mixed gases in the atmosphere, are CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Earlier, EPA made the contribution finding for this single air pollutant.

Furthermore, as proposed, we are using an emissions threshold that allows all six constituent gases to be evaluated using a common metric—CO_2e. Thus, to determine applicability, a source's GHG emissions are calculated on a CO_2e basis by multiplying the mass emissions of any of the six GHGs that the source emits by that gas's GWP and then summing the CO_2e for each GHG emitted by the source. This sum, expressed in terms of tpy CO_2e, is then compared to the applicable CO_2e-based permitting threshold to determine whether the source is subject to PSD and title V requirements.

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[8] *See* 74 FR 66496, 66499, 66536-7. December 15, 2009.

In addition, because we are implementing this phase-in through the term "subject to regulation," the regulatory language is structured such that the statutory mass-based thresholds (*i.e.*, for PSD, 100/250 tpy for new construction and zero tpy for modifications at a major stationary source, and for title V, 100 tpy) continue to apply. As a result, stationary source apply and stationary sources or modifications that do not meet these thresholds are not subject to permitting requirements. While technically evaluation of the mass-based thresholds is the second step in the applicability analysis, from a practical standpoint most sources are likely to treat this as an initial screen, so that if they would not trigger PSD or title V on a mass basis, they would not proceed to evaluate emissions on a CO_2e basis. We have treated evaluation of mass-based thresholds as the initial step in our descriptions. As applicable, a source would evaluate these mass-based thresholds by summing each of the six GHGs it emits on a mass basis (*i.e.*, before applying GWP). We expect that it will be very rare for a new stationary source or modification to trigger permitting based on CO_2e and not also trigger based on mass alone.

Determining permit program applicability for the GHG "air pollutant" by using the sum-of-six GHGs is based on EPA's interpretation that the PSD and title V requirements apply to each "air pollutant" that is "subject to regulation" under another provision of the CAA. As discussed previously, the final LDVR for GHGs makes it clear that the emissions standards EPA adopted are standards applicable to emission of the single air pollutant defined as the aggregate mix of these six well-mixed GHGs. *See* LDVR, May 7, 2010, 75 FR 25398-99, section III.A.2.c, and 40 CFR 86.1818-12.[9] For reasons explained in more detail in section V, we have determined it is legally required, and preferable from a policy standpoint, for EPA to use the same definition of the air pollutant for permitting purposes as that used in the rule that establishes the control requirements for the pollutant. We also believe there are implementation advantages for applying PSD and title V in this way. Thus, this rule establishes that a stationary source will use the group of six constituent gases for permitting applicability, rather than treating each gas individually. Similarly, you will include all six constituent gases because that is how the air pollutant is defined, even though motor vehicles only emit four of the six.

2. What GWP values should be used for calculating CO_2e?

We are requiring that wherever you perform an emissions calculations involving CO_2e for the purposes of determining the applicability of PSD or title V requirements, you use the GWP values codified in the EPA's mandatory GHG reporting rule.[10] This approach will assure consistency between the values required for calculations under the reporting rule and for PSD or title V. In addition, because any changes to Table A-1 of the mandatory GHG reporting rule regulatory text must go through a rulemaking, this approach will assure that the values used for the permitting programs will reflect the latest values adopted for usage by EPA after notice and comment.

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[9] 40 CFR 86.1818-12(a).

B. When will PSD and title V applicability begin for GHGs and emission sources?

Overview

In this action, we establish the first two phases of our phase-in approach, which we refer to as Steps 1 and 2. We also commit to a subsequent rulemaking in which we will propose or solicit comment on establishing a further phase-in, that is, a Step 3, that would apply PSD and title V to additional sources, effective July 1, 2013, and on which we commit to take final action, as supported by the record,[11] by no later than July 1, 2012.

We also commit to undertaking an assessment of sources' and permitting authorities' progress in implementing PSD and title V for GHG sources, and to complete this assessment by 2015. We further commit to completing another round of rulemaking addressing smaller sources by April 30, 2016. Our action in that rulemaking would address permitting requirements for smaller sources, taking into account the remaining problems concerning costs to sources and burdens to permitting authorities. Finally, we determine in this action that we will apply PSD or title V requirements to sources that emit GHGs, or that conduct modifications that result in increases in emissions of GHGs, in amounts of less than 50,000 tpy CO_2e any earlier than when we take the required further action to address smaller sources by April 30, 2016.

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[10] Table A-1 to subpart A of 40 CFR part 98—Global Warming Potentials, 74 FR 56395.

[11] Although we commit to propose or solicit comment on lower thresholds and to take final action on that proposal by July 1, 2012, we cannot, at present, commit to promulgate lower thresholds. It will not be until the Step 3 rulemaking itself that we will gather and analyze data and receive comments that determine whether we have basis for promulgating lower thresholds.

Through this process, we will implement the phase-in approach by applying PSD and title V at threshold levels that are as close to the statutory levels as possible, and do so as quickly as possible, at least to a certain point. The level and timing of the thresholds that we promulgate in future actions will be based on our assessment of the resulting costs to sources and burdens to permitting authorities, and that, in turn, will depend on such variables as our progress in developing streamlining approaches and on permitting authorities' progress in developing permitting expertise and acquiring more resources. At this time, we cannot foresee exactly when or in what manner those developments will occur. Therefore, we cannot promulgate more components of the tailoring approach beyond what we promulgate in this action. We can say only that we may continue the phase-in process with further rulemaking after 2016. Alternatively, we may make a definitive determination in one of the future rulemaking actions that, under the "absurd results" doctrine, PSD or title V applies only to certain GHG sources, and does not apply to the remaining GHG sources, and with that rulemaking, bring this tailoring process to a close.

1. What are the Step 1 thresholds, timing, and calculation methodology?

a. PSD Permitting

Step 1 of the Tailoring Rule phase-in will begin on January 2, 2011. With respect to the PSD program, GHG sources will become subject to PSD for their GHG emissions if they undergo PSD permitting anyway, either for new construction or for modification projects, based on emissions of non-GHG pollutants, in which case they will be subject to the PSD requirements for GHG if they increase GHG emissions by 75,000 tpy CO_2e or more. Under this step, only these sources, which we refer to as "anyway" PSD sources, will become subject to PSD; no sources will become major sources for PSD purposes or be treated as undertaking modifications that trigger PSD based solely on their GHG emissions. As a result, no additional PSD permitting actions will be necessary solely due to GHG emissions. However, existing or newly-constructed sources that are determined to be major sources based on non-GHG emissions are required to conduct a BACT review for their GHG emissions (from new construction) or emissions increases (from modifications), if they are subject to PSD due to their non-GHG emissions from construction or modification actions and each of the following conditions is met:

> (1) The GHG emissions (or net emissions increase) due to the new construction (or modification) project, calculated as the sum of the six well-mixed GHGs on a mass basis (no GWPs applied) exceed a value of 0 tpy; and

> (2) The GHG emissions (or net emissions increase) due to the new construction (or modification) project, calculated as the sum of the six well-mixed GHGs on a CO_2e basis (GWPs applied) equal or exceed a value of 75,000 tpy CO_2e.

The purpose of the first condition is to determine whether the GHG emissions or net emissions increase has resulted in an "increase in the amount" of an air pollutant as required by the Act. Because EPA has not defined a mass-based regulatory significance level for GHGs, that level, in effect, is treated as zero. *See* 40 CFR 52.21(b)(23)(ii) and 51.166(b)(23)(ii). In practice, this means any amount of new emissions or an emission increase will exceed the mass-based limit. We are not, at this time, establishing a significance level based on mass emissions, and instead we are establishing one based on CO_2e that addresses permitting burdens. The zero mass-based amount applies, but only as an initial screen to exclude sources or changes that have no mass increase of GHGs.

b. Title V Permitting

Under Step 1, only sources required to have title V permits for non-GHG pollutants (*i.e.*, "anyway" title V sources) will be required to address GHGs as part of their title V permitting. That is, no sources will become major for title V based solely on their GHG emissions. Note further, however, that the 75,000 tpy CO_2e limit does not apply to title V, so that anyway title V sources must apply any title V requirements to their GHG emissions. Sources with title V permits must address GHG requirements when they apply for, renew, or revise their permits. These requirements will include any GHG applicable requirements (*e.g.*, GHG BACT requirements from a PSD process) and associated monitoring, record-keeping and reporting.

When a permit application is otherwise required, they will also need to identify GHG emissions and other information in that application to the extent required under 40 CFR 70.5(c) and 71.5(c), including information necessary to determine applicable requirements.[12]

2. What are the Step 2 thresholds, timing, and calculation methodology?

a. PSD Permitting

Step 2 will begin July 1, 2011. Under Step 2, anyway PSD sources—that is, sources already subject to PSD based on non-GHGs and covered under Step 1 previously—will remain subject to PSD. In addition, sources with the potential to emit 100,000 tpy CO_2e or more of GHG will be considered major sources for PSD permitting purposes (provided that they also emit GHGs or some other regulated NSR pollutant above the 100/250 tpy (mass based) statutory thresholds. Additionally, any physical change or change in the method of operation at a major source (including one that is only major due to GHGs) resulting in a net GHG emissions increase of 75,000 tpy CO_2e or more will be subject to PSD review and requirements with respect to GHGs (provided that it also results in an increase of GHG emissions on a mass basis).

Specifically, for purposes of determining whether a GHG emission source, resulting from either new construction or a physical or operational change at an existing source, is considered a major source under PSD, both of the following conditions must be met:

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[12] EPA notes, however, that many sources subject to title V under Steps 1 and 2 will also be subject to the GHG mandatory reporting rule. For these sources, the emissions description requirements in the title V regulations will generally be satisfied by referencing information provided under the reporting rule.

(1) The GHG emission source, which is not major for another pollutant, emits or has the potential to emit GHG in amounts that equal or exceed the following, calculated as the sum-of-six well-mixed GHGs on a mass basis (no GWPs applied):

- 100 tpy for sources in any of the 28 major emitting facility source categories listed under PSD, or
- 250 tpy for any other stationary source.

(2) The GHG emission source emits or has the potential to emit GHGs in amounts that equal or exceed 100,000 tpy CO_2e basis.

For determining whether a modification project at a major stationary source is subject to PSD review, both of the following conditions must be met:

(1) The net GHG emissions increase resulting from the project, calculated as the sum-of-six well-mixed GHGs on a mass basis (no GWPs applied) equals or exceeds 0 tpy.

(2) The net GHG emissions increase resulting from the project, calculated as the sum-of-six well-mixed GHGs on a CO_2e basis (GWPs applied) equals or exceeds 75,000 tpy CO_2e.

The purpose of the first condition in both of these determinations is to confirm whether the GHG emissions or emissions increase have exceeded, on a mass-basis, the statutory major source thresholds (where the source is not otherwise major) and mass-based statutory significance level for GHGs, which, as noted previously, is 0 tpy. *See* 40 CFR 52.21(b)(23)(ii) and 51.166(b)(23)(ii).

As an example of how the mass-based test would apply, consider a modification project that results in a 5 tpy increase of GHG emissions on a mass basis, associated with a high-GWP GHG gas (for example, SF_6, with a GWP value of 23,900), but also results in a 100 tpy reduction in CO_2 emissions (assume no other contemporaneous increases or decreases of GHG). In this example, there would be a net decrease of GHG emissions on a mass basis (5 tpy-100 tpy = -95 tpy). Because there is no mass-based increase of GHG, this project does not trigger PSD, despite the fact that the net GWP-adjusted emissions increase of SF_6 in this example would equal 119,500 tpy of CO_2e and the project would thus exceed 75,000 tpy CO_2e.

b. Title V Permitting

Under Step 2, "anyway" title V sources—that is, sources already subject to title V based on non-GHGs and that are covered under Step 1 previously—will continue to be subject to title V. In addition, GHG emission sources that equal or exceed the 100,000 tpy CO_2e threshold will be required to obtain a title V permit if they do not already have one. It is important to note that the requirement to obtain a title V permit will not, by itself, result in the triggering of additional substantive requirements for control of GHG. Rather, these new title V permits will simply incorporate whatever applicable CAA requirements, if any, apply to the source being permitted. Both of the following conditions need to be met in order for title V to apply under Step 2 to a GHG emission source:

(1) An existing or newly constructed source emits or has the potential to emit GHGs in

amounts that equal or exceed 100 tpy calculated as the sum of the six well-mixed GHGs on a mass basis (no GWPs applied).

(2) An existing or newly constructed source emits or has the potential to emit GHGs in amounts that equal or exceed 100,000 tpy calculated as the sum of the six well-mixed GHGs on a CO_2e basis (GWPs applied).

3. What about Step 3?

In this rule, EPA establishes an enforceable commitment to complete another rulemaking no later than July 1, 2012, in which we will propose or solicit comment on a Step 3 of the phase-in and may also consider other approaches that may result in the permanent exclusion of a category of sources from PSD or title V requirements, under the *Chevron* framework, taking account of the "absurd results" doctrine.

Consistent with our phase-in approach, it is important for us to consider whether, at some point during the implementation of Step 2, it will become possible to administer GHG permitting programs for additional sources. For example, if EPA is able to promulgate measures that streamline programs to at least some extent, if permitting authorities increase their resources, or if implementation experience and more seasoned staff results in more effective use of scarce permitting resources, then we expect that we will be able to phase in the application of PSD and title V to more sources by establishing Step 3. We do not have enough information now to establish a final Step 3, particularly because there will be significant transition occurring in the GHG permitting programs during Steps 1 and 2. However, we believe that it will be possible to develop a record on which to base Step 3 sometime soon after we begin to implement Step 2.

Therefore, we plan to propose a rule in which we solicit comment on or propose lower thresholds for PSD and title V applicability, and we establish an enforceable commitment to finalize a rule in which we address those matters by July 1, 2012. In order to provide a year for permitting authorities and sources to prepare for any additional GHG permitting action in Step 3, we will establish that Step 3 would take effect on July 1, 2013. We also commit to explore, between now and the Step 3 proposal, a wide range of streamlining options. In the proposal, we will take comment on streamlining approaches we think may be viable (except to the extent we will have already issued guidance documents concerning streamlining approaches), and we will address those options in the final rule.

In addition, as part of the Step 3 action, we may solicit comment on a permanent exclusion of certain sources from PSD, title V or both, based on an "absurd results" rationale. For example, we may make a final determination that under the "absurd results" doctrine, PSD and/or title V do not apply to a set of GHG sources that, although above the statutory thresholds for those programs, are too small and relatively inconsequential in terms of GHG contribution. Another type of such exclusion for the title V program could be for sources that would otherwise be required to obtain an "empty permit," that is, for example, one that would not contain any applicable requirements because there are none that apply to the source. If we promulgate a permanent exclusion, we may conclude that by that time, we will have brought into the PSD and title V programs the full set of sources that would be consistent with congressional intent (or, if congressional intent on that point is unclear, with a reasonable policy consistent with statutory requirements) and, under those circumstances, we would find that such a rule brings the tailoring process to a close. The application of the "absurd results" rationale for a permanent exclusion is discussed in more detail in section V.B, later in this preamble.

4. What about the proposed 6-year exclusion for smaller sources?

The tailoring proposal contemplated at least a 6-year exclusion from permitting for small sources. This proposed exclusion was based on the overwhelming numbers of permitting actions at small sources and the need for time for permitting authorities to secure resources, hire and train staff, and gain experience with GHG permitting for new types of sources and technologies. It was also based on the time needed for EPA to develop, and for states to adopt, streamlining measures to reduce the permitting burden (*e.g.*, concerning PTE, presumptive BACT, or general permits). We therefore proposed such an exclusion, and proposed that it would last 6 years—5 years to complete a required study evaluating permitting burden and assessing the effect of streamlining measures or techniques in reducing this burden, plus an additional year to complete a final rulemaking that would phase in additional sources as appropriate based on the study.

We are finalizing the 6-year exclusion, and for reasons described later, are establishing that in no event will sources below 50,000 tpy CO_2e be subject to PSD or title V permitting during the 6-year period, nor will modifications be subject to PSD unless they increase emissions by 50,000 tpy CO_2e or more. The exclusion will last until we take the action described later to address smaller sources, which is required by April 30, 2016. The exclusion provides certainty that, before this date, EPA will not act to cover sources and modifications below these thresholds, including during the required Step 3 rulemaking that will occur in 2012. In effect, this means that Step 3 will establish a major source threshold and significance level no lower than 50,000 tpy CO_2e. This does not necessarily mean we will cover sources below this level on April 30, 2016. It simply means that the provision we are adopting would assure that EPA does not cover such sources any sooner than that.

5. When and how will EPA take further action on smaller sources?

As we proposed, we are establishing an enforceable commitment to act within 5 years to complete a study projecting the administrative burdens that remain for small sources after permitting authorities have had time to secure resources, hire and train staff, and gain experience with GHG permitting for new types of sources and technologies, and after EPA has had time to develop (and states have had time to adopt) streamlining measures to reduce the permitting burden for such sources. We will use the results of this study to serve as the basis for an additional rulemaking that would take further action to address small sources. Similar to the enforceable commitment to act on Step 3, we are making an enforceable commitment to complete this rulemaking by April 30, 2016.

We cannot predict at this time what form that final action will take. It could function as a Step 4, bringing in additional sources based on, for example, streamlining actions, increased permitting authority resources, and experienced and more efficient permitting staff; and it could further indicate that we intend to follow-up with a Step 5 to bring in more sources. Alternatively, it could also function as a final step excluding certain sources permanently based on our application of the *Chevron* framework, taking account of the "absurd results" doctrine, and subjecting the remaining sources to permitting. However, whatever final action we take would explain any necessary changes to the Step 3 thresholds and would supersede the 6-year exclusion for sources and modifications below 50,000 tpy CO_2e.

C. *How do state, local and tribal area programs adopt the final GHG applicability thresholds?*

We are finalizing our proposed approach to change the definition of "major stationary source" in the PSD implementing regulations, and the "major source" definition in the title V implementing regulations to tailor the application of these permitting programs to GHG emissions. We are also finalizing a significance level for GHG emissions for purposes of defining a major modification under the PSD program, and add an exclusion from PSD and title V permitting for GHG emissions, until we complete a rulemaking required by April 30, 2016, for any sources that are not already subject to PSD and title V permitting and that emit less than 50,000 tpy of CO_2e.

As explained earlier, we are adopting thresholds that phase in the applicability of GHG permitting over a specified time period. In adopting regulatory changes to implement these thresholds, we follow an approach that is substantively the same as the approach proposed, but takes a different form for purposes of revisions to our PSD and title V regulations. Specifically, in this final rule, for our regulations, in conjunction with the definitions of "major stationary source" and "major modification" (for PSD) and "major source" (for title V), we are adopting a definition of the term "subject to regulation." Moreover, we are defining this term so that GHG emissions from sources above the threshold are treated as subject to regulation, and therefore the sources that emit them are subject to PSD and title V. We are not finalizing the approach we proposed, which was to revise the numerical thresholds in the definitions so that GHG sources would have a higher threshold. Although we are defining the term "subject to regulation," we recognize that from a substantive standpoint, our tailoring approach entails interpreting the definitions of "major emitting facility," "major modification," and "major source" to phase in the applicability of PSD and title V, as applicable, to GHG sources, and it makes no difference whether we interpret those definitions through a definition of the term "subject to regulation," revising the numerical thresholds, or revising other terms in those definitions.

We are adopting definitions of the term "subject to regulation" to implement the tailoring approach because that will facilitate rapid implementation of the final rules by states. Under this approach, states may not need to undertake a regulatory or legislative action before implementing the final rule. These states would be able to establish their interpretations of the term "subject to regulation" used in existing state rules before January 2, 2011, which is the date that the LDVR and permitting requirements would take effect, and thereby exempt sources below the threshold from PSD and title V as a matter of both federal and state law. We are also codifying in this definition EPA interpretations discussed in our recent action "Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs" (75 FR 17704) to provide a complete picture of the meaning of this phrase as it applies to all air pollutants.

Because we are finalizing the rule in a manner that will allow most states to rapidly implement the final rule, and because our recent action on the Interpretive Memo allowed for a longer transition time than we anticipated at proposal, we are delaying final action on our proposal to issue limited approvals for SIP-approved PSD programs and part 70 operating permit programs.[13] Instead, we are requesting that states submit information to the appropriate EPA Regional Administrator by August 2, 2010 so that we may determine whether it is still necessary to finalize any of our proposed limited approvals for any SIP-approved PSD and part 70 title V state programs. In that letter, states should explain whether they will apply the meaning of the term "subject to regulation" established by EPA in this action in implementing both their PSD and part 70 title V permitting programs, and if so, whether the state intends to do so without undertaking a regulatory or legislative process. If a state must revise its statutes or regulations to implement this rule, we ask that it provide an estimate of the time to adopt final rules in its letter to the Regional Administrator. If a state chooses not to apply the approach reflected in this rule, the letter should address whether the state has alternative authority to implement the final rule's tailoring approach or some other approach that is at least as stringent, but which also addresses the expected shortfalls in personnel and funding that would exist if the state carried out permitting at thresholds lower than those in the final rules. For any state that is unable or unwilling to apply the permitting thresholds in the final rules, and otherwise is unable to demonstrate adequate personnel and funding, or alternate authority to permit GHG emissions sources consistent with the final rules, EPA will move forward with finalizing a limited approval of the state's permitting program. By the same token, if we do not receive a letter from a state in response to this request by August 2, 2010, we will be obliged to move forward with finalizing a narrowing of our approval of the existing SIP or title V program.

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[13] In the alternative, we also proposed to use our 110(k)(6) error correction authority to revise SIP-approved PSD programs.

We also ask any state that currently lacks authority to issue PSD or title V permits to any GHG emissions sources to notify the EPA Regional Administrator by letter as to whether the state intends to undertake rulemaking to revise its rules consistent with these applicability thresholds. For any state that lacks the ability to issue PSD or title V permits for GHG emissions sources consistent with the final rule, we intend to undertake a separate action to call for revisions to these programs. We also intend to move quickly to impose a Federal Implementation Plan (FIP) for PSD through 40 CFR 52.21, and use our federal title V authority to ensure that GHG sources will be permitted consistent with the final rules. Our request for information from states is discussed further in section V.C.

D. How do you treat GHGs for purposes of title V permit fees?

We are not amending the title V regulations for fees at this time, including any of the provisions specifying the presumptive minimum fee. We are also not, at this time, calling for each state, local or tribal program to submit new fee adequacy demonstrations as a result of increased GHG permitting workload during Steps 1 and 2. However, as described in section VI.D the statutory and regulatory requirement to collect fees sufficient to cover all reasonable (direct and indirect) costs required to develop and administer title V programs still applies. Therefore, we are recommending that each program review its resource needs for GHG-emitting sources and determine if the existing fee approaches will be adequate. If those approaches will not be adequate, we suggest that state, local and tribal agencies should be proactive in raising fees to cover the direct and indirect costs of the program or develop other alternative approaches to meet the shortfall. We will closely monitor approved title V programs during implementation of the first two steps of the Tailoring Rule to ensure that the added workload from incorporating GHGs into the permit program does not result in fee shortfalls that imperil operating permit program implementation and enforcement. In developing alternative approaches, we note the value of approaches that do not require a per-ton fee for GHG and therefore do not require a GHG inventory to develop. Finally, we offer to work with permitting authorities that request our assistance with developing fee approaches.

E. Other Actions and Issues

This section describes other actions we intend to take in the future related to GHG permitting in addition to the actions that we are promulgating with this final rule. This section also responds to commenters' suggestions that we undertake certain additional actions in this rule, which we decline to do.

1. Timing for Permit Streamlining Techniques

As described at proposal, we intend to develop a series of streamlining approaches as an integral part of our phase-in approach. The approaches we described at proposal included: (1) Defining PTE for various source categories, (2) establishing emission limits for various source categories that constitute presumptive BACT, (3) establishing procedures for use of general permits and permits-by-rule, (4) establishing procedures for electronic permitting, and (5) applying lean techniques to establish more efficient permitting processes. Taken as a whole, these techniques have the potential to obviate the applicability of PSD and title V requirements for some GHG-emitting sources; promote more efficient treatment of GHG-emitting sources that will already be subject to PSD and title V; and allow the expeditious expansion of PSD and title V applicability to more GHG-emitting sources while protecting those sources and the permitting authorities from undue expenses.

As a result, we fully intend to move forward expeditiously with developing streamlining approaches. However, for reasons discussed in section V.E, we do not expect to develop and implement any of these approaches before Step 2 begins. Moreover, we generally expect that each of the first three—which are the most far-reaching—will take several years to implement because we will need to undertake notice and comment rulemaking to develop them, and then the permitting authorities will need to adopt them through the appropriate state or local processes. We commit to explore a wide range of possible approaches before the Step 3 rulemaking, and, in that rulemaking, to propose those that we think may be viable once we have had time to gather and review key supporting data, and once the states and we have key implementation experience that can inform our thinking. Because the streamlining approaches generally carry uncertainty—as demonstrated by comments we received raising legal and policy concerns, as discussed later, that we will have to address—we cannot commit with this action to adopt any streamlining actions in particular, nor to adopting them on any particular schedule. However, we intend to pursue streamlining options as expeditiously as possible, beginning immediately and proceeding throughout the phase-in period, and we encourage permitting authorities to do the same.

2. Guidance for BACT Determinations

Through this final rule we are not amending our regulations or issuing guidance on BACT for GHGs. As described in our proposal, we recognize the need to develop and issue technical and policy guidance for permitting of GHGs, and we plan to accomplish it through a separate effort that will involve stakeholder input. This effort is already underway; in addition to comments EPA received on the proposed Tailoring Rule related to GHG BACT guidance and information needs, EPA received a suite of recommendations from the Clean Air Act Advisory Committee (CAAAC) to which EPA is actively responding. This includes technical guidance and database tools that EPA anticipates issuing by June 2010, and policy guidance that will be issued by the end of 2010. Thus, this important information will be available to support permitting agencies in their BACT determinations at the time that the GHGs become a regulated NSR pollutant, once the LDVR takes effect in January 2011. EPA is confident that these measures will help support a smooth transition to permitting emissions of GHGs.

3. Requests for Higher Category-Specific Thresholds and Exemptions From Applicability

EPA has decided not to provide exemptions from applicability determinations (major source and major modification) under title V and PSD for certain GHG emission sources, emission activities, or types of emissions at this time. Commenters requested several applicability exemptions with respect to GHGs from, for example, agricultural sources, residential sources, small businesses, energy-intensive industrial processes (*e.g.*, aluminum, steel, cement, glass, and pulp and paper manufacturers), lime production, semiconductor production, poultry production, solid waste landfills, biomass combustion/biogenic emissions, fugitive emissions, and pollution control projects. For reasons explained in section V.E, we have decided to address the need for tailoring through a uniform threshold-based approach, rather than through a collection of various specific exclusions.

4. Transitional Issues Including Requests for Grandfathering

For reasons explained in section V.E, EPA has determined that transitional issues for pending applications and permitted sources are adequately addressed by existing requirements and the amount of lead time provided before permitting requirements apply to GHGs under this rule and the March 29, 2010 final action regarding the Interpretive memo. This rule does not contain any additional exemptions or grandfathering provisions addressing the transition to PSD and title V permitting for GHGs.

We are not promulgating an exemption for PSD permit applications that are pending when Step 1 of the permitting phase-in begins for those sources that would otherwise need to obtain a PSD permit based on emissions of pollutants other than GHGs. Any PSD permits issued to such Step 1 sources on or after January 2, 2011 will need to address GHGs. This action makes no change to the position we expressed on this issue on April 2, 2010.

Final PSD permits issued before January 2, 2011 need not be reopened or amended to incorporate requirements for GHGs that take effect after the permit is issued. A source that is authorized to construct under a PSD permit but has not yet begun actual construction on January 2, 2011 may begin actual construction after that date without having to amend the previously-issued PSD permit to incorporate GHG requirements, provided the permit has not expired.

Sources that are not subject to PSD permitting requirements until Step 2 need not obtain a PSD permit addressing GHGs in order to continue any actual construction that begins before July 1, 2011, when such a source was not a major stationary source required to obtain a PSD permit. However, Step 2 sources that begin actual construction in Step 2 may do so only after obtaining a PSD permit.

The title V permitting regulations already include a robust set of provisions to address the incorporation of new applicable requirements and other transitional considerations. A title V source applying for the first time must submit its permit application within 12 months after the source becomes subject to the operating permit program or an earlier time at the discretion of the permitting authority. Where a source is required to obtain a PSD permit, the source must apply for a title V permit or permit revision within 12 months of commencing operation or on or before such earlier date as the permitting authority may establish. Where additional applicable requirements become applicable to a source after it submits its permit application, but prior to release of a draft permit, the source is obligated to supplement its application. Permitting authorities may also ask for additional information during the processing of an application. In addition, where a source that already has a title V permit becomes subject to additional applicable requirements, the permitting authority is required to reopen the permit to add those applicable requirements if the permit term has 3 or more years remaining and the applicable requirements will be in effect prior to the date the permit is due to expire.

V. What Is the Legal and Policy Rationale for the Final Actions?

In this section, we describe the legal and policy rationale for our action, including our rationale for the following: (1) Our approach to calculating GHG emissions for PSD and title V applicability purposes, (2) our approach to establishing the thresholds and timing of PSD and title V applicability to GHG emissions sources; (3) how state, local, and tribal area programs adopt the final GHG applicability thresholds; (4) treatment of GHGs for title V permit fees; (5) future activities, including streamlining actions. We present the rationale description in the following five subsections, corresponding to the basic presentation of the approach in section IV.

A. Rationale for Our Approach to Calculating GHG Emissions for PSD and Title V Applicability Purposes

1. Grouping of GHGs Into a Single Pollutant

In this section, we explain our treatment of the air pollutant at issue for purposes of PSD and title V, such that sources that emit that pollutant in the requisite quantities become subject to PSD and/or title V requirements. We explain our rationale for treating the GHG air pollutant as a combined group of six GHGs instead of six separate air pollutants defined by each individual GHG, and our rationale for including all six of the GHGs in that group. We also define the GHG metric to use for comparison to the applicability thresholds.

We proposed to identify the air pollutant as the aggregate group of the six GHGs that comprise the GHG pollutant, and to use a GHG metric for the applicability thresholds based on CO_2e. The summed CO_2e emissions would then be compared to the applicable permitting threshold to determine whether the source is subject to PSD and title V requirements. Historically, the PSD and title V regulatory provisions do not, in the first instance, define the "air pollutant" to which they apply, but rather rely for the definition of the pollutant on a cross-reference to the regulatory provision under another part of the Act that establishes the emission standards or limits for that pollutant that in turn causes the pollutant to be subject to regulation under PSD and title V permitting. As an example, the pollutant "total reduced sulfur" (TRS) is a pollutant comprised of the sum of multiple compounds that was originally defined under the NSPS, subpart BB, Standards of Performance for Kraft Pulp Mills, which then caused it to be subject to regulation under the PSD program. The actual compounds that define the pollutant TRS are identified in the NSPS. The PSD program regulations did not introduce its own independent definition of TRS, but instead relied on the definition as contained in the Kraft Pulp Mills NSPS.

However, at the time of our proposal, the endangerment and cause or contribute findings had not been completed and the LDVR for GHGs had not been finalized. Thus, there was no final agency action defining the "air pollutant" consisting of GHGs to be considered "subject to regulation." Absent a definition of "greenhouse gases" under another regulatory provision that we could cross-reference, we proposed to define "greenhouse gases" for permitting purposes as "the single air pollutant that is comprised of the group of six GHGs, as proposed in the [CAA] section 202(a) endangerment and contribution findings." 74 FR 55329, col. 1. The six well-mixed GHGs identified in the proposed contribution finding were: CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.

In the proposal, we further recognized that the LDVR for GHGs, as it was proposed, would result in reductions of only four of the gases, not all six, because only four are emitted by vehicles. However, we concluded that if the LDVR were finalized as proposed, then the air pollutant for purposes of PSD and title V applicability would be a single air pollutant that is the aggregate mix of the group of six GHGs because—

> [t]hese six GHGs as a class comprise the air pollutant that is the subject of the endangerment finding and companion contribution finding and constitute the air pollutant that is regulated by the light-duty vehicle rule through measures that address the components of that air pollutant

> that are emitted from the mobile sources. Thus, although the CAA section 202(a) proposal establishes controls only with respect to four GHGs, as a legal matter, the proposal covers the entire set of GHGs that as a class are the single "air pollutant" in the proposed endangerment and contribution findings.

74 FR 55329 col. 1.

We also solicited comment on whether we should identify the GHG metric in a different way, such as addressing each GHG constituent compound individually or including (whether individually or as a group) only those four GHG constituent compounds for which reductions would occur through the emission standards or limits proposed in the LDVR.

A minority of the comments on our proposal addressed this issue. Some commenters supported combining the individual GHGs as one pollutant for purposes of determining permitting applicability, and stated that it is not uncommon for EPA to recognize "collective" air pollutants comprised of many individual compounds based upon shared threats to health and welfare, including such EPA-created group pollutants as sulfur oxides, nitrogen oxides, volatile organic compounds (VOCs), and particulate matter (PM).

On the other hand, a significant number of commenters also raised concerns about grouping the individual GHGs into one metric. Some of these commenters argued that grouping GHGs is not appropriate because GHGs are not like other air pollutants that are comprised of numerous substances of concern (*e.g.*, VOCs and PM), individual GHGs do not interact or combine to create a pollutant of concern, and EPA has not established a "GHG" NAAQS that supports the definition of the pollutant as a group. Some were concerned that regulating the GHGs as a group would increase the likelihood that a source will trigger permitting requirements, adding that this is unnecessary and would conflict with the "absurd results" and "administrative necessity" doctrines because it would lead to larger numbers of sources becoming subject to permitting. Some commenters opposing grouping suggested that we should explore regulating each of the GHG pollutants on an individual mass basis rather than collectively because in their view, it is reasonable and feasible to regulate and control emissions of each of the listed pollutants, other than CO_2, at the 100/250 tpy thresholds, or less if deemed necessary, in accordance with the established mechanisms of the Act and doing so would lead to a better environmental result. Finally, some commenters argued that disaggregating the pollutants would also allow for more appropriate technology review.

After considering these comments, and taking into account other related actions that have occurred since proposal, we have determined that PSD and title V permitting program requirements will apply, as proposed, to the "single air pollutant that is comprised of the group of six GHGs." 74 FR 55329, col. 1. We believe that this approach is both compelled by the statute and reflects the preferable policy approach.

As more fully discussed elsewhere in this rulemaking, the PSD requirements apply to a "major emitting facility" that undertakes construction or "modification." CAA sections 165(a), 169 (2)(C). The term "major emitting facility" is defined as, in general, a source that emits 100 or 250 tons of "any air pollutant," CAA section 169(1), and, similarly, the term "modification" is defined as a physical or operational change that results in the increased or new emissions of "any air pollutant." CAA sections 169(2)(C), 111(a)(4). Through regulation, we have interpreted the term "any air pollutant," as found in both the terms "major emitting facility" and "modification," more narrowly to mean any "regulated NSR pollutant," and we further define this term to include any pollutant that is "subject to regulation under the Act." 40 CFR 52.21(b)(50)(iv), 52.21.(b)(2).[14]

Similarly, as discussed elsewhere, the title V requirements apply to a "major source," which is defined, in general, as any source that emits at least 100 tpy of "any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). EPA has interpreted the term "any air pollutant" narrowly so that applies only with respect to air pollutants that are subject to regulation under the CAA. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993).

Based on these provisions, the key issue for present purposes in determining whether a source is subject to PSD (because it qualifies as a major emitting facility that undertakes construction or modification) or title V is whether the pollutant or pollutants that the source emits comprise the "air pollutant" that is "subject to regulation" under the Act.

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[14] By the same token, CAA section 165(a)(4) requires that a source subject to PSD impose best available control technology for "each pollutant subject to regulation under this chapter" that the source emits.

The phrase "subject to regulation under the Act," by its terms, identifies the air pollutant that is subject to PSD and title V as the same air pollutant that is identified in the regulatory action under another provision of the Act. The term is a simple cross-reference. It carries no implication that EPA, in identifying the pollutant to which PSD or title V apply, may redefine the pollutant that is regulated elsewhere in the Act. Whatever the pollutant is that is regulated elsewhere, it is that pollutant to which PSD and title V apply.

Since the time of our proposal, we have finalized both the contribution finding and the LDVR for GHGs. The final LDVR for GHGs specifies, in the rule's applicability provisions, the air pollutant subject to control as the aggregate group of the six GHGs, including CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.[15] Because it is this pollutant that is regulated under the LDVR, it is this pollutant to which PSD and title V apply. Specifically, the applicability provision in the LDVR provides a clear reference to the definition of the single pollutant comprised of the aggregate group of the six well-mixed GHGs, which makes clear PSD and title V applicability depends on the same sum-of-six GHG construct. We must follow this construct of the aggregate group of the six gases and do not have discretion to interpret the GHG "air pollutant" differently for the purposes of PSD or title V.

This construct of the pollutant as the aggregate group of the six gases is also consistent with the definition of the air pollutant in the final contribution finding for GHGs [*see* 74 FR 66496, 66499, 66536-7

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[15] The applicability provision of the LDVR is found in 40 CFR 86.1818-12(a).

(December 15, 2009)]. There, the Administrator defined the air pollutant as the "aggregate group of the same six * * * greenhouse gases," (74 FR 66536), and these well-mixed GHGs are defined to include CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs.

Moreover, even if we had discretion to identify the GHGs air pollutant differently in the permitting programs than in the LDVR, we believe it is reasonable to identify the GHGs air pollutant through the sum-of-six construct for the same reasons why we adopted that definition in the contribution finding and for additional reasons noted below specific to the permit programs. The term "air pollutant" is defined under CAA section 302(g) as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air." Under this definition, EPA has broad discretion to identify an air pollutant, including, as appropriate, treating a combination of air pollutant agents as a single air pollutant. Here, we think that the six well-mixed gases are appropriately combined into a single air pollutant because, as noted in the contribution findings, they share several important attributes: Each of the six gases:

- Is directly emitted (and is not formed by secondary processes in the atmosphere);
- Is long-lived in the atmosphere after it is emitted;
- Is sufficiently long-lived that it becomes "well-mixed," which means that its concentration is essentially uniform in the atmosphere (as opposed to having significant local/regional variation); and

- Has well understood atmospheric properties (*e.g.*, radiative forcing).

See 74 FR 66516-66518.

In addition, treating the six GHGs as a single air pollutant is consistent with the actions of international scientific bodies. For example, the Intergovernmental Panel on Climate Change (IPCC) considers in various reports how the six gases drive human-induced climate change and how that affects health, society, and the environment. Similarly, the United Nations Framework Convention on Climate Change (UNFCCC) requires reporting of these six gases and the commitments under the UNFCCC and Kyoto Protocol are based on the combined emissions of these six gases. Finally, as discussed later, it is standard practice to compute the "CO_2 equivalency" of aggregate emissions using GWP.

We disagree with commenters who argued that grouping all six GHGs is not appropriate because GHGs are not like other air pollutants that are comprised of numerous substances of concern (*e.g.*, VOCs and PM). First, as noted previously, we are following the approach to a single air pollutant comprised of the aggregate of the six GHGs initially adopted in the contribution finding and followed in the LDVR. Many of these same comments have already been addressed in the contribution finding and Response to Comment (RTC) document for that action, and those responses apply equally here.

In addition to the reasons described in the endangerment and contribution findings, there are CAA permitting programmatic and policy advantages to using the sum-of-six construct for the GHG air pollutant for PSD and title V applicability purposes. We believe now, as we did at proposal, that the benefits in using the cumulative group of GHGs outweigh any implementation advantages to using an individual-GHG-based metric. The advantages to sum-of-six definition include that it may: (1) Allow significantly more flexibility to sources for designing and implementing control strategies that maximize reductions across multiple GHGs and would also likely align better with possible future regulations that allow for such flexibility; (2) more effectively support possible future offsets or trading mechanisms that involve different source categories and different compositions of GHG emissions; and (3) could better accommodate and harmonize with future regulations because it establishes one class of pollutants that includes individual components that may, in turn, become subject to specific emission standards under future regulatory efforts.

We disagree with commenters who believe that aggregating the GHGs under one GHG metric for permitting applicability purposes would lead to an excessive amount of source permitting activity. This is because the phase-in approach addresses overwhelming permitting burdens associated with permitting of GHGs. It does so by designing our applicability thresholds to allow for a manageable amount of new permitting actions based on the emissions from sources using the sum-of-six metric. If we based applicability on individual gases, (assuming, again, that we had authority to deviate from the definition of "air pollutant" as used in the LDVR), we would still need to determine what level of permitting is manageable and appropriate based on thresholds on an individual gas basis and would expect that the final rule would result in the same levels of remaining burden. Accordingly, unless the permitting program were being implemented at the statutory thresholds, the effect of a decision to aggregate or not aggregate would not reduce workload; rather, it would simply shift work from permitting facilities that trigger based on combined GHGs to those that trigger based on individual GHGs. Although we acknowledge that this may affect applicability for a particular source, we disagree with the comment that doing so would conflict with our conclusions based on the "absurd results" or "administrative necessity" doctrines. By using a consolidated and weighted measurement, we are able to direct the limited administrative resources to those new sources and modifications with the greatest impact on GHG emissions.

We also believe that the additional flexibility resulting from the sum-of-six GHG metric will provide substantially more opportunities for sources to address emission increases of GHGs than they would have had under an individual gas based metric, and, thereby, possibly reduce their permitting burden through multi-gas mitigation strategies. We disagree with the comment that isolating BACT review on sources that emit a single GHG necessarily leads to better environmental results than it would for sources that undergo a combined review for all six gases. To the contrary, given that Congress built in considerations of energy, environmental, and economic impacts into the BACT requirement, we think that allowing consideration of those factors across six gases will likely result in decisions that more appropriately account for those impacts at the source.

2. Identifying Which GHGs Are Included in the Group

As discussed previously, we proposed to include the combination of six well-mixed GHGs as the air pollutant that triggers PSD and title V applicability: CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. Some commenters supported including all six. They cite the proposed contribution findings that identify the pollutant through the sum-of-six construct, and they emphasize that EPA, in order to protect the public, has to control all the GHGs it has regulated and reduce the overall impact of the mix of six GHGs.

However, a substantial number of commenters, mainly from industry sectors who also disagree with grouping the GHGs together, contend that only the constituent gases that are actually subject to controls under the LDVR should be included in determining applicability under the Tailoring Rule. Some of these commenters believe that only the three compounds (CO_2, CH_4, N_2O) for which the LDVR contains emissions standards or caps should be considered in the GHG metric for permitting, while others would also add HFCs (which are included in a credit flexibility arrangement under the LDVR) for a total of four GHGs. These commenters argued that PSD is not triggered for all six GHGs by the LDVR because under the proposed PSD interpretation in the Interpretive Memo, actual emission controls under the Act are required to trigger PSD obligations for a given pollutant. They also argue that including all six would conflict with EPA's rationale for the Tailoring Rule by leading to larger numbers of sources subject to permitting, thereby increasing the harm that EPA says it wants to avoid. They further assert that the EPA cannot exercise its discretion to widen the scope of PSD and title V applicability to six GHGs when it is relying on the judicial doctrines of "absurd results" and "administrative necessity" to narrow PSD and title V applicability. They explain that in their view, those doctrines apply only when EPA has taken all steps possible to narrow the scope of PSD and title V and thereby avoid the administrative problems that force it to rely on those doctrines.

There were a few comments on whether to include specific gases as part of the sum-of-six grouping. Several commenters representing sectors that have significant SF_6 usage specifically argue that SF_6 should not be included as a GHG, at least at this time, because there are no known SF_6 controls, it is not clear how PTE would be calculated from such facilities, and EPA has not addressed the economic burden that regulation of these facilities would create. A solid waste industry commenter asserts that the Tailoring Rule should confirm that CH_4 and N_2O will not be regulated under PSD or title V because these pollutants are only emitted in miniscule amounts from automobiles.

We disagree with commenters who suggest that because the LDVR actually reduces only four of the six GHGs, EPA may apply PSD and title V to only those four GHGs. It is true that the LDVR standard for the single air pollutant that is comprised of the aggregate of six GHGs consists of individual standards for only four particular constituents of the single air pollutant—which are emissions limits or caps for three GHGs (CO_2, CH_4, and N_2O) and an emission crediting option for one GHG (HFCs)—but this does not dictate that only those four compounds are subject to regulation for permitting purposes. Although the LDVR results in reductions only with respect to four specific GHGs, as a legal matter the LDVR standard covers the entire set of GHGs that as a class are the single "air pollutant" in the contribution finding. Similar to our rationale for addressing the group of six GHGs as one pollutant for PSD and title V applicability purposes, we must adhere to the definition of applicability, cited previously, in the final LDVR for GHGs and include CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs. We do not have discretion to select only a subset of these gases in defining our GHG threshold metric for the permitting applicability purposes. *See* LDVR, May 7, 2010, 75 FR 25398-99, section III.A.2.c. (discussing EPA's exercise of discretion under section 202(a) in setting emissions standards applicable to emission of the single air pollutant).

For the same reasons, we disagree that this approach is inconsistent with the Agency's final action in "EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program." While it is the case that only four constituent gases are reduced by the LDVR, the "air pollutant" that is controlled, and thus "subject to regulation," is the group of six, and it is this "air pollutant" to which PSD and title V apply.

We also disagree with commenters who suggested that including all six GHGs in determining permitting applicability would conflict with our "absurd results" and "administrative necessity" rationale for the phase-in periods and applicability thresholds for GHGs. Even if we did have discretion to identify the air pollutant for PSD and title V purposes as consisting of only four of the six well-mixed GHGs, we do not believe that doing so would have any meaningful impact on the administrative burdens that are at the heart of our reliance on the "absurd results" and "administrative necessity" doctrines. The number of additional permitting actions and amount of additional permitting burden resulting from including all six GHGs, rather than four, is minimal. This is because the administrative burden of GHG permitting is dominated by CO_2 and CH_4 emission sources. For example, with a major source threshold set at 100,000 tpy CO_2e, the combined population of sources that would be major for N_2O, HFCs, PFCs, and SF_6 accounts for fewer than two percent of the GHG sources that would remain covered.

For similar reasons, we disagree with commenters who specifically suggest SF_6 emissions should not be included in the applicability metric for GHGs. As we have stated earlier in this section, our selection of the GHG metric is driven by the definition of the "air pollutant" as defined in the LDVR, and in consideration of the final GHG endangerment finding. SF_6 is specifically included as one of the "well-mixed greenhouse gases" in the definition of air pollutant in the contribution finding, and is included in the definition of the air pollutant in the LDVR for which that rule is applicable. We do not believe we have the discretion to define the "air pollutant" differently for PSD and title V applicability purposes than the definition of the "air pollutant" that is regulated elsewhere. In any event, including SF_6 emissions based on the thresholds finalized in this rulemaking does not add an excessive administrative burden for permitting authorities. Based on our threshold evaluation study, we estimate that less than 40 sources of SF_6 nationwide would exceed the 100,000 tpy CO_2e threshold. Furthermore, SF_6 is a high GWP gas and, as discussed elsewhere, we have included a mass-based trigger for high GWP gases that will likely have the effect of further reducing this count.

For the same reasons, we disagree with the commenters who suggest we include black carbon and other short-lived climate forcers to the list of GHGs, as well as commenters asking for an exclusion of CH_4 and N_2O. The definition of the air pollutant, as cited in the LDVR, includes CH_4 and N_2O and does not include black carbon or other short-lived gases.

3. Use of GWP vs. Mass-Based GHG Thresholds

For the reasons discussed previously, we are determining permit program applicability based on the sum-of-six well-mixed gases that comprise the GHG air pollutant. This section discusses our use of both the CO_2e metric and mass emissions of the GHGs for applicability purposes.

Under our proposal, a source's emissions of all six GHGs would be combined into a single metric by multiplying the mass of each individual GHG (in tpy) by its GWP value, and summing these products to determine the total emissions of the GHG pollutant in tpy CO_2e. We received comments on this aspect of the proposed metric. Several commenters explicitly support the use of GWP and the CO_2e metric for GHG emissions. These commenters believe EPA has the authority to select an appropriate metric to measure GHGs in the PSD program, and policy considerations support the choice of GWP. Some of them note that GWP is a widely-used metric which employs internationally-recognized conversion factors to compare GHGs based upon their climate properties, and some add that states and local areas that have climate action plans for GHG reductions use CO_2e. Some of these commenters believe this metric will ensure a standard measure across all permitting agencies and will lead to a more effective system for permitting authorities and create more opportunities to reduce emissions over the full class of GHGs, rather than focusing on reducing individual GHGs.

On the other hand, some commenters oppose the use of GWP and CO_2e, believing that thresholds should be based on individual mass-based emissions for each GHG. Some of these commenters felt that EPA has no discretion to ignore the metric for regulation established by Congress for PSD in section 169 of the Act. Some commenters were also concerned that the use of CO_2e will complicate the implementation of BACT because sources that trigger PSD will be required to install BACT for each regulated pollutant, not for CO_2e. As a result, a source that exceeds the threshold primarily due to its CO_2 emissions would be forced to install BACT for all other individual GHGs, regardless of how minor those other emissions may be. Finally, a commenter was concerned that use of GWP would complicate implementation because GWP values can sometimes change.

In our proposal preamble discussion of GHG metric, EPA also raised the possibility of including a limitation in the metric to address the prospect (expected to occur only rarely) that high-GWP gases could be emitted in quantities less than statutory thresholds for PSD and title V but nevertheless exceed the proposed thresholds in terms of CO_2e. Most commenters on this subject support a dual threshold under which a source would be subject to title V or PSD only if its GHG emissions exceeded both the statutory thresholds on an actual tonnage basis and the tailored thresholds on a CO_2e basis. Commenters supporting this approach felt that it would be unlawful to apply PSD when GHGs are below the statutory thresholds, or when there is not a net emissions increase. Others added that the complexity of accounting for emissions according to both mass and GWP should be manageable and is not a reason to ignore the role of mass-based emission rates in determining the applicability of PSD requirements. Additionally, one commenter observed that a dual threshold is consistent with phasing in the Tailoring Rule and is an effective way to address the current uncertainty surrounding how to measure high-GWP gases such as SF_6. In contrast, a few commenters stated they do not support a dual threshold, primarily on the grounds that there is no benefit to the added complexity.

After considering these comments, we have decided to adopt applicability thresholds in the final rule based on a CO_2e metric for the sum-of-six well-mixed gases, and also to adopt an additional mass-based threshold for the sum-of-six gases as discussed in the proposal. First, as discussed in the previous section, we have explained why the appropriate pollutant for PSD purposes is the single pollutant GHG, which is composed of the six well-mixed gases. Regarding the CO_2e metric, we continue to believe there are a number of advantages, as laid out in the proposal, to a CO_2e measure that would not be available if we used only a mass-based metric. These include: (1) A CO_2e metric, by incorporating the GWP values, best addresses the relevant environmental endpoint, which is radiative forcing of the GHGs emitted; (2) when combined with a sum-of-six gases approach, the CO_2e metric best allows for consideration of their combined effects when sources emit any one or combination of the six well-mixed GHGs; (3) a cumulative CO_2e metric is consistent with the metric used in the mandatory GHG reporting rule and other related rules and guidelines; and (4) a CO_2e metric allows more flexibility for designing and implementing control strategies that maximize reductions across multiple GHGs. We recognize the tension between the mass-based metric in the statute and the CO_2e-based metric we are adopting in this rule, but as discussed later, we will address this by also retaining the mass-based metric. Moreover, given our need to tailor our approach to covering sources of GHGs, we believe that the considerations driving our choice to also use a CO_2e-based metric are appropriate for defining the phase-in and allow for permitting resources to be directed at those sources and modifications that have the greatest impact on radiative forcing of the GHGs emitted.

We recognize the concern of commenters who stated that we cannot ignore the statutory thresholds based on the mass-based emissions of an air pollutant as described under CAA section 169(1). As we mentioned in the proposal, because both the PSD and title V statutory thresholds are expressed on a mass basis (*i.e.*, tons of a pollutant with no weighting values applied) we were concerned from a legal standpoint that the metric proposed (CO_2e) could have the effect of subjecting to PSD or title V requirements a source whose emissions fall below the statutory threshold limits on a strictly mass basis, but whose CO_2e-based emissions exceed the CO_2e thresholds we establish under the Tailoring Rule. As an example, in rare instances it is possible that a source may emit only a non-CO_2 GHG in very small amounts, on a mass basis, but one that carries a very large GWP. In this case, it is possible that the source may emit the GHG in amounts that fall below the PSD and/or title V statutory applicability threshold (100 or 250 tpy, as applicable) on a mass basis, but exceed the 100,000 CO_2e PSD and title V applicability thresholds for Step 2 finalized in this action. Under these circumstances, without a mass-based threshold, the source would trigger PSD and title V for its CO_2e emissions even though its GHG mass emissions would not, in fact, exceed the statutory triggers.

Upon review of the comments pertaining to this issue and further analysis of the legal and programmatic implications, we are adopting a two-part applicability process, for both major source applicability determinations for GHGs under PSD and title V and for determining if a net increase has occurred in PSD applicability determinations for modifications. As explained in the RTC document, we accomplish this two-step applicability approach by continuing to rely on the existing mass-based applicability provisions in the current regulations, and by including new regulatory provisions that add a definition of "subject to regulation" that in turn includes the phase-in thresholds. Similarly, for PSD modification reviews and associated netting analyses, the same two-step process must be used. Our summary in section IV.A described how we expect this provision to be implemented in practice.

We acknowledge that the possibility of changing GWP values is a downside to the use of CO_2e for the GHG metric, and we address this comment in the next section, where we discuss our plan to codify GWP values. By codifying GWP, any changes will be manageable, and, in our judgment, will not outweigh the benefits of a CO_2e-based approach. We also acknowledge that a CO_2e-based approach may appear to complicate the BACT review and implementation process. However, we disagree with the commenter's ultimate conclusion that BACT will be required for each constituent gas rather than for the regulated pollutant, which is defined as the combination of the six well-mixed GHGs. To the contrary, we believe that, in combination with the sum-of-six gases approach described above, the use of the CO_2e metric will enable the implementation of flexible approaches to design and implement mitigation and control strategies that look across all six of the constituent gases comprising the air pollutant (*e.g.*, flexibility to account for the benefits of certain CH_4 control options, even though those options may increase CO_2). Moreover, we believe that the CO_2e metric is the best way to achieve this goal because it allows for tradeoffs among the constituent gases to be evaluated using a common currency.

4. Determining What GWP Values Are To Be Used

At proposal, we proposed to link the calculation of CO_2e for GHGs to GWP values in EPA's "Inventory of U.S. Greenhouse Gas Emissions and Sinks" (GHG Inventory). *See, e.g.*, proposed 40 CFR 51.166(b)(58). Numerous commenters expressed concerns about this proposal on various grounds, including the following:

- The EPA should follow the proper notice-and-comment procedures and the requirements of the Information Quality Act for the relevant technical underpinnings of the proposal. The EPA relies upon the GWPs of the IPCC without providing the supporting data for review, and it is inappropriate to use this as a basis for this rule without first making all the raw data available for public inspection and comment.

- The EPA cannot tie the definition of GWP to the GHG Inventory because it is a non-regulatory document that may be changed without notice-and-comment rulemaking. Before EPA uses a new GWP, that GWP must be subject to notice and comment to comply with the requirements of CAA section 307 and the Administrative Procedure Act (APA).
- An annual update of GWP would create a moving target for sources conducting applicability determinations and assessing compliance with minor NSR and PSD emission limits. The EPA needs to ensure that applicability and compliance with limits continue to be based on the GWP that existed when the determination was made or the limit was established.
- The EPA should freeze the GWP at the current values by incorporating those values into the regulation. The EPA could still revise the "NSR" GWP, but would have to revise the regulation to do so.

Commenters added that it is important to ensure that all permitting agencies are using the same calculations for the determination of CO_2e for GHGs.

We agree with commenters who suggested we should codify, either in the Tailoring Rule or through reference to codified values in another rulemaking, the GWP values to be used in permitting analyses. We agree that this approach provides certainty as to which GWP values need to be used by permitting authorities and allows sources to plan appropriately for possible changes in the GWP values. As mentioned in the comments, recommended GWP values from

IPCC can change over time. While this is infrequent—the last such changes were in 2007—when it occurs, there are generally significant lag times in universal adoption of new values because of inconsistencies that could be created in national inventories and emission reporting mechanisms. In a regulatory setting, such as in the permitting programs, this could potentially create significant implementation issues, such as when a GWP change occurs while a permit action is in progress.[16] EPA also recognized similar potential implementation issues in developing its final mandatory GHG reporting rule, and codified in the regulatory text for that rule the GWP values to be used in reporting GHGs as part of that final rulemaking.

For these reasons, we have decided to follow the approach in the mandatory GHG reporting rule and require that for PSD and title V permitting requirements, wherever emissions calculations are performed, that permitting authorities and sources use GWP values that are codified in EPA rules. We will establish the GWP values for PSD and title V rules based on a cross-reference to the values that are codified in the EPA's mandatory GHG reporting rule. 74 FR 56395, Table A-1 to subpart A of 40 CFR part 98—Global Warming Potentials. Any changes to Table A-1 of the mandatory GHG reporting rule regulatory text must go through an appropriate regulatory process. In this manner, the values used for the permitting programs will reflect the latest values adopted for usage by EPA after a regulatory process and will be consistent with those values used in the EPA's mandatory GHG reporting rule. Furthermore, the lead time for adopting changes to that rule will provide a transition time to address implementation concerns raised by commenters.

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[16] We note that our approach does not entirely avoid the possibility that a GWP change can occur while a permit is in progress although it will ensure advance notice of such a change. In the event that we plan to propose a change to GWP values, we will work with permitting authorities as necessary to provide guidance to sources on transitional issues.

5. Use of Short Tons vs. Metric Tons

We proposed that the GHG metric would be expressed in terms of English (or short) tons, rather than metric (or long) tons. A few commenters support using short tons for this purpose. Others prefer the use of metric tons, and most of them note that the mandatory GHG reporting rule is based on metric tons and believe that the Tailoring Rule should be consistent with that rule. These commenters believe that using different units in the two rules would be confusing and could result in sources that are not subject to the mandatory GHG reporting rule becoming subject to PSD. Some of the commenters add that various "cap and trade" legislative proposals also quantify GHGs in metric tons. A few other commenters recommend that EPA harmonize the applicability thresholds established under the Tailoring Rule and the mandatory GHG reporting rule without expressing a preference for short or metric tons.

We are finalizing our proposal to use short tons because short tons are the standard unit of measure for both the PSD and title V permitting programs and the basis for the threshold evaluation to support this rulemaking. Calculation inputs for PSD are typically prepared in English units (*e.g.*, pounds of fuel, British thermal units (Btu), etc.) which is the common convention for all PSD analyses and the units of the statutory thresholds under the Act.

It is true that the GHG reporting rule uses metric tons, but this does not create an inconsistency between permitting programs and the reporting rule because the two rules already use different applicability approaches. Although we originally proposed 25,000 tpy as the major source level for permitting programs, which was similar to the threshold in the reporting rule, we decided to adopt substantially higher thresholds in the final rule. Furthermore, even if the numbers were similar, the thresholds used for the reporting rule are based on actual emissions, while the PSD and title V programs thresholds are based on PTE. Therefore, we are less persuaded by arguments for consistency, and believe it is more important for ease of permit program implementation to ensure that GHG emissions calculations for PSD and title V will build on the same set of input variables used to develop short-ton based estimates for non-GHG pollutants. Thus, the use of short tons should actually facilitate the development of the GHG emission estimate. It would likely be more confusing to require a multi-pollutant PSD applicability analysis to present emissions information using different units for different pollutants, as would be the case if we required metric tons for GHG but continue to use short tons for every other pollutant. Finally, we do not expect this choice to introduce additional complexity because the conversion between short tons and metric tons is a very simple calculation. Therefore, based on these considerations we are requiring that short tons be used as the basis for emission calculations used to meet PSD and title V permitting requirements.

B. Rationale for Thresholds and Timing for PSD and Title V Applicability to GHG Emissions Sources

In this subsection, we describe our legal and policy rationale for our determinations concerning PSD and title V applicability to GHG emissions sources. This subsection includes: (1) An overview of our rationale; (2) data concerning costs to sources and administrative burdens to permitting authorities; (3) a review of the *Chevron* legal framework and the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines, as well as a review of how those doctrines fit into the *Chevron* framework; (4) an overview of the relevant PSD and title V requirements and their legislative history; (5) our application of the "absurd results" doctrine for tailoring the PSD requirements; (6) our application of the "absurd results" doctrine for tailoring the title V requirements; (7) our plans to issue further rulemaking that will address the "absurd results" basis for both PSD and title V requirements; (8) our rationale for the phase-in schedule for applying PSD and title V to GHG sources; (9) our application of the "administrative necessity" basis for tailoring the PSD and title V requirements; and (10) our application of the "one-step-at-a-time" basis for tailoring the PSD and title V requirements.

1. Overview

Under the familiar *Chevron* two-step approach to construction of agency-administered statutes, the agency must first, at *Chevron* Step 1, determine whether Congress's intent in a particular provision on a specific question is clear; and if so, then the agency must follow that intent. If the intent of the provision is not clear, then the agency may, under *Chevron* Step 2, fashion a reasonable interpretation of the provision.

The best indicator of congressional intent is the literal meaning of the provision and generally, according to the case law, if the literal meaning addresses the specific question, then the agency should follow the literal meaning.

However, the courts have developed three doctrines relevant here that authorize departure from a literal application of statutory provisions. The first is the "absurd results" doctrine, which authorizes such a departure if the literal application would produce a result that is inconsistent with congressional intent, and particularly if it would undermine congressional intent. The judicial doctrine of "administrative necessity" authorizes an agency to depart from statutory requirements if the agency can demonstrate that the statutory requirements, as written, are impossible to administer. The "one-step-at-a-time" doctrine authorizes an agency, under certain circumstances, to implement a statutory requirement through a phased approach. Each of the three doctrines fits into the *Chevron* framework for statutory construction because each of the three is designed to effectuate congressional intent.

To apply the statutory PSD and title V applicability thresholds literally to sources of GHG emissions would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program. These extraordinary increases in the scope of the permitting programs would mean that the programs would become several hundred-fold larger than what Congress appeared to contemplate. Moreover, the great majority of additional sources brought into the PSD and title V programs would be small sources that Congress did not expect would need to undergo permitting and that, at the present time, in the absence of streamlined permit procedures, would face unduly high permitting costs. Further, again at the present time, in the absence of streamlined permit procedures the administrative strains would lead to multi-year backlogs in the issuance of PSD and title V permits, which would undermine the purposes of those programs. Sources of all types—whether they emit GHGs or not—would face long delays in receiving PSD permits, which Congress intended to allow construction or expansion. Similarly, sources would face long delays in receiving title V permits, which Congress intended to promote enforceability. For both programs, the addition of enormous numbers of additional sources would provide relatively little benefit compared to the costs to sources and the burdens to permitting authorities. In the case of PSD, the large number of small sources that would be subject to control constitute a relatively small part of the environmental problem. In the case of title V, a great many of the sources that would be newly subject to permit requirements would have "empty" permits, that is, permits that do not include any applicable requirements, and that therefore serve relatively little purpose. For these reasons, the "absurd results" doctrine applies to avoid a literal application of the thresholds at this time. By the same token, the impossibility of administering the permit programs brings into play the "administrative necessity" doctrine. This doctrine also justifies not applying the PSD or title V applicability threshold provisions literally to GHG sources at this time.

The situation presented here is exactly the kind that the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines have been developed to address. Separately and interdependently, they authorize EPA and the permitting authorities to tailor the PSD and title V applicability provisions through a phased program as set forth in this rule, and to use the initial period of phase-in to develop streamlining measures, acquire expertise, and increase resources, all of which would facilitate applying PSD and title V on a broader scale without overburdening sources and permitting authorities. In this manner, the phased approach reconciles the language of the statutory provisions with the results of their application and with congressional intent.

2. Data Concerning Costs to Sources and Administrative Burdens to Permitting Authorities

This final action concerning applicability of PSD and title V to GHG-emitting sources, including the decisions on timing for the selected permitting thresholds, is based on our assessments of both the costs to the regulated sources to comply with PSD and title V permitting requirements and the administrative burdens to the permitting authorities to process PSD and title V permit actions for GHG-emitting sources. This section provides a summary of our cost and administrative burden assessments of permitting that would be required in the absence of any tailoring as well as under various tailoring options.

Our estimates of costs to the sources and administrative burdens to the permitting authorities from PSD and title V applicability for GHG emissions are based on labor and cost information from the existing Information Collection Requests (ICRs) for PSD and title V programs.[17] We apply the same basic methodology used for the proposal, which incorporates information on numbers and types of affected sources and estimated permitting actions. We evaluate administrative burdens in terms of staffing needs, time for processing permits, and monetary costs, and we make some judgments about how those burdens would affect the permitting authorities' ability to effectively manage and administer their programs with the addition of GHG emission sources. We present the administrative burden data for applying PSD and title V requirements at the literal statutory thresholds—that is, the 100/250 tpy levels for PSD (and 0 tpy for modifications) and the 100 tpy level for title V—as well as at other thresholds, which range from 25,000 tpy CO_2e to 100,000 tpy CO_2e. We have significantly revised upwards our assessments of costs to sources and administrative burdens since proposal, and we summarize later our reasons for doing so. We also present significant comments concerning administrative burdens, and our responses to those comments.

In the next section, concerning legal and policy rationale for our actions, we discuss how these data on costs to the sources and administrative burdens to the permitting authorities informed our decisions that PSD and title V requirements should not, at present, be applied to GHG-emitting sources under the literal terms of the statutory thresholds as well as our decisions concerning what thresholds to apply for

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[17] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds;" Prepared by EPA Staff; March 2010.

Steps 1 and 2 of the applicability phase-in approach and the applicability floor of 50,000 tpy CO_2e.

a. Costs to Sources

As we did at proposal, we have estimated costs to the sources of complying with PSD and title V starting from the data in the ICRs. We recognize that the sizes of the sources, as measured by their emissions, that would be swept into the PSD and title V programs would vary greatly, and that their permitting costs would vary as well. For example, their PSD permitting costs would depend on the amount and types of their emissions and their control requirements. Accordingly, we have determined average costs, as described later.

For PSD, at proposal, we estimated that on average, an industrial source would incur costs of $84,500 to prepare the PSD application and receive the permit, and on average, a commercial or residential source would incur costs of 20 percent that amount, or $16,900. 74 FR 55337 col. 3 to 55339 col. 3. For this action, we retain the same burden estimates for an average industrial source. This type of source would need 866 hours, which would cost $84,500, to prepare the application and the PSD permit. However, based on comments received, we have determined that a more accurate estimate for an average commercial or residential source is 70 percent of that amount of time that an industrial source would need, up from our proposal of 20 percent. Thus, an average commercial or residential source would need 606 hours, which would cost $59,000, to prepare the PSD application and receive the permit. We are increasing this time over what we proposed because we now recognize that virtually all commercial and residential sources will have no experience with the PSD permitting process, and therefore will face a significant learning curve that will entail more time to complete the application, develop control recommendations, and take the other required steps. We believe this learning period could extend from 2 to possibly 4 years or more from the date that the sources become subject to PSD requirements, depending on the type and actual number of new sources that come in for permitting. In addition, we expect that in many cases, draft PSD permits for GHGs will receive comments from various stakeholders, from citizens groups to equipment vendors, who will seek to participate in the permit process, and that all this could add to the hours that the permittee will need to invest in the process.[18] The actual costs to sources to install BACT controls, while still uncertain at this point, would likely add additional costs across a variety of sources in a sector not traditionally subject to such permitting requirements.

For title V, at proposal, we estimated that on average, an industrial source would incur costs of approximately $46,400 to prepare the title V application and receive the permit, and on average, a commercial or residential source would incur costs of 10 percent that amount, or almost $5,000. 74 FR 55338 col. 1 to 55339 col. 3. For this action, we retain the same burden estimates for an average industrial source. This type of source would need 350 hours, which would cost $46,400, to prepare the application and the title V permit. However, we have determined that a more accurate estimate for an average commercial or residential source is 50 percent of that amount of time that an industrial source would need, up from our proposal of 10 percent. Thus, an average commercial or residential source would need about 175 hours, which would cost $23,200, to prepare the title V application and receive the permit. This increase is due to the same reasons as with the PSD program just discussed. We now recognize that virtually all commercial and residential sources will have no experience with the title V permitting process and, therefore, will face a significant learning curve that will entail more time to assess, for the first time, their GHG emissions (because such sources are not covered by EPA's mandatory GHG reporting rule), complete the application, respond to permitting authority comments, meet other title V administrative requirements, and respond to interested stakeholders.[19]

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[18] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

b. Administrative Burdens to Permitting Authorities

(1) Estimated Permitting Authority Burden at Proposal

As at proposal, we estimated the administrative burdens to the permitting authorities at the various threshold levels for PSD or title V applicability as follows. First, for a particular threshold level, we estimated the number of GHG-emitting sources that would be subject to PSD requirements because they would undertake new construction or modification, and the number of existing sources that would be subject to title V requirements. Second, we estimated the average additional administrative burden and cost of each PSD permitting action and each title V permitting action for the GHG-emitting sources. Third, we multiplied those two estimates, and the product is the additional administrative burden at the particular threshold level. We employed the same methodology for this final rule, but, as discussed later, and described in more detail in our final burden analysis,[20] we have updated several key assumptions since the proposal as a result of our consideration of comments received.

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[19] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

First, we present the administrative burdens at the statutory levels for PSD and title V applicability. At proposal, for the PSD program, we estimated the administrative burdens that would result from applying PSD at the 100/250 tpy major emitting facility threshold levels in two ways, as described in this section. We stated that at present, 280 sources are subject to PSD each year, both for new construction and modifications. This figure served as the baseline from which to calculate increases in administrative burdens due to permitting GHG-emitting sources.

The first method that we used to calculate the administrative burdens to the permitting authorities was in terms of workload hours, which we then converted to monetary costs. To make the workload calculation, we first estimated the number of GHG-emitting sources that would become subject to PSD through new construction and modification. Based on our GHG threshold data analysis, we estimated that almost 41,000 new and modified sources per year would become subject to PSD review. We first calculated the number of new sources that would become subject to PSD. To do this, we estimated growth rates for the various sectors, and then applied those growth rates to the numbers of sources in those sectors. We then calculated the number of modifications. To do this, we first assumed that each year, two percent of sources that meet or exceed the threshold levels for PSD applicability due to their conventional pollutants undertake modifications. We then calculated the number of sources that would meet or exceed the threshold levels for PSD applicability due to their GHG emissions, and applied the same assumption that two percent of them would undertake modifications. In this manner, we estimated the number of modifications of GHG-emitting sources that would become subject to PSD.

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[20] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

We noted that currently, 280 PSD permits are issued each year, but that applying PSD to GHG-emitting sources at the 100/250 tpy statutory threshold levels would cause an increase in permits of more than 140-fold. The reason for the extraordinary increase in PSD applicability lies simply in the fact that it takes a relatively large source to generate emissions of conventional pollutants in the amounts of 100/250 tpy or more, but many sources combust fossil fuels for heat or electricity, and the combustion process for even small quantities of fossil fuel produces quantities of CO_2 that are far in excess of the sources' quantities of conventional pollutants and that, for even small sources, equal or exceed the 100/250 tpy levels.

Based on the 140-fold increase in permits, we then estimated the per-permit burden on permitting authorities. As we stated in the proposal:

We estimated the number of workload hours and cost a permitting authority would expend on each new source and each modification. We based these estimates on the workload hours and cost for processing permits for new sources of non-GHG emissions, which we derived from labor and cost information from the existing ICRs for PSD programs. The ICRs show that permitting authorities expend 301 hours to permit a new or modified industrial source * * *.

We then made assumptions for number of workload hours and costs for new sources of GHG emissions. We assumed that permitting new industrial GHG sources that emit in excess of the 250-tpy threshold would be of comparable complexity to permitting non-GHG emitting industrial sources that are subject to PSD. Thus, for these sources, we assumed that permitting authorities would expend the same number of workload hours and costs, on a per-permit basis, as they do for non-GHG emitting industrial sources. On the other hand, for commercial and residential GHG sources that emit GHGs above the 250-tpy threshold (and as a result would be subject to the requirements of the PSD permitting program at this threshold level), we assumed that the workload hours and cost for permitting these sources would be significantly less than—only 20 percent of—the hours and cost necessary to prepare and issue initial PSD permits or permit modifications for industrial GHG sources. This 20-percent estimate amounts to 60 hours of permitting authority time per residential or commercial permit.

> Based on these assumptions, the additional annual permitting burden for permitting authorities, on a national basis, is estimated to be 3.3 million hours at a cost of $257 million to include all GHG emitters above the 250-tpy threshold.

74 FR 55301 col. 2.

Note that at the proposal, in calculating the PSD administrative burdens that would occur each year due to GHG emissions, we did not undertake separate calculations for the administrative burdens associated with permitting obligations stemming from the GHG emissions of the 280 sources already subject to PSD permitting requirements due to their conventional pollutants. In effect, we treated these 280 sources are part of the over 40,000 sources that would become subject to PSD due to their GHG emissions.

The second way that we evaluated the burden on permitting authorities was by reviewing a study conducted by state and local air permitting agencies. As we said in the preamble:

> In addition to conducting our burden analysis, we also reviewed summary information from state and local air permitting agencies regarding additional resources and burden considerations if GHG sources that emit above the 100/250-tpy thresholds were subjected to the PSD and title V programs. This information covered 43 state and local permitting agencies, representing programs from different regions of the country and various permitting program sizes (in terms of geographic and source population coverage) * * *. This information showed significant burdens projected by permitting agencies with adding sources of

GHG emissions in terms of staffing, budget, and other associated resource needs. Importantly, the agencies based their analysis on the assumption that, for purposes of determining whether a source is major, its emissions would be calculated on an actual emissions ("actuals") basis, and not on a PTE basis. On an actuals basis, the agencies estimated a 10-fold increase in the number of permits.

Specifically, the agencies estimated that:

- Assuming, again, that number of permits was to increase by 10-fold (based on actual emissions), the resulting workload would require an average of 12 more [full-time equivalents (FTEs)] per permitting authority at an estimated cost of $1 million/year;
- Without the additional FTEs, the average processing time for a permit would increase to 3 years, which is three times the current average processing time;
- Permitting authorities would need 2 years on average to add the necessary staff;
- Permitting authorities would also need, on average, eight additional enforcement and judicial FTEs;
- Ninety percent of permitting agencies would need to train their staff in all aspects of permitting for sources of GHG emissions.
- A quarter of permitting agencies were currently under a hiring freeze.

We went on to explain that this state survey significantly underestimated the administrative burdens:

> It is important to reiterate that the state and local permitting information on burden was based on the number of additional facilities subject to PSD because their emissions of GHGs exceed the 100/250-tpy thresholds at actual emissions rates, not PTE-based emissions rates. However, the PSD applicability requirements are based on PTE. By adjusting the increase in number of permits to account for GHG sources that exceed the 100/250-tpy applicability thresholds based on their PTE emissions, EPA estimated a 140-fold increase in numbers of PSD permits, much more than the 10-fold increase estimated by the states based on actual emissions.

74 FR 55301 col. 2-3.

In addition to PSD, we also estimated title V burdens at the statutory threshold. At proposal, for the title V program, we estimated the administrative burdens that would result from applying title V requirements at the 100 tpy major source threshold level in the same two ways as for PSD, as follows. The first method was to calculate the administrative burdens in terms of workload hours, which we then converted to monetary costs. To make the workload calculation, we first estimated the number of existing GHG-emitting sources that would become subject to title V. Based on our GHG threshold data analysis, we estimated that approximately 6 million sources would become subject to title V. Compared to the 14,700 title V permits currently issued, this would be an increase in permits of more than 400-fold. We noted, in addition, that most of the 14,700 sources already subject to title V also emit GHGs and may be affected as well.

We then described the type of work that the permitting authorities would need to do for these GHG-emitting sources—the six million that would become newly subject to title V and most of the 14,700 that are already subject to title V—as follows. Note at the outset that the permitting authorities' workload is greater for sources newly subject to title V than for existing sources that seek a revised or renewed permit. As EPA noted in the preamble:

> [T]he [ ] permits [for the 6 million new sources] would need to include any requirements for non-GHGs that may apply to the source, such as provisions of an applicable SIP. For any such requirements, permitting authorities would also need to develop terms addressing the various compliance assurance requirements of title V, including monitoring, deviation reporting, six-month monitoring reports, and annual compliance certifications.
>
> Adding to the burden described above would be the burden to add GHG terms to the 14,700 existing title V permits. While, in general, existing title V permits would not immediately need to be revised or reopened to incorporate GHG (because as noted above, there are generally not applicable requirements for GHGs that apply to such sources), permitting authorities may face burdens to update existing title V permits for GHG under two possible scenarios: (1) EPA promulgates or approves any applicable requirements for GHGs that would apply to such a source, which would generally require a permit reopening or renewal application, or (2) the source makes a change that would result in an applicable requirement for GHGs to newly apply to the

> source, such as PSD review, which would generally require an application for a permit revision. Permitting authorities will also need to process permit renewal applications, generally on a five-year cycle, and such renewals would need to assure that the permit properly addresses GHG. Finally they would have to process title V applications for new sources (including all the PSD sources previously discussed).

74 FR 55302 cols. 2-3.

In light of those demands, we estimated the per-permit burden on permitting authorities as follows. Note, at the outset, that as with PSD, we based the workload hours on information in ICRs for industrial sources, and we then assumed that the workload for commercial and residential sources would be the indicated percentage of the workload for industrial sources:

> As with PSD, we have quantified the extent of the administrative problem that would result in workload hours and cost on the basis of information concerning hours and costs for processing existing title V permits that is indicated on ICRs. However, we recognize that more than 97 percent of these new sources would be commercial and residential sources. We estimate that for permitting authorities, the average new commercial or residential permit would require 43 hours to process, which is 10 percent of the time needed for the average new industrial permit. For an average existing permit, which permitting authorities would need to process through procedures for significant revisions and permit renewals, adding GHG emissions to the permit would result in, we estimate, 9 additional hours of

> processing time, which is 10 percent of the amount of time currently necessary for processing existing permits. We estimate that the total nationwide additional burden for permitting authorities for title V permits from adding GHG emissions at the 100-tpy threshold would be 340 million hours, which would cost over $15 billion.

74 FR 55302 col. 3.

As with PSD, the second way that we evaluated the burden on permitting authorities at the statutory threshold was by reviewing a study conducted by state and local air permitting agencies of the burden of applying title V to existing GHG-emitting sources at the 100 tpy statutory threshold level. As we said in the preamble to the proposed rule:

> [W]e also reviewed summary information from state and local permitting agencies, which showed significant burdens associated with adding GHGs in their title V programs in terms of staffing, budget, and other associated resource needs.[21] Again, note that the permitting agencies based their estimates on numbers of permits that would be required from sources subject to the 100-tpy title V applicability threshold on an actuals—not PTE—basis. Based on that level, the agencies assumed a 40-fold increase in numbers of permits, and estimated that:
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> - The resulting workload would require an average of 57 more FTEs per permitting

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[21] "NACAA Summary on Permitting GHGs Under the Clean Air Act"; Memorandum from Mary Stewart Douglas, National Association of Clean Air Agencies to Juan Santiago, EPA/OAQPS, September 3, 2009.

agency at an estimated cost of $4.6 million/year;

- Without the additional FTEs, the average processing time for a permit would increase to almost 10 years, which is 20 times the current average permit processing time;
- Permitting authorities would need 2 years on average to add the necessary staff;
- On average, permitting authorities would need 29 additional enforcement and judicial staff;
- Eighty percent of permitting authorities would need to train their staff in all aspects of permitting for sources of GHG emission.
- A quarter of permitting agencies were currently under a hiring freeze.

As with PSD, we added that this state survey significantly underestimated the administrative burdens:

> It is important to reiterate that, as with PSD, the state and local information on projected permitting burden is based on the number of additional facilities subject to title V because their emissions of GHGs exceed the 100-tpy thresholds at actual emissions rates, not the PTE-based emissions rates. However, the title V applicability requirements are based on PTE. As noted elsewhere in this preamble, the state and local agencies estimated a 40-fold increase in numbers of title V permits based on the amount of GHG sources' actual emissions. By adjusting the summary estimates provided by the state and local agencies to account for GHG sources that exceed the 100-

> tpy threshold based on their PTE emissions, EPA estimated that the average permitting authority would need 570 more FTEs to support its title V permitting program.

74 FR 55302 col. 3—55303 col. 1.

(2) Revisions to Proposal Estimates of Permitting Authority Burden

We received numerous comments from state and local authorities stating that EPA had underestimated the administrative burden on the permitting authorities in the proposal. State and local authorities stated that in particular, EPA underestimated the number of modifications and the amount of time it would take permitting authorities to process permits, particularly for commercial and residential sources. Based on the comments and additional analysis that we have conducted in response, we are revising in several respects our estimates of the administrative burdens for applying PSD and title V at the statutory threshold levels.

First we present revisions to our analysis regarding the burdens at the statutory levels. Before we present those changes, we want to note a revision to our methodology that affected our estimate of the number of permits currently issued under existing programs. We are revising upwards the number of sources that are already subject to PSD permitting requirements anyway for their conventional pollutants, which, as discussed previously, we refer to as "anyway" sources. This revision has implications both for (1) the number of sources that would become subject to PSD due to their GHG emissions; and also (2) the baseline number of sources already subject to PSD, which we use to compare the amount of increases in administrative burden due to permitting GHG sources. At proposal, we stated that 280 sources each year are subject to PSD due to their new construction or modifications. However, upon further analysis, we have realized that this figure is too low because it includes only sources that have emissions of one or more NAAQS pollutants at the 100/250 tpy thresholds and that are located in areas of the country that are designated attainment or unclassifiable for all of those pollutants, and thus are not designated nonattainment for any of those NAAQS pollutants. We estimate that another 520 sources have emissions of one or more NAAQS pollutants at the 100/250 tpy thresholds and are located in areas of the country that are nonattainment for at least one of those NAAQS pollutants. Some of these 520 sources may also emit one or more pollutants at the 100/250 tpy level for which their area is designated attainment or unclassifiable, and therefore may be subject to PSD for those pollutants. Accordingly, the correct number of "anyway" sources subject to PSD each year is the 280 sources that are located in areas that are attainment or unclassifiable for each pollutant that the sources emit at the 100/250 tpy level, plus at least some of the 520 sources that are located in areas that are nonattainment for at least one of the NAAQS pollutants that the sources emit at or above the 100/250 tpy threshold. In the absence of data on the number of nonattainment NSR permits that do *not* have a PSD component, and because we expect this to be a small number, we have assumed for purposes of this action, that each of the 520 sources is subject to PSD for at least one pollutant, so that we will consider all 800 sources as subject to PSD. Of this number, we estimate that 70 percent, or 560 sources will undergo a modification, while the remaining 240 permitting actions will involve new construction. Of the modifications, we assume that 80 percent, or 448, would become subject to additional requirements due to their GHG emissions because those projects have combustion-related activities that would likely emit GHGs in the requisite quantities. Our estimate of 80 percent of modification activities significantly involving combustion activities is based on a review of a random sample of PSD permits. In total we estimate that 688 sources, either upon new construction or modification, would need to add GHG requirements to their otherwise required PSD permitting action.

We should also note that in this rulemaking we are justifying our conclusions about permitting authority administrative burdens on the basis of their PSD and title V cost as calculated on both a separate basis and a combined basis. That is, we believe that the administrative burdens of the PSD program justify our tailoring approach for the PSD requirements, and the administrative burdens of the title V program justify our tailoring approach for the title V requirements, but in addition, the administrative burdens of both programs on a combined basis justify the tailoring approaches. Viewing the administrative burdens on a combined basis provides a useful perspective because most permitting authorities have a single organizational unit that is responsible for both the PSD program and the title V program, and in many cases, the same employees work on both programs. In addition, in some jurisdictions, permitting authorities issue a single, merged permit that includes both PSD and title V requirements. For these reasons, considering administrative burdens on a combined PSD and title V basis, offers a more accurate picture of the issues these agencies will face in transitioning to GHG permitting.

Turning to the revisions to our burden estimates that we made as a result of public comment, we begin by noting that many commenters believed that we significantly underestimated the administrative burdens associated with the proposed thresholds or that the administrative burden under the proposed thresholds would still overwhelm the states and result in significant permitting delays and uncertainty for sources. Many of these commenters indicate that our estimate of the number of sources that would be subject to permitting is too low, and some add that we have underestimated the per-permit effort required. (More detail on these comments is given elsewhere on the methodology used in the analysis.) Several state and local agencies provided estimates of the increased number of permits and/or staff that would be required under the thresholds we proposed that were higher than our original estimates. Specifically, commenters recommended that we increase the estimated administrative burdens for PSD permits by anywhere from 100 percent to over 2,000 percent; and that we increase the burdens for title V permits by anywhere from 29 percent to 240 percent. Many commenters indicated that EPA has not adequately accounted for "synthetic minor" sources or modification projects, stating that many such sources and projects will not be able to keep GHGs below the proposed thresholds, and those who could do so may not be able to establish enforceable synthetic minor limits. Numerous commenters also stated that the EPA has underestimated the rate of major modifications for GHGs under PSD. Some commenters assert that we underestimated the number of permits required for specific industry sectors, including the oil and gas production industry, the natural gas transmission industry, the semiconductor industry, the wood products industry, the brick industry, and landfills. Some of the state and local commenters also believe that we have overestimated their ability to hire and train sufficient staff to administer GHG permitting.

We are persuaded by the data and arguments provided by the many commenters who believe EPA underestimated the number of permitting actions and the burdens of each action, and thus the overall administrative burdens associated with permitting GHG sources. Accordingly, we have reevaluated our assessment of these administrative burdens, for both the PSD and title V programs. In conducting this reevaluation, we considered arguments made by the commenters, as well as any actual data they provided, and then we determined whether and how to modify various aspects of our detailed assessment of the burdens. Based on this consideration we have substantially revised upwards our estimate of administrative burdens, based on the analysis included in the final docket for this rulemaking.[22] The revisions affect two elements of our analysis by showing: (1) A substantial increase in the number of PSD and title V permits that will occur at a given threshold, and (2) an increase in the average burden estimate for each such permit.

Regarding the increase in our estimate of the number of projects that will occur, we estimated an increase in both PSD and title V permit actions, though the greatest changes were for PSD. At proposal, we estimated that, if PSD requirements were to apply to GHG sources at the 100/250 tpy statutory levels, 40,496 projects—consisting of 3,299 projects at industrial sources and 37,197 projects at commercial or residential sources—would need PSD permits each year. Some of these projects involve the construction of an entirely new source, but the majority of these are modifications. We now estimate that at the 100/250 tpy levels, 81,598 projects would become subject to PSD each year. These projects include 26,089 actions at industrial sources and 55,509 at commercial and residential sources. We describe our calculation of this 81,598 amount in a TSD.[23] The great majority of these 81,598 projects that would become subject to PSD are modifications. We base these estimates on the assumption that the significance levels would be 100 tpy regardless of category.

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[22] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

Our estimate of the number of PSD modifications is where we made our most significant upward revisions from our proposal, based on comments. Our doubling of the estimated PSD permitting actions—from 40,496 at proposal to 81,598—results from three separate adjustments we made to our estimates at proposal of the number of permit actions that would result from applying PSD to GHG sources. Two of these increased the number of major modifications, and one of these increased the number of major sources and modifications. The most significant adjustment, and one that was raised by multiple commenters, was that we undercounted the number of major modification projects at existing major sources because we did not include the existing projects that avoid major PSD review by either taking "synthetic minor" limits or by netting out for conventional pollutants, but that would not be able to avoid PSD through those mechanisms for GHGs.

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[23] "Summary of Methodology and Data Used to Estimate Burden Relief and Evaluate Resource Requirements at Alternative Greenhouse Gas (GHG) Permitting Thresholds"; Prepared by EPA Staff; March 2010.

We agree that the ability and procedures for sources to achieve reductions, or minimize increases, due to GHGs through adoption of enforceable limits or through netting out are not well established at this point. We believe that there will be numerous instances, particularly for combustion-related projects, where it will not be possible for sources to achieve the same level of reductions for CO_2 emissions as they do for emissions of nitrogen oxides (NO_X), for example, simply because there are not as many proven control techniques that can reduce CO_2 emissions to the same degree as NO_X. Also, more research will be necessary in the type of emission units and processes resulting in GHG emissions, and how they operate over a wide range of utilization patterns at a variety of source categories, before permitting authorities will be able to establish procedures and rules for developing minor source permit limitations. Therefore, we adjusted our count of major modification permits under PSD upward to account for this.

The second change to the number of permits concerns the general modification rate of 2 percent that we applied at proposal, based on historical experience across all pollutant types. Commenters provided information that suggest that this 2 percent figure is an underestimate for GHG sources because their emissions of CO_2 are high and accumulate quickly from various changes involving combustion units. Therefore, a greater percentage of their physical or operational changes will result in GHG emissions in excess of the significance levels that we identified at proposal. In light of these comments, we reviewed the source populations and pollutant mix within the various populations, and determined that we should revise our general modification rate to 4 percent for GHG sources. This 4 percent rate was obtained by dividing the current annual major NSR permit actions involving modifications by the 14,700 existing sources. We have revised our burden analysis accordingly. Again, the burden analysis in the docket describes our basis for these calculations in more detail.

The third adjustment to the number of permits involves our estimate of the number of sources with PTE that is greater than the various thresholds considered. This affects the number of major sources at the statutory thresholds, which we used to estimate the number of PSD and title V major sources, but also has an effect on the number of major modifications because the number of modifications depends on the size of the population of major sources. Commenters provided evidence that our estimates of capacity utilization (which, as described previously, we use for estimating potential-to-emit based on data for actual emissions) for the general manufacturing source category (referred to as "unspecified stationary combustion" in our analysis) and for the oil and gas industry were not accurate. In our proposal, our estimated range for capacity utilization for "unspecified stationary combustion" varied from 70 to 90 percent depending on manufacturing category. For the oil and gas industry, our estimate was 90 percent. We received comments indicating that these utilization rates are higher than what is normally achieved in real-world conditions, particularly for smaller manufacturing type facilities. Accordingly, in this action, we are using a 50 percent capacity utilization rate for both of these source categories, which better reflects what can be deemed reasonable operation under normal conditions for facilities in these source categories. This adjustment increased the overall number of affected facilities at various threshold levels and we have revised our burden analysis accordingly.

A few commenters asserted that we underestimated the number of residential homes, commercial buildings, and retail stores that would be subject to permitting requirements because these commenters believed the estimate in EPA's TSD was based on actual emissions from space heating equipment rather than PTE. We wish to clarify that our threshold analysis estimates for the number of residential and commercial sources (as well as all other sources) did use a PTE basis. To calculate the PTE amount for these sources, we extrapolated from the actual emissions data for the residential and commercial sources. Specifically, we assumed that a typical residential facility operates its fuel combustion sources at only 10 percent of its capacity and a typical commercial facility operates at only 15 percent of its capacity. Based on these assumptions, we multiplied residential actual emissions by a factor of 10, and commercial actual emissions by a factor of 6.6 to obtain PTE-based estimates. There is very little information available on the capacity utilization rates of fuel combustion equipment at different types of residential and commercial facilities, but we believe our methodology was reasonable for these types of sources and we did not adjust it in response to this comment. Information on the development of these estimates is provided in our Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation.

The second source of upward revisions to our administrative burden estimate is that we are increasing the estimated average cost to permitting authorities of issuing each PSD and title V permit at the statutory thresholds. At proposal, we estimated that for PSD permits, permitting authorities would expend, on average, 301 hours to permit an industrial source of GHG emissions, and 20 percent of that time, or 60 hours to permit a commercial or residential source. After estimating that amount of workload, we went on to estimate the monetary cost to permitting authorities of that workload. Similarly, for title V permits, we estimated at proposal that permitting authorities would expend 10 percent of the number of hours needed to process an industrial permit in order to process a commercial or residential permit for GHG sources.

We received comments from both permitting authorities and sources asserting that our methodology underestimated the administrative burden on grounds that (1) Our methodology fails to recognize that when a source triggers PSD for conventional pollutants, additional labor hours would be required to issue BACT for GHGs; (2) our estimate of 60 hours (versus 301 hours) to issue PSD permits to commercial and residential sources of GHGs is unrealistically low; (3) our estimate failed to account for the increase in the complexity of permits for criteria pollutants due to (i) increases in criteria pollutant emissions becoming newly subject to BACT at sources that are major only for GHGs, which will result in increased permitting and (ii) BACT controls for criteria pollutants (*e.g.*, an oxidizer for VOCs) may result in significant GHG emissions, triggering an additional BACT determination; and (4) our methodology failed to account for the significant additional PSD and title V burdens due to sources that obtain federally enforceable permit limits on GHGs in order to become "synthetic minors" and thereby avoid PSD (and possibly also title V).

Based on these comments and our own reassessment of permitting actions created by the addition of GHGs, we have revised upwards in several ways our estimate of the additional per-permit costs of applying PSD and title V to GHG sources, including the following: First we have added an estimate of the additional permitting cost for adding a GHG component to "anyway" PSD and title V permitting actions for conventional pollutants. We estimated this burden based on information in the comments together with our own judgment about how to adjust the burden numbers contained in the current supporting statements for our approved permitting ICRs. These adjustments are found in our revised burden estimate document.

Second, we have raised the per-permit burden hours for commercial and residential sources for PSD and title V. At proposal, our estimates were based on the fact that many of these permits will be technically simpler due to such factors as a lower number of emissions points, simpler processes, and less required modeling. However, commenters pointed out that, until EPA streamlines its permitting procedures, there are many permitting activities that represent a fixed cost, such as public notice, hearing, and response to comment activities. In addition, we agree, as commenters pointed out, that many of these sources will need significantly more permitting authority staff time to assist them in the permit application and preparation process because of their lack of experience with these requirements. In addition, permitting authorities will have little, if any, experience in permitting commercial and residential sources, and therefore will face a learning curve that will entail more time to take permitting action. In addition, we expect that in many cases PSD and title V permit applications for GHGs will receive comments from various stakeholders, from citizens groups to equipment vendors, who will seek to participate in the permit process, and responding and revising permits accordingly will add to the hours that the permitting authority will spend.

As a result, we raised the PSD per-permit hours for various steps in the permitting process, as described in the burden estimate document. While we continue to estimate that permitting authorities will expend, on average, 301 hours to issue a PSD permit to an industrial source, and that this would cost $23,243, we now recognize that a permitting authority would expend 70 percent of that time or 210 hours, to permit a commercial or residential source, which would cost $16,216. Similarly, for title V, while we continue to estimate that permitting authorities will expend, on average, 428 hours to issue a title V permit to an industrial source, and that this would cost $19,688, we now recognize that a permitting authority would expend 50 percent of the time, or 214 hours, to permit a commercial or residential source, which would cost $9,844.

We disagree with commenters who suggested that by basing our estimates on the numbers of newly constructing and modifying sources with high enough emissions to qualify as major emitting facilities, we failed to account for the costs of sources that seek "synthetic minor" permits to avoid PSD, and possibly title V, requirements. In fact, our methodology includes sources that might take such limits as newly-major sources for their GHG emissions; and therefore we count the full administrative burden associated with a PSD permit and a title V permit for those sources. In effect, we assume that such sources would go through PSD or title V permitting, rather than take "synthetic minor" limits. We take this approach because although we suspect that there may, in fact, be significant synthetic minor activity, we do not have data that would allow us to determine whether, and how many of, these sources will be able to adopt "synthetic minor" limits or restrict their operations to obtain minor source permitting status. Nor do we have data on the amount of the administrative burden that would fall on any particular permitting authority to establish a "synthetic minor" limit, except that we understand that the amount varies widely across states. As a result, we opted to include these sources in our analysis as sources receiving a PSD or title V permit. Therefore, to the extent that synthetic minor activity occurs, our estimate would already have included the burden for that activity. In fact, our estimate would have overestimated the burden to the extent that a permitting authority would have less administrative costs to issuing a "synthetic minor" permit, as compared to a PSD or title V permit.

(3) Revised Burden Estimates at Statutory Thresholds Based on the revisions just described, we estimate that in all, if sources that emit GHGs become subject to PSD at the 100/250 tpy levels, permitting authorities across the country would face over $1.5 billion in additional PSD permitting costs each year. This would represent an increase of 130 times the current annual burden hours under the NSR major source program for permitting authorities. The permitting authorities would need a total of almost 10,000 new FTEs to process PSD permits for GHG emissions.

In addition, we estimate that in all, if sources that emit GHGs become subject to title V at the 100 tpy level, permitting authorities across the country would incur about 1.4 billion additional work hours, which would cost $63 billion. We estimate that most of this work would be done over a 3 year period, which would amount to 458 million in additional work hours, and $21 billion in additional costs, on an annual basis over that 3-year period.

We also note that the survey of state and local permitting authorities described in the proposed rulemaking continues to shed light on the extent of the administrative burdens, including staffing, budget, and other associated resource needs, as projected by the permitting authorities. As noted previously, that survey concluded that application of the PSD requirements to GHG-emitting sources at the level of 100/250 tpy or more of actual emissions would, without additional FTEs, increase the average processing time for a PSD permit from one to 3 years. The survey further concluded that application of the title V requirements to GHG-emitting sources at the level of 100 tpy or more of actual emissions would, without additional FTEs, increase the average processing time for a title V permit from 6 months to 10 years. As we noted at proposal, this survey assumed a ten-fold increase in the number of PSD permits and a 40-fold increase in the number of title V permits due to GHG-emitting sources, but those assumptions were severely underestimated because they were based on actual emissions. At proposal, our calculations, which were based on potential emissions, indicated a 140-fold increase in PSD permits and a more than 400-fold increase in title V permits. In this rulemaking, we recognize that even our estimates at proposal were severely underestimated. We now recognize that the number of PSD permits will be about twice what we estimated at proposal, and the average processing time for both PSD and title V permits will be two or three times greater than what we estimated at proposal. The survey of state and local permitting authorities provided other useful information as well, including the fact that it would take the permitting authorities 2 years, on average, to hire the staff necessary to handle a ten-fold increase in PSD permits and a 40-fold increase in title V permits, and that 90 percent of their staff would need additional training in all aspects of permitting for GHG sources.

(4) Revised Estimates of Administrative Burdens at Various Threshold Levels

In order to determine the appropriate PSD and title V applicability level for GHG sources, we not only estimated the burden at the statutory thresholds, as described previously, but we also estimated the number of sources, number of permitting actions, and amount of administrative burden at various applicability levels for both PSD and title V, based on the revised methodology described previously, that we used to estimate the administrative burdens of applying PSD and title V at the statutory levels. This information is summarized in Table V-1. Note that Table V-1 also includes, in the last column, the administrative burdens, described previously, associated with the 100/250 tpy thresholds.

	Current program [1]	"Anyway" source approach 75k major mod.	100k Major source 100k major mod.	100k Major source 75k major mod.	100k Major source 50k major mod.	50k Major source 50k major mod.	25k Major source 25k major mod.	100/250 Major, 100 mod.
Number of Major Sources	15,000	15,000	15,550	15,550	15,550	18,500	22,500	6,118,252.
Number of Newly Major GHG Sources.	N/A	0	550	550	550	3,500	7,500	6,106,913.
Number of PSD New Construction Actions.	240	240	242	242	242	243	250	19,889.
Number of PSD Modification Actions at Covered major sources.	448	448	468	1,363	2,257	2,364	9,645	62,284.
Permitting Authority Cost to Run PSD programs.	$12M/yr	$15M/yr	$15M/yr	$36M/yr	$57M/yr	$59M/yr	$229M/yr	$1.5B/yr.
Permitting Authority Work Hours to Run PSD programs [2].	150,795	185,195	192,056	461,450	730,544	764,781	2.97 M	19.7 M.
Permitting Authority Cost to Run Title V Programs.	$62M/yr	$63M/yr	$67M/yr	$69M/yr	$70M/yr	$88M/yr	$126M/yr	$21 B/yr.
Permitting Authority Work Hours to Run Title V Programs.	1.36 M	1.38 M	1.46 M	1.49 M	1.53 M	1.92 M	2.74 M	460 M.
Annual Total Cost to Run PSD and Title V Programs and percent increase in cost over current program.	$74M/yr	$78M/yr 5% increase (once states adopt).	$82M/yr 11% increase.	$105M/yr 42% increase.	$127M/yr 72% increase.	$147M/yr 99% increase.	$355M/yr 380% increase.	$22.5 B/yr 30,305% increase.
% GHG emissions covered [3]	0	65%	67%	67%	67%	70%	75%	78%.

Notes: (1) As explained in the preamble, "current program" figures for PSD permits also reflect NSR permits in nonattainment areas that we assume include a PSD component for at least one pollutant. (2) Number of FTEs may be calculated as work hours divided by 2,000 hours (3) Percent of national GHG stationary source emissions emitted from sources that would be considered major for GHG emissions under each threshold scenario.

As described in the TSD, we considered several different major source/major modification threshold combinations. We chose the combinations to reflect representative, incremental steps along the possible range. Because it is time- and resource-intensive to develop estimates for a given step, we chose intervals that best reflect representative points within the range, given those time and resource constraints. Here, we discuss key observations about some of the combinations that we assessed. As the table indicates, under the current PSD and title V programs, approximately 15,000 sources qualify as major PSD sources for at least one pollutant and therefore meet the applicability thresholds. Of these, approximately 668 sources are subject to PSD requirements each year for at least one pollutant—240 because they undertake new construction, and 448 because they undertake modifications. The permitting authorities' administrative burdens for the NSR program are 153,795 work hours, and $12 million. For the title V program, the 15,000 sources are, for the most part already permitted, and therefore need revised permits as required and renewal permits on a 5-year schedule. The permitting authorities' title V administrative burdens on an annual basis are 1,349,659 work hours and $62 million.

The first threshold Table 1 describes—and which, as discussed later, we are adopting for Step 1—is the "anyway" source approach. Under this approach, (i) PSD applies to the GHG emissions from projects that are subject to PSD anyway as new sources or major modifications due to their emissions of non-GHG pollutants and that result in an increase (or, in the case of modifications, a net increase) of at least 75,000 tpy CO_2e; and (ii) title V applies to what we will call "anyway" title V sources, that is, sources that are subject to title V anyway due to their emissions of non-GHG pollutants. Under this approach, the number of sources subject to PSD each year—including new construction and modifications—is the same as under the current program, but the permitting authorities will need to address GHG emissions as part of those permitting actions each year and, to do so, will require, each year, 34,400 additional workload hours costing an additional $3 million. For title V, we estimate that the number of title V sources that require permitting actions will, on average, be the same each year, but permitting authorities will need to address GHG requirements for some of them; as a result, permitting authorities will need, each year, 27,468 additional work hours costing $1 million in additional funding.

Another threshold described in Table V-1 is the one we are adopting under Step 2, as described later, under which (i) sources will be subject to PSD on account of their GHG emissions if they newly construct and emit at least 100,000 tpy CO_2e, or if they are existing sources that emit at least 100,000 tpy CO_2e of GHGs and make a modification that results in a net emissions increase of at least 75,000 tpy CO_2e; and (ii) existing sources will be subject to title V due to their GHG emissions if they emit 100,000 tpy CO_2e in GHG emissions. Under this approach, which we will call the 100,000/75,000 approach, we estimate that each year, compared to current levels, the permitting authorities will need to issue GHG permits to two additional sources that newly construct and to 915 additional sources that undertake modifications. Doing so will require 310,655 additional workload hours costing an additional $24 million, compared to the current program. For title V, an additional 190 sources will require new title V permits each of the first 3 years, and the permitting authorities' associated costs will be 141,322 work hours and $7 million more than the current program.

The last approach we will describe here may be called the 50,000/50,000 approach, which, as discussed later, we adopt as the floor for thresholds during the first 6 years after promulgation. Under this approach, (i) sources will be subject to PSD on account of their GHG emissions if they newly construct and emit at least 50,000 tpy CO_2e, or if they are existing sources that emit at least 50,000 tpy CO_2e of GHGs and make a modification that results in a net emissions increase of at least 50,000 tpy CO_2e; and (ii) existing sources will be subject to title V on account of their GHG emissions if they emit 50,000 tpy CO_2e in GHG emissions. Under this approach, each year, the permitting authorities will need to issue GHG permits to 3 additional sources that newly construct and 1,900 that undertake modifications above current permitting levels. Doing so will require 613,986 additional workload hours costing $47 million, compared to the current program. For title V, an additional 1,189 sources will require new title V permits each of the first 3 years and the permitting authorities' associated costs will be 568,017 work hours and $26 million more than the current program.

We present the remaining entries in the table to illustrate how the cost and burden estimates vary with increasing or decreasing thresholds relative to those selected in this rule. These variations are important in understanding how alternative thresholds would compare to the ones selected. We also include entries reflecting the baseline (current program without GHG permitting) and the burdens if we immediately implemented the full statutory thresholds on January 2, 2011, without tailoring or streamlining.

3. "Absurd Results," "Administrative Necessity," and "One-Step-at-a-Time" Legal Doctrines

a. Introduction and Summary

Having described the factual underpinnings of our action, which are the costs to sources and administrative burdens to permitting authorities, we now describe the legal underpinnings. They involve the framework for analyzing agency-administered statutes, as established by the U.S. Supreme Court in *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 842-43 (1984). In this case, *Chevron* framework must take into account the "absurd results," "administrative necessity," and "one-step-at-a-time" legal doctrines. We believe that each of these doctrines provides independent support for our action, but in addition, the three doctrines are directly intertwined and can be considered in a comprehensive and interconnected manner. Moreover, although each of the three doctrines pre-date the 1984 *Chevron* decision, in which the U.S. Supreme Court established the framework for construing agency-administered statutes, each fits appropriately into the *Chevron* framework.[24]

To reiterate, for convenience, the statutory provisions at issue: Congress, through the definition of "major emitting facility," applied the PSD program to include "any * * * source [that] emit[s], or ha[s] the potential to emit, one hundred [or, depending on the source category two hundred fifty] tons per year or more of any air pollutant." CAA sections 165(a),

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[24] Although we set out an analysis of how the three doctrines fit into the *Chevron* framework, we note that even if the doctrines are viewed independently of the *Chevron* framework, they support this action.

169(1). In addition, Congress, through the definition of "modification," applied the PSD program to include "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." CAA sections 165(a), 169(2)(C), 111(a)(4). Similarly, Congress, through the definition of "major source," specified that the title V program includes "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). EPA, through long-established regulatory action, in the case of PSD, and long-established guidance, in the case of title V, has interpreted these definitions narrowly so that they apply only with respect to air pollutants that are subject to regulation under the CAA.

Applying these definitions by their terms, as interpreted narrowly by EPA, to GHG sources at the present time would mean that the PSD and title V programs would apply to an extraordinarily large number of small sources, the sources would incur unduly high compliance costs, and permitting authorities would face overwhelming administrative burdens. As a result, we believe Congress did not intend for us to follow this literal reading, and instead, with this action, we chart a course for tailoring the applicability provisions of the PSD program and the title V program by phasing them in over time to the prescribed extent.

For our authority to take this action, we rely in part on the "absurd results" doctrine, because applying the PSD and title V requirements literally (as previously interpreted narrowly by EPA) would not only be inconsistent with congressional intent concerning the applicability of the PSD and title V programs, but in fact would severely undermine congressional purpose for those programs. We also rely on the "administrative necessity" doctrine, which applies because construing the PSD and title V requirements literally (as previously interpreted narrowly by EPA) would render it impossible for permitting authorities to administer the PSD provisions. The tailoring approach we promulgate in this action is consistent with both doctrines. It is also consistent with a third doctrine, the "one-step-at-a-time" doctrine, which authorizes administrative agencies under certain circumstances to address mandates through phased action.

Our discussion of the legal bases for this rule is organized as follows: In this section V.B.3, we provide an overview of the three doctrines and describe how they fit into the *Chevron* framework for statutory construction. In section V.B.4, we discuss the PSD and title V programs, including each program's relevant statutory provisions, legislative history, and regulatory history. In sections V.B.5 and V.B.6 we discuss the "absurd results" approach for PSD and title V, respectively, that we are finalizing in our action. In section V.B.7., we discuss additional rulemaking in which we may consider exempting certain categories of sources from PSD and title V under the "absurd results" doctrine. In section V.B.8, we discuss the legal and policy rationale for the phase-in schedule that we are adopting for applying PSD and title V to GHG sources. In section V.B.9 we discuss the "administrative necessity" approach for PSD and title V, respectively. In section V.B.10, we discuss the third legal basis for our action, the "one-step-at-a-time" doctrine.

b. The "Absurd Results" Doctrine

Turning first to the "absurd results" doctrine, we note at the outset that we discussed the doctrine at length in the notice of proposed rulemaking, and we incorporate by reference that discussion, although we make some refinements to that discussion in this preamble. The starting point for EPA's interpretation of the PSD and title V applicability provisions and reliance on the "absurd results" doctrine is the familiar *Chevron* two-step analysis. We discuss this analysis in greater detail later, but in brief, in interpreting a statutory provision, an agency must, under *Chevron* Step 1, determine whether Congress's intent on a particular question is clear; if so, then the agency must follow that intent. If the intent of the provision is not clear, then the agency may, under Step 2, fashion a reasonable interpretation of the provision. *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 842-43 (1984).

The courts consider the best indicator of congressional intent to be the plain meaning of the statute. However, the U.S. Supreme Court has held that the literal meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls." *United States v. Ron Pair Enterprises*, 489 U.S. 235, 242 (1989). This doctrine of statutory interpretation may be termed the "absurd results" doctrine.

Although, as just noted, the U.S. Supreme Court has described the "absurd results" cases as "rare," in that case the Court seemed to be referring to the small percentage of statutory-construction cases that are decided on the basis of the doctrine. The DC Circuit, in surveying the doctrine over more than a century of jurisprudence, characterized the body of law in absolute numbers as comprising "legions of court decisions." *In re Franklyn C. Nofziger*, 925 F.2d 428, 434 (DC Cir. 1991). Indeed, there are dozens of cases, dating from within the past several years to well into the 19th century,[25] in which the U.S. Supreme Court has applied the "absurd results" doctrine to avoid the literal application of a statute, or if not so holding, has nevertheless clearly acknowledged the validity of the doctrine. Some of the more recent of these cases include: *Logan v. United States*, 552 U.S. 23, 36-37 (2007) ("[s]tatutory terms, we have held, may be interpreted against their literal meaning where the words 'could not conceivably have been intended to apply' to the case at hand [citation omitted]"); *Nixon v. Missouri Municipal League*, 541 U.S. 125, 132-33

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[25] For early cases in which the U.S. Supreme Court applied the "absurd results" doctrine, *see Holy Trinity Church v. U.S.*, 143 U.S. 457, 516-17 (1892) ("any alien" does not include a foreign pastor; Court stated, "It is a familiar rule, that a thing may be within the letter of the statute and yet not within the statute, because not within its spirit, nor within the intention of its makers * * *. If a literal construction of the words be absurd, the Act must be construed as to avoid the absurdity"); *Chew Heong v. United States*, 112 U.S. 536, 555 (1884) (rejecting a literal interpretation of treaty that would have prevented the re-entry of a person into the U.S. upon the ground that he did not possess a certificate which did not exist prior to his departure, and which could not possibly have been issued); *Heyenfeldt v. Daney Gold Mining Co.*, 93 U.S. 634, 638 (1877) (statutory language expressly referred to past land sales and dispositions, "but evidently they were not employed in this sense, for no lands in Nevada had been sold or disposed of by any act of Congress," and the language of the statute "could not * * * apply to past sales or dispositions, and, to have any effect at all, must be held to apply to the future").

(2004) ("any entity" includes private but not public entities); *Raygor v. Regents of Univ. of Minn.*, 534 U.S. 533, 542-45 (2002) ("implying a narrow interpretation of * * * 'any claim asserted' so as to exclude certain claims dismissed on Eleventh Amendment grounds"); *United States v. X-Citement Video, Inc.*, 513 U.S. 64, 69 (1994) (rejecting a literal interpretation of the statutory term "knowingly" on grounds that Congress could not have intended the "positively absurd" results that some applications of such an interpretation would produce, "[f]or instance, a retail druggist who returns an uninspected roll of developed film to a customer "knowingly distributes" a visual depiction and would be criminally liable if it were later discovered that the visual depiction contained images of children engaged in sexually explicit conduct"); *Rowland v. Cal. Men's Colony*, 506 U.S. 194, 200 (1993) (finding that an artificial entity such as an association is not a "person" under the statute, and describing the absurdity doctrine as a "common mandate of statutory construction"); *United States v. Ron Pair Enterprises*, 489 U.S. 235, 242 (1989) (the plain meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls"); *Green v. Bock Laundry Machine Company*, 490 U.S. 504 (1989) (provision in Federal Rule of Evidence that protects "the defendant" against potentially prejudicial evidence, but not the plaintiff, refers to only criminal, and not civil, defendants); *Public Citizen v. United States Dep't of Justice*, 491 U.S. 440, 453-54 (1989) (rejecting a broad, straightforward reading of the term "utilize," on grounds that a literal reading would appear to require the absurd result that all of FACA's restrictions apply if a President consults with his own political party before picking his Cabinet, and such a reading "was unmistakably not Congress' intention"); *Watt v. Alaska*, 451 U.S. 259, 266 (1981) (rejecting reliance on plain statutory language and concluding that the term "minerals" in section 401(a) of the Wildlife Refuge Revenue Sharing Act applies only to minerals on acquired refuge lands; stating "[t]he circumstances of the enactment of particular legislation may persuade a court that Congress did not intend words of common meaning to have their literal effect"); *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1, 23-24 (1976) (prohibition in Federal Water Pollution Control Act against discharging into navigable waters "pollutants," which are defined to include "radioactive materials," does not apply to three specific types of radioactive materials); *Jackson v. Lykes Bros. S.S. Co.*, 386 U.S. 731, 735 (1967) (refusing to distinguish between a longshoreman hired by "an independent stevedore company" and one hired by "the shipowner * * * to do exactly the same kind of work," despite the clear terms of the Act, and stating: "[w]e cannot hold that Congress intended any such incongruous, absurd, and unjust result in passing this Act," when the Act was "designed to provide equal justice to every longshoreman similarly situated"); *Lynch v. Overholser*, 369 U.S. 705, 710, (1962) (statutory construction is not confined to the "bare words of a statute"); *United States v. Bryan*, 339 U.S. 323, 338 (1950) ("Despite the fact that the literal language would encompass testimony elicited by the House Committee in its questioning of respondent relative to the production of the records of the association, the Court will not reach that result if it is contrary to the congressional intent and leads to absurd conclusions. And we are clearly of the opinion that the congressional purpose would be frustrated if the words, "in any criminal proceeding," were read to include a prosecution for willful default under R.S. § 102.").[26]

The DC Circuit has also handed down numerous decisions that applied the absurd results doctrine to avoid a literal interpretation or application of statutory provisions or that have acknowledged the doctrine. Some of the most recent ones include: ***Arkansas Dairy Cooperative Ass'n, Inc., v. U.S. Dep't of Agriculture***, 573 F.3d 815 (DC Cir. 2009) (rejecting the canon of construction that presumes that Congress is aware of existing law pertinent to the legislation that it enacts, when in this case, the presumption that Congress was aware of the Departments definition of

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[26] For other U.S. Supreme Court cases, *see* *Utah Junk Co. v. Porter*, 328 U.S. 39, 44 (1946) ("literalness may strangle meaning"); *Markham v. Cabell*, 326 U.S. 404, 409 (1945) ("The policy as well as the letter of the law is a guide to decision."); *United States v. American Trucking Associations, Inc.*, 310 U.S. 534 (1940) (the term "employees" in the Federal Motor Carrier Act, is limited to employees whose activities affect safety); *C.V. Sorrels v. U.S.*, 287 U.S. 435, 446-49 (1932) (provisions of National Prohibition Act that criminalize possessing and selling liquor do not apply if defendant is entrapped; Court declines to apply the "letter of the statute" because doing so "in the circumstances under consideration is foreign to its purpose"); *United States v. Katz*, 271 U.S. 354, 362 (1926) (holding that the statutory words "no person" refer only to persons authorized under other provisions of the Act to traffic alcohol, thus rejecting a literal application of general terms descriptive of a class of persons made subject to a criminal statute); *Hawaii v. Mankichi*, 190 U.S. 197, 212-14 (1903) (refusing to adopt a literal application of the "Newlands resolution" which would have entitled every criminal in the State of Hawaii convicted of an offense between 1898-1900 to be set at large, as "surely such a result could not have been within the contemplation of Congress").

"hearing" would lead to "the absurd result that Congress intended to impose a requirement with which the Secretary could not comply;" stating: "Courts, 'in interpreting the words of a statute, [have] some scope for adopting a restricted rather than a literal or usual meaning of its words where acceptance of that meaning would lead to absurd results * * * or would thwart the obvious purpose of the statute * * *.' " (quoting *In re Trans Alaska Pipeline Rate Cases*, 436 U.S. 631, (1978)); *Buffalo Crushed Stone, Inc. v. Surface Transportation Board*, 194 F.3d 125, 129-30 (DC Cir. 1999) (regulation of Surface Transportation Board providing that if a notice of exemption "contains false or misleading information, the use of the exemption is void *ab initio*" does not apply to a notice containing false information when declaring the notice void *ab initio* would undermine the goals of the governing statute; a conflict between the "literal application of statutory language" and maintaining the integrity of the regulatory scheme should be resolved by construing the text in accordance with its purpose); *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1068-69 (DC Cir. 1998) (as discussed later, describes the "absurd results" doctrine in the context of the *Chevron* framework for statutory construction; invalidates a Food and Drug Administration's (FDA) regulation designed to remedy what the FDA described as the absurd result of a literal application of the statutory provisions governing FDA approval of successive generic drug applications, on grounds that "[i]n effect, the FDA has embarked upon an adventurous transplant operation in response to blemishes in the statute that could have been alleviated with more modest corrective surgery;" states that "[t]he rule that statutes are to be read to avoid absurd results allows an agency to establish that seemingly clear statutory language does not reflect the "unambiguously expressed intent of Congress," *Chevron*, 467 U.S. at 842, and thus to overcome the first step of the *Chevron* analysis"); *Environmental Defense Fund v. EPA*, 82 F.3d 451, 468-69 (DC Cir. 1996) (although Act requires that a federal action conform to the SIP that is currently in place, EPA may instead require conformity to a revised implementation plan that state commits to develop; "[t]his is one of those rare cases * * * [that] requires a more flexible, purpose-oriented interpretation if we are to avoid 'absurd or futile results.'"); *American Water Works Ass'n v. EPA*, 40 F.3d 1266, 1271 (DC Cir. 1994) (holding that EPA's interpretation of the term "feasible" so as to require a treatment technique instead of a maximum contaminant level (MCL) for lead is reasonable; the court stated: "Indeed, where a literal reading of a statutory term would lead to absurd results, the term simply 'has no plain meaning * * * and is the proper subject of construction by the EPA and the courts.' If the meaning of 'feasible' suggested by the NRDC is indeed its plain meaning, then this is such a case; for it could lead to a result squarely at odds with the purpose of the Safe Drinking Water Act." (quoting *Chem. Mfrs. Ass'n v. Natural Res. Def. Council, Inc.*, 470 U.S. 116, 126 (1985)) (citation omitted); *In re Nofziger*, 925 F.2d 428, 434-35 (DC Cir. 1991) (provision authorizing payment of attorney fees to the subject of an investigation conducted by an independent counsel of the Department of Justice only if "no indictment is brought" against such individual does not preclude payment of attorney fees when an indictment is brought but is determined to be invalid).

c. The "Administrative Necessity" Doctrine

In the proposed rulemaking, we also described in detail the "administrative necessity" doctrine, 74 FR 55311 col. 3 to 55318 col. 3, and we incorporate that discussion by reference into this notice. Under this doctrine, if a statutory provision, however clear on its face, is impossible for the agency to administer, then the agency is not required to follow the literal requirements, and instead, the agency may adjust the requirements in as refined a manner as possible to assure that the requirements are administrable, while still achieving Congress's overall intent. The DC Circuit set out the doctrine of "administrative necessity" in a line of cases that most prominently includes *Alabama Power v. Costle*, 636 F.2d 323 (DC Cir. 1980). The Court cited the doctrine most recently in *New York v. EPA*, 443 F.3d 880, 884, 888 (DC Cir. 2006).

As we stated in the proposed rulemaking, "We believe that the "administrative necessity" case law establishes a three-step process under which an administrative agency may, under the appropriate circumstances, in effect revise statutory requirements that the agency demonstrates are impossible to administer so that they are administrable." 74 FR 55315 col. 1. Specifically:

> [T]he three steps are as follows: When an agency has identified what it believes may be insurmountable burdens in administering a statutory requirement, the first step the agency must take is to evaluate how it could streamline administration as much as possible, while remaining within the confines of the statutory requirements. The second step is that the agency

> must determine whether it can justifiably conclude that even after whatever streamlining of administration of statutory requirements (consistent with those statutory requirements) it conducts, the remaining administrative tasks are impossible for the agency because they are beyond its resources, *e.g.*, beyond the capacities of its personnel and funding. If the agency concludes with justification that it would be impossible to administer the statutory requirements, as streamlined, then the agency may take the third step, which is to phase in or otherwise adjust the requirements so that they are administrable. However, the agency must do so in a manner that is as refined as possible so that the agency may continue to implement as fully as possible Congressional intent.

74 FR 55315 cols. 1-2.

It should also be noted that we believe the administrative burdens encountered by the state and local permitting authorities are fully relevant under the "administrative necessity" doctrine. Although the case law that discusses the doctrine focuses on federal agencies (*see* 74 FR 55312-14), under the CAA, state and local agencies are EPA's partners in implementing provisions of the CAA, and have primary responsibility for implementing the PSD program. They generally adopt EPA's PSD requirements in their SIPs, as required under CAA section 110(a)(2)(C); and they generally adopt EPA's title V requirements in their title V programs, as required under CAA section 502(d). They issue the PSD and title V permits and are responsible in the first instance for enforcing the terms of the permits. In all these respects, the law that the state and local permitting authorities administer is both federal and state law. Under certain circumstances, EPA may become responsible for permit issuance and enforcement in the first instance, but even then, EPA may, and frequently has, delegated those duties to a state, in which case, the state implements federal law directly. Thus, although the PSD and title V programs are federal requirements, for the most part, it is the states that implement those programs. For this reason, the administrative burdens that the states face in implementing the programs are relevant in determining the applicability of the "administrative necessity" doctrine.

d. "One-Step-at-a-Time" Doctrine

In addition to the "absurd results" and "administrative necessity" doctrines, another judicial doctrine supports at least part of EPA's Tailoring Rule, and that is the doctrine that agencies may implement statutory mandates one step at a time, which we will call the "one-step-at-a-time" doctrine. In the notice of proposed rulemaking, we also described this doctrine and recent case law applying it. 74 FR 55319 col. 1-3. As we noted, that the U.S. Supreme Court recently described the doctrine in *Massachusetts v. EPA*, 549 U.S. 497, 524 (2007), as follows: "Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop;" and instead they may permissibly implement such regulatory programs over time, "refining their preferred approach as circumstances change and as they develop a more nuanced understanding of how best to proceed." We assume familiarity with our discussion in the proposal, but we expand upon it here to review the case law in greater detail and to highlight certain components of the doctrine that are particularly relevant to the Tailoring Rule. The roots of the doctrine go back at least to the DC Circuit's 1979 decision in *United States Brewers Association, Inc. v. EPA*, 600 F.2d 974 (DC Cir. 1979). There, the Court considered a challenge to EPA's guidelines for managing beverage containers, which EPA was required to promulgate under the Resource Conservation and Recovery Act of 1976 (RCRA). RCRA gave EPA one year to promulgate the guidelines. EPA promulgated a partial set of guidelines, started two others, and was challenged before the year was out by petitioners who objected to the initial guideline, saying it fell short of the statutory mandate. The Court upheld the initial guideline, stating: "Under these circumstances we think the question of whether the Agency has fully satisfied the mandate of the statute is not fit for judicial review at this time, when the Agency, still well within the one-year period granted by statute, is deeply involved in the process of formulating rules designed to carry out the congressional mandate. The Agency might properly take one step at a time." *States Brewers Association, Inc. v. EPA*, 600 F.2d at 982.

The Court addressed the doctrine at greater length in *National Association of Broadcasters v. FCC*, 740 F.2d 1190, 1209-14 (DC Cir. 1984). There, the Court noted that under certain statutory schemes, step-by-step agency action might not be authorized; but the Court emphasized that when it is authorized, it may offer significant benefits; and the Court went on to delineate some of the circumstances under which its use is justified. In that case, the Court held that Federal Communications Commission (FCC) acted reasonably in making a spectrum allocation decision that granted direct broadcast satellite service priority use of a gigahertz (GHz) band in 5-years time, and—although acknowledging that fixed service users that were, at that time, using that band, would have to relocate to other bands—in postponing the details of the fixed service relocation to future proceedings. The Court described in some detail "[t]he circumstances under which * * * [an] agency may defer resolution of problems raised in a rulemaking," as follows:

> The requisite judgment is in essence a pragmatic one. In an ideal world, of course, agencies would act only after comprehensive consideration of how all available alternatives comported with a well-defined policymaking objective, and in some circumstances, statutes indeed mandate that agencies proceed by only such a course * * *. But administrative action generally occurs against a shifting background in which facts, predictions, and policies are in flux and in which an agency would be paralyzed if all the necessary answers had to be in before any action at all could be taken * * *. We have therefore recognized the reasonableness of [an agency's] decision to engage in incremental rulemaking and to defer resolution of issues raised in a rulemaking even when those issues are "related" to the main ones being considered * * *. At the same time, [an agency] cannot 'restructure [an] entire industry on a piecemeal basis' through a rule that utterly fails to consider how the likely future resolution of crucial issues will affect the rule's rationale * * *.
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> Drawing a line between the permissible and the impermissible in this area will generally raise two questions. First the agency will likely have made some estimation, based upon evolving economic and technological conditions, as to the nature and magnitude of the problem it will have to confront

> when it comes to resolve the postponed issue. With regard to this aspect of the agency's decision, as long as the agency's predictions about the course of future events are plausible and flow from the factual record compiled, a reviewing court should accept the agency's estimation * * *. Second, once the nature and magnitude of the unresolved issue is determined, the relevant question is whether it was reasonable, in the context of the decisions made in the proceeding under review, for the agency to have deferred the issue to the future. With respect to that question, postponement will be most easily justified when an agency acts against a background of rapid technical and social change and when the agency's initial decision as a practical matter is reversible should the future proceedings yield drastically unexpected results. In contrast, an incremental approach to agency decision making is least justified when small errors in predictive judgments can have catastrophic effects on the public welfare or when future proceedings are likely to be systematically defective in taking into account certain relevant interests * * *.

740 F.2d at 1210-11 (citations omitted).

In *City of Las Vegas v. Lujan*, 891 F.2d 927 (DC Cir. 1989), the Court suggested that one component of upholding partial agency compliance with a statutory directive is evidence that the agency was on track for full compliance. There, the Court upheld the Department of Interior's decision to list the population of desert tortoises living north and west of the Colorado River (the "Mojave" population) as endangered species, but not the nearby population living south and east of the river (the "Sonoran" population).

The agency explained that the Mojave population faced certain threats that the Sonoran population did not, and the Court found nothing to fault in that reasoning. The Court added: "Since agencies have great discretion to treat a problem partially, we would not strike down the listing if it were a first step toward a complete solution, even if we thought it 'should' have covered both the Mojave and Sonoran populations." *City of Las Vegas v. Lujan*, 891 F.2d 927, 935 (DC Cir. 1989) (footnote omitted).

In *Grand Canyon Air Tour Coalition v. F.A.A.*, 154 F.3d 455 (DC Cir. 1998), the DC Circuit added another component to the "one-step-at-a-time" doctrine: While reiterating that "ordinarily, agencies have wide latitude to attack a regulatory problem in phases and that a phased attack often has substantial benefits," *id.* at 471, the Court went on to uphold partial agency action even when that action was long-delayed. There, the relevant statute was the Overflights Act, which required the Federal Aviation Administration (FAA) to reduce aircraft noise from sightseeing tours in Grand Canyon National Park, and established the goal of "substantial restoration of natural quiet and experience of the park." The statute required the agency to develop a plan to implement the statutory requirements within 120 days after enactment, and report to Congress within 2 years after the date of the plan as to the plan's success. In fact, the FAA did not develop, through rulemaking, a plan until ten years after enactment, and when it did, it acknowledged that the plan was only a partial one, and that it would need two more rules and another ten years to meet the statutory goal of substantial restoration. Although recognizing that the Overflights Act did not establish an explicit timetable for meeting the statutory goal, the Court stated that "[t]he language of the

Overflights Act does manifest a congressional concern with expeditious agency action," and described the agency's action variously as "tardy," "undeniably slow," and "slow and faltering." *Id.* at 476-77. Even so, the Court upheld the FAA's action against different challenges from appellants and intervenors that (i) the agency acted unreasonably in not promulgating a complete plan to meet the statutory goal, instead of promulgating just the first step; and (ii) the agency acted unreasonably in not waiting until it had a complete plan before promulgating the first step. The Court stated: "We agree that it would be arbitrary and capricious for an agency simply to thumb its nose at Congress and say—without any explanation—that it simply does not intend to achieve a congressional goal on any timetable at all * * *," but went on to emphasize that the FAA's rule was the first of three that the agency assured would achieve the statutory goal. The Court cited *City of Las Vegas v. Lujan*, discussed previously, for the proposition that "a court will not strike down agency action 'if it were a first step toward a complete solution.'" *Grand Canyon Air Tour Coalition v. F.A.A.*, 154 F.3d 455, 477-78 (DC Cir. 1998).[27]

e. Consistency of Doctrines With *Chevron* Framework

Although the formation of the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines pre-date the *Chevron* two-step analysis for construing statutes that Congress has authorized an agency to administer, we believe that the doctrines can be considered very much a part of that analysis, and courts have continued to apply them post-*Chevron*. Under *Chevron* Step 1, an agency must determine whether "Congress has directly spoken to the precise question at issue." If so, "the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." However, if "the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute."

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[27] For other cases, *see Arizona Public Service Co. v. EPA*, 562 F.3d 1116, 1125-26 (10th Cir. 2009); *General American Transp. Corp. v. ICC*, 872 F.2d 1048, 1058 (D.C. Cir. 1989); *Hazardous Waste Treatment Council v. EPA*, 861 F.2d 277, 287 (D.C. Cir. 1988); *Western Union International, Inc. v. FCC*, 725 F.2d 732, 754 (DC Cir. 1984).

Chevron U.S.A. Inc. v. NRDC, 467 U.S. 837, 842-42 (1984).

Thus, Step 1 under *Chevron* calls for determining congressional intent for the relevant statutory directive on the specific issue presented. To determine Congress's intent, the agency must look first to the statutory terms in question, and generally interpret them according to their literal meaning, within the overall statutory context, and perhaps with reference to the legislative history. If the literal meaning of the statutory requirements is clear then, absent indications to the contrary, the agency must take it to indicate congressional intent and must implement it. Even if the literal meaning of the statutory requirements is not clear, if the agency can otherwise find indications of clear congressional intent, such as in the legislative history, then the agency must implement that congressional intent.

The DC Circuit has indicated that the "absurd results" doctrine fits into the *Chevron* Step 1 analysis in the following way: Recall that in the cases in which the courts have invoked this doctrine, the literal meaning of the statutory requirements has been clear, but has led to absurd results. This can occur when the literal meaning, when applied to the specific question, conflicts with other statutory provisions, contradicts congressional purpose as found in the legislative history—and, in particular, undermines congressional purpose—or otherwise produces results so illogical or otherwise contrary to sensible public policy as to be beyond anything Congress would reasonably have intended. *See United States v. Ron Pair Enterprises*, 489 U.S. 235, 242-43 (1989); *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 571 (1982).

Under these circumstances, the agency must not take the literal meaning to indicate congressional intent. As the DC Circuit has explained, "where a literal reading of a statutory term would lead to absurd results, the term 'simply has no plain meaning * * * and is the proper subject of construction by the EPA and the court.'" *American Water Works Assn v. EPA*, 40 F.3d 1266, 1271 (DC Cir. 1994) (quoting *Chemical Manufacturers' Association v. NRDC*, 470 U.S. 116, 126 (1985)). Under these circumstances, if the agency can find other indications of clear congressional intent, then the agency must implement that intent. *See United States v. Ron Pair Enterprises*, 489 U.S. 235, 242-43 (1989). This may mean implementing the statutory terms, albeit not in accordance with their literal meaning, but in a way that achieves a result that is as close as possible to congressional intent. As the DC Circuit said in *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060 (DC Cir. 1998):

> The rule that statutes are to be read to avoid absurd results allows an agency to establish that seemingly clear statutory language does not reflect the "unambiguously expressed intent of

> Congress," * * * and thus to overcome the first step of the *Chevron* analysis. But the agency does not thereby obtain a license to rewrite the statute. When the agency concludes that a literal reading of a statute would thwart the purposes of Congress, it may deviate no further from the statute than is needed to protect congressional intent * * *. [T]he agency might be able to show that there are multiple ways of avoiding a statutory anomaly, all equally consistent with the intentions of the statute's drafters * * *. In such a case, we would move to the second stage of the *Chevron* analysis, and ask whether the agency's choice between these options was "based on a permissible construction of the statute." Otherwise, however, our review of the agency's deviation from the statutory text will occur under the first step of the *Chevron* analysis, in which we do not defer to the agency's interpretation of the statute.

Id. at 1068 (quoting *Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837, 842, 843 (1984) (citations omitted)).

The "administrative necessity" doctrine is not as well developed as the "absurd results" doctrine, so that the courts have not had occasion to explicitly describe how the doctrine fits into the *Chevron* analytical framework. However, we think that a reasonable approach, in line with the DC Circuit's approach to the "absurd results" doctrine as just described, is as follows: Recall that under the "administrative necessity" doctrine, an agency is not required to implement a statutory provision in accordance with the literal requirements when doing so would be impossible, but the agency must nevertheless implement the provision as fully as possible. Placed in the context of the

Chevron framework, we think that that the "administrative necessity" doctrine is based on the premise that inherent in the statutory design is the presumption that Congress does not intend to impose an impossible burden on an administrative agency. *See Alabama Power v. Costle*, 636 F.2d 323, 357 (DC Cir. 1980) (describing the "administrative necessity" approach as one of the "limited grounds for the creation of exemptions [that] are inherent in the administrative process, and their unavailability under a statutory scheme should not be presumed, save in the face of the most unambiguous demonstration of congressional intent to foreclose them").

Therefore, if the literal meaning of a statutory directive would impose on an agency an impossible administrative burden, then that literal meaning should not be considered to be indicative of congressional intent. Rather, congressional intent should be considered to achieve as much of the statutory directive as possible. As a result, the agency must adopt an approach that implements the statutory directive as fully as possible. This is consistent with the DC Circuit's holding in *Mova Pharm. Corp* that if congressional intent is clear, but the plain meaning of a statute does not express that intent, then the agency must, under *Chevron* Step 1, select an interpretation that most closely approximates congressional intent. *Mova Pharm. Corp*, 140 F.3d at 1068.[28]

The "one-step-at-a-time" doctrine fits into the *Chevron* framework in much the same manner that the "administrative necessity" doctrine does. That is, inherent in the statutory design is the presumption that Congress intended an agency, under certain circumstances, to implement the statutory requirements in a one-step-at-a-time fashion, as long as the agency stays on a path towards full implementation.

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[28] We recognize that we described the relationship between the *Chevron* framework and the "administrative necessity" doctrine somewhat differently in the proposal, 74 FR 55312, and that, after further analysis, we are refining our view of that relationship as described previously.

Under all of the circumstances described previously, congressional intent is clear—whether it is indicated by the plain language or otherwise—and as a result, the agency must follow that intent under *Chevron* Step 1. On the other hand, the agency may determine that congressional intent on the specific issue is not clear. In these cases, the agencies should proceed to *Chevron* Step 2 and select an interpretation or an application that is a permissible construction of the statute. This situation generally occurs when the statutory provisions are ambiguous or silent as to the specific issue, and there are no other indications of clear congressional intent. In addition, in some cases in which the literal meaning of the statutory provision, when applied to the specific question, leads to an absurd result—and, therefore, the statutory provision should be considered not to have a plain meaning—there may be no other indications of clear congressional intent. Under all these circumstances, the agency is authorized, under *Chevron* Step 2, to develop and implement a construction of the statute that the courts will uphold as long as it is reasonable.

As noted previously, the DC Circuit, has pointed out that this situation may also occur when the literal language leads to an absurd result, and, in attempting to implement congressional intent, the agency is "able to show that there are multiple ways of avoiding a statutory anomaly, all equally consistent with the intentions of the statute's drafters * * *. In such a case, we would move to the second stage of the *Chevron* analysis, and ask whether the agency's choice between these options was 'based on a permissible construction of the statute.'" *Mova Pharm. Corp*, 140 F.3d at 1068. As the U.S. Supreme Court has recently said, although in a context different than "absurd results," "In the end, the interpretation applied by EPA "governs if it is a reasonable interpretation of the statute—not necessarily the only possible * * * interpretation, nor even the interpretation deemed most reasonable by the courts." *Entergy Corp. v. Riverkeeper, Inc.*, 129 S.Ct. 1498. 1505 (2009).

As a related matter, although the courts have described *Chevron* Step 2 as requiring that the agency's policy be "a permissible construction of the statute," *see Mova Pharm. Corp*, 140 F.3d at 1068 (quoting *Chevron*, 467 U.S. at 842-43), if the statutory requirements cannot be read literally because doing so would produce "absurd results," then the agency's policy need not be completely consistent with those particular requirements. The policy must still, in order to be upheld, be consistent with Congress's actions, but those actions should be considered to afford the agency broad discretion considering that both the statutory terms cannot be considered dispositive and underlying congressional intent is not clear. As the U.S. Supreme Court has recently said, although in a context different than "absurd results," In the end, the interpretation applied by the agency governs if it is a reasonable interpretation of the statute—not necessarily the only possible * * * interpretation, nor even the interpretation deemed most reasonable by the courts." *Entergy Corp. v. Riverkeeper, Inc.*, 129 S.Ct. 1498. 1505 (2009).

There is another aspect of the "administrative necessity" doctrine worth noting in this context: The doctrine applies when (i) a literal application of the statutory directive to the case at hand is impossible for the agency to administer; and (ii) even so, either Congress clearly intended the statutory directive to apply to the case at hand or, if Congress did not clearly intend that, then the agency reasonably construes the statute to apply the statutory directive to the case at hand. In contrast, if Congress did not intend the statutory directive to apply to the case at hand, or if congressional intent is uncertain and the agency considers another approach to be reasonable, then the "administrative necessity" doctrine would not apply. As a result, the agency would not be required to implement the statutory directive to the case at hand at all, much less in a more administrable fashion.

f. Interconnectedness of the Legal Doctrines

Although we believe that each of the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines provide independent support for our action, we also believe that in this case, the three doctrines are intertwined and form a comprehensive basis for EPA's tailoring approach. As just discussed, each of the three doctrines is tied into the *Chevron* analytical framework because each is designed to give effect to underlying intent. As discussed previously, each of the three doctrines comes into play in this case because a literal reading of the PSD and title V applicability provisions results in insurmountable administrative burdens. Those insurmountable administrative burdens—along with the undue costs to sources—must be considered "absurd results" that would undermine congressional purpose for the PSD and title V programs. Under the "absurd results" doctrine, EPA is authorized not to implement the applicability provisions literally—that is, not to implement them as applying on the January 2, 2011 date that PSD and title V are triggered to all GHG sources at or above the statutory thresholds—but instead to tailor them in a manner consistent with congressional intent. That means applying the PSD and title V requirements through a phase-in approach to as many sources as possible and as quickly as possible, starting with the largest sources, as EPA does with this Tailoring Rule,[29] at least to a certain point. By the same token, the insurmountable administrative burdens bring into play the "administrative necessity" doctrine, under which EPA is, again, authorized not to implement the applicability provisions literally, but instead to apply them in a manner consistent with administrative resources. This also means phasing them in through the approach in the Tailoring Rule. Finally, the "one-step-at-a-time" doctrine, which authorizes incremental action by agencies to implement statutory requirements under certain circumstances, provides further support for the phased tailoring approach in the Tailoring Rule.

g. Application of *Chevron* Approach

The *Chevron* analytical approach, and the three legal doctrines at issue here, apply to this action in the following manner: To reiterate, for convenience, the statutory provisions at issue: Congress, through the definition of "major emitting facility," applied the PSD program to include (i) "any * * * stationary sources of air pollutants which emit or have the potential to emit, one hundred [or, depending on the source category, two hundred fifty] tons per year or more of any air pollutant," CAA sections 165(a), 169(1); and (ii) and such sources that undertake a physical or operational change that "increases the amount of any air pollutant emitted" by such sources, CAA sections 165(a), 169(2)(C), 111(a)(4).[30] Similarly, Congress, through the definition of "major source," specified that the title V program includes "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). EPA, through long-established regulatory action, in the case of PSD, and long-established interpretation, in the case of title V, has interpreted these definitions so that they apply only with respect to air pollutants that are subject to regulation under the CAA.

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[29] As discussed later, EPA may, in future rulemaking, make a final determination that under the "absurd results" doctrine, Congress did not intend for EPA to apply PSD to very small sources, that is, those, with emissions at or near the 100/250 tpy statutory levels.

For each of these applicability provisions, the approach under *Chevron* is as follows: Under *Chevron* Step 1, we must determine whether Congress expressed an intention on the specific question, which is whether the PSD or title V applicability provisions apply to GHG sources. Said differently, the specific question is whether, in the case of PSD, Congress intended that the definitions of "major emitting facility" and "modification" apply, respectively, to all GHG sources that emit at least 100 or 250 tpy or GHGs and to all physical or operational changes by major emitting facilities that "increase[ ] the amount" of GHGs; and, in the case of title V, whether the definition of "major source" applies to all GHG sources that emit at least 100 tpy GHGs.

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[30] A physical or operational change is treated as a "modification" that is subject to PSD if it either "increases the amount of any air pollutant emitted" by the source or "results in the emission of any air pollutant not previously emitted." For convenience, unless otherwise indicated, when we refer to changes that "increase[ ] the amount of any air pollutant emitted," we mean both to those types of changes and changes that "result[ ] in the emission of any air pollutant not previously emitted."

To determine intent, we must first examine the terms of the statute in light of their literal meaning. Here, the literal reading of each provision covers GHG sources. For PSD, a GHG source that emits at least 100 or 250 tpy GHGs literally qualifies as "stationary source [ ] of air pollutants which emit[s] or ha[s] the potential to emit, one hundred [or two hundred fifty] tons per year or more of any air pollutant [subject to regulation under the CAA]." CAA section 169(1). For modifications, a physical or operational change that increases the amount of GHG emissions qualifies as a "modification" because it "increases the amount of any air pollutant emitted" by the source. Similarly, for title V, a GHG source that emits at least 100 tpy GHGs literally qualifies as "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant [subject to regulation under the CAA]." CAA sections 502(a), 501(2)(B), 302(j).

Although each definition is clear that it applies to GHG sources as a general matter, applying each definition in accordance with its literal meaning to all GHG sources at the specified levels of emissions and at the present time—in advance of the development of streamlining methods and greater permitting authority expertise and resources—would create undue costs for sources and impossible administrative burdens for permitting authorities. These results are not consistent with other provisions of the PSD and title V requirements, and are inconsistent with—and, indeed, undermine—congressional purposes for the PSD and title V provisions. Accordingly, under the "absurd results" doctrine, neither the PSD definition of "major emitting facility" or "modification" applied literally to all GHG sources, and therefore none should be considered to have a literal meaning with respect to its application to all GHG sources.

In analyzing the provisions of each definition more closely, we believe that each has four terms, any one of which could be considered not to have its literal meaning, in this respect. Specifically, each provision includes (i) The term "any * * * source," or "a stationary source," and that term could be considered not to refer literally to all of the GHG sources; (ii) either the term "two hundred fifty tons per year" or "100 tons per year," or the term "increases the amount," and those terms could be considered not to refer literally to the tonnage amount of emissions from all of the GHG sources; (iii) the term "any air pollutant,"[31] and that term could be considered not to refer literally to the emissions from all of the GHG sources; and (iv) the term "subject to regulation under the CAA" (which we have interpreted "any air pollutant" to include), and that term could be considered not to refer literally to the emissions from all of the GHG sources. As long as any one of those four terms may be considered not to have its literal meaning as applied to GHG sources, then the definition as a whole—again, for PSD, the terms "major emitting facility" or

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[31] We do not believe that this term is ambiguous with respect to the need to cover GHG sources under either the PSD or title V program, only with respect to what sources of GHG should be covered under the circumstances presented here.

"modifications," and for title V, the term "major source"—cannot be considered to apply literally to GHG sources. Because we read the terms together, as integral parts of each definition as a whole, we do not think that the choice of which of those four terms within each definition cannot be considered to apply literally to GHG sources has substantive legal effect. In other words, we believe that any one of these terms, or all of them together as part of each definition as a whole, should be considered not to apply literally in the case of GHG sources.

Having determined that each definition does not have a literal meaning with respect to the applicability of PSD or title V applies to all GHG sources, we must next inquire as to whether Congress has nevertheless expressed an intent on that question through other means. We discuss the statutory terms and legislative history of the PSD and title V provisions in more detail later, but for now it suffices to say that on the issue of whether PSD and title V apply to GHG sources, we believe that congressional intent is clear, and that is to apply PSD and title V to GHG sources generally. We believe that this intent is clear from the broad phrasing of the applicability provisions—as noted earlier, the definitions apply by their terms to GHG source generally, even though the definitions should not be applied literally to all GHG sources—the fact that the various components of the PSD and title V programs can be readily applied to GHG sources, and the fact that the two programs can readily accommodate at least some GHG sources. As a result, we believe that as a matter of *Chevron* Step 1, PSD and title V generally apply to GHG sources. Our previous regulatory action defining the applicability provisions made this clear, and we do not reopen this issue in this rulemaking. Moreover, even if this long-established regulatory position were not justifiable based on *Chevron* step 1—on the grounds that in fact, congressional intent on this point is not clear—then we believe that this position, that the statutory provisions to apply PSD and title V generally to GHG sources, was justified under *Chevron* step 2.[32]

On the issue of how to apply PSD to GHG sources, including the specific threshold levels and the timing, we believe that Congress could be considered to have expressed a clear intent that GHG sources be included in the PSD program at as close to the statutory thresholds as possible, and as quickly as possible, and at least to a certain point, all as consistent with the need to assure that the PSD program does not impose undue costs on sources or undue administrative burdens on the permitting authorities. Under this view, EPA would be required at *Chevron* Step 1 to adopt the Tailoring Rule because, by phasing in PSD applicability, it most closely gives effect to Congress's intent. Under these circumstances, EPA is authorized to exercise its expert judgment as to the best approach for phasing in the application of PSD to GHG sources.

Even so, we recognize that it could be concluded that on the issue of how to apply PSD to GHG sources, congressional intent is unclear. Under these circumstances, EPA has the discretion at *Chevron* Step 2 to adopt the Tailoring Rule because it is a reasonable interpretation of the statutory requirements (remaining mindful that the applicability requirements cannot be applied literally). Under the Tailoring Rule,

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[32] In this preamble and the response to comments document we fully address arguments that commenters and others have presented about congressional intent and coverage of GHGs. We do so to be fully responsive, even though we believe that this is a settled matter for which the time for judicial review has past.

EPA seeks to include as many GHG sources in the permitting programs at as close to the statutory thresholds as possible, and as quickly as possible, although we recognize that we ultimately may stop the phase-in process short of the statutory threshold levels.

As for title V, we believe that taken together, the various statutory requirements and statements in the legislative history do not evidence a clear congressional intent for how title V is to be applied to GHG sources. As discussed later, the relevant title V requirements and statements in legislative history differ from PSD, not least because they include provisions that concern empty permits that point in different directions. As a result, here, too, EPA has the discretion at *Chevron* Step 2 to adopt the Tailoring Rule as a reasonable interpretation of the statutory requirements. Alternatively, even if the statute does express a clear intent as to title V that, similar to PSD, title V requirements must be phased in as closely to the statutory threshold as possible and as quickly as possible, this Tailoring Rule is consistent with that intent.

It should also be noted that although EPA has concluded that applying the PSD and title V applicability provisions literally in the case of GHG sources would produce "absurd results" and therefore is not required, this conclusion has no relevance for applying other CAA requirements—such as the requirements concerning endangerment and contribution findings under CAA section 202(a)(1) or emission standards for new motor vehicles or new motor vehicle engines under CAA section 202—to GHGs or GHG sources. EPA's conclusions with respect to the PSD and title V applicability requirements are based on the specific terms of those requirements, other relevant PSD and title V provisions, and the legislative history of the PSD and title V programs.

Within the context of the *Chevron* framework, the "administrative necessity" doctrine applies as follows: Under the doctrine, Congress is presumed to intend that the PSD and title V applicability requirements be administrable. Here, those applicability requirements, if applied to GHG sources in accordance with their literal meaning, would be impossible to administer. Accordingly, under *Chevron* Step 1, it is consistent with congressional intent that EPA and the permitting authorities be authorized to implement the applicability requirements in a manner that is administrable, that is, through the tailoring approach.

As for the "one-step-at-a-time" doctrine, we believe it applies within the *Chevron* framework in conjunction with the "absurd results" and "administrative necessity" doctrines. As we discuss elsewhere, the PSD and title V applicability provisions by their terms require that sources at or above the 100/250 tpy thresholds comply with PSD and title V requirements at the time those requirements are triggered, which is when GHGs become subject to regulation. Therefore, if the literal meaning of the applicability provisions as applied to GHG sources were controlling—that is, if it reflected congressional intent—it would foreclose use of the one-step-at-a-time doctrine to implement a phase-in approach. However, the literal meaning is not controlling because—in light of the absurd results, including the insurmountable administrative burdens, that would result from the literal meaning—congressional intent is not to require the application of the PSD and title V requirements to all GHG sources at or above the statutory thresholds at the time that GHGs become subject to regulation. Instead, as described previously, we consider congressional intent for the applicability provisions, as applied to GHG sources, either (i) to be clear that PSD and title V should be phased in for GHG sources as quickly as possible, or (ii) to be unclear, so that EPA may reasonably choose to phase PSD and title V in for those sources in that manner. Under either view, congressional intent for PSD and title V applicability to GHG sources accommodates the "one-step-at-a-time" approach.

4. The PSD and Title V Programs

Having discussed both the factual underpinnings and, immediately above, the legal underpinnings for our tailoring approach, we now discuss the PSD and title V programs themselves, including, for each program, the key statutory provisions, their legislative history, and the relevant regulations and guidance documents through which EPA has implemented the provisions. We start with the PSD program.

a. The PSD program

(1) PSD Provisions

Several PSD provisions are relevant for present purposes because of the specific requirements that they establish and the window that they provide into congressional intent. These provisions start with the applicability provisions, found in CAA sections 165(a) and 169(1), which identify the new sources subject to PSD, and CAA section 111(a)(4), which describes the modifications of existing sources that are subject to PSD. CAA section 165(a) provides:

> No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless—
>
> (1) A permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;
>
> (2) The proposed permit has been subject to a review in accordance with this section * * *, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;
>
> * * * * *
>
> (4) The proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility * * *.

The term "major emitting facility" is defined, under CAA section 169(1) to include:

> * * * stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from [28 listed] types of stationary sources. * * * Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are

> nonprofit health or education institutions which have been exempted by the State.

As for modification of existing sources, CAA section 169(1)(C) provides that the term "construction," as used in CAA section 165(a) (the PSD applicability section) "includes the modification (as defined in section 111(a)(4)) of any source or facility." Section 111(a)(4), in turn, provides:

> The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

As interpreted by EPA regulations, these provisions, taken together, provide that new stationary sources are subject to PSD if they emit at the 100/250-tpy thresholds air pollutants that are subject to EPA regulation, and that existing stationary sources that emit such air pollutants at the 100/250-tpy thresholds are subject to PSD if they undertake a physical or operational change that increases their emissions of such air pollutants by any amount.

Other provisions of particular relevance are the requirements for timely issuance of permits. The permitting authority must "grant[ ] or den[y] [any completed permit application] not later than one year after the date of filing of such completed application." CAA section 165(c).

In addition, the PSD provisions articulate "the purposes of [the PSD program]," which are to balance environmental protection and growth. CAA section 160. One of the purposes, in subsection (1), is specifically "to protect public health and welfare," and another, in subsection (3), is "to insure that economic growth will occur in a manner consistent with the preservations of existing clean air resources."

The PSD provisions also include detailed procedures for implementation. Most relevant for sources of GHG are the provisions that the proposed permit for each source must be the subject of a public hearing with opportunity for interested persons to comment, CAA section 165(a)(2), and each source must be subject to BACT, as determined by the permitting authority on a source-by-source basis, CAA section 165(a)(4), 169(3).

(2) PSD Legislative History

The legislative history of the PSD provisions, enacted in the 1977 CAA Amendments, makes clear that Congress was largely focused on sources of criteria pollutants: primarily sulfur dioxide, PM, NO_X, and carbon monoxide (CO). This focus is evident in the basic purpose of the PSD program, which is to safeguard maintenance of the NAAQS. *See* S 95-127 (95th Cong., 1st Sess.), at 27.

Congress designed the PSD provisions to impose significant regulatory requirements, on a source-by-source basis, to identify and implement BACT and, for criteria pollutant, to also undertake certain studies. Congress was well aware that because these requirements are individualized to the source, they are expensive. Accordingly, Congress designed the applicability provisions (i) to apply these requirements to industrial sources of a certain type and a certain size—sources within 28 specified source categories and that emit at least 100 tpy—as well as all other sources that emit at least 250 tpy, and, by the same token, (ii) to exempt other sources from these requirements.[33]

Although Congress required that CAA requirements generally apply to "major emitting facilities," defined as any source that emits or has the potential to emit 100 tpy of any pollutant, Congress applied PSD to only sources at 100 tpy or higher in 28 specified industrial source categories, and at 250 tpy or more in all other source categories. This distinction was deliberate: According to Sen. McClure, Congress selected the 28 source categories after reviewing an EPA study describing 190 industrial source categories. 122 Cong. Rec. 24521 (July 29, 1976) (statement by Sen. McClure).

Congress also relied on an EPA memorandum that identified the range of industrial categories that EPA regulated under its regulations that constituted the precursor to the statutory PSD program,[34] and listed both the estimated number of new sources constructing each year and the amount of pollution emitted by the "typical plant" in the category. The memorandum was prepared by B.J. Steigerwald, Director of the Office of Air Quality Planning and Standards and Roger Strelow, EPA's

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[33] Coverage of modifications by the PSD program was addressed by a technical amendment which added a cross reference in section 169 to section 111. The legislative history of this provision is scant and there is no suggestion that Congress would have contemplated sweeping in large number of changes from smaller sources through the addition of this provision.

[34] Beginning in 1974, EPA implemented a program that required sources of certain NAAQS pollutants seeking to construct in attainment or unclassifiable areas to implement emission controls for the purpose of preventing deterioration in the ambient air quality in those areas. This program was the precursor to the PSD program Congress enacted in 1977.

Assistant Administrator for Air and Waste Management ("Steigerwald-Strelow memorandum"). The Steigerwald-Strelow memorandum makes clear that the 100 tpy cut-off for the 28 listed sources categories, and the 250 tpy cut-off for all other sources, was meaningful; that is, there were a large number of sources below those cut-offs that Congress explicitly contemplated would not be included in the PSD program. *Id.* at 24548-50.

Consistent with this, the legislative history on the Senate side also specifically identified certain source categories that Senators believed should not be covered by PSD. The Senate bill language limited PSD to sources of 100 tpy or more in 28 listed source categories, and to any other categories that the Administrator might add. Sen. Muskie stated that the Senate bill excluded "houses, dairies, farms, highways, hospitals, schools, grocery stores, and other such sources." 123 Cong. Rec. 18021 (June 8, 1977) (statement of Sen. Muskie). Sen. McLure's list of excluded source categories were "[a] small gasoline jobber, or a heating plant at a community college, [which] could have the potential to emit 100 tons of pollution annually." 122 Cong. Rec. 24548-49 (July 29, 1976) (statement of Sen. McClure). The Senate Committee Report included a comparable list, and in describing it, concisely articulated the cost-conscious basis for the line-drawing: "[the PSD] procedure * * * must include an effective review-and-permit process. Such a process is reasonable and necessary for very large sources, such as new electrical generating plants or new steel mills. But the procedure would prove costly and potentially unreasonable if imposed on construction of storage facilities for a small gasoline jobber or on the construction of a new heating plant at a junior college, each of which may have the potential to emit 100 tons of pollution annually." S. Rpt. 95-127 at 96-97.

The enacted legislation differs from the Senate bill by replacing the authorization to EPA to include by regulation source categories in addition to the listed 28 source categories with an inclusion of all other sources if they exceed 250 tpy, and with an authorization for the states to exempt hospitals and educational institutions. But Congress's overall intention remains clear, as the DC Circuit described in *Alabama Power*: "Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air * * *. [With respect to] the heating plant operating in a large high school or in a small community college * * * [w]e have no reason to believe that Congress intended to define such obviously minor sources as 'major' for the purposes of the PSD provision."[35] 636 F.2d at 353-54.

A particularly important indication of congressional intent to limit the PSD program it was designing to larger sources comes in considering the emissions profile of the small-sized boilers. Congress focused closely on identifying which sources with emissions in excess of 100 tpy should not be subject to PSD even though they are subject to CAA requirements generally. But Congress viewed a large set of sources as emitting below 100 tpy and therefore not included in the PSD program. Chief among these sources, in terms of absolute numbers of sources, were small boilers. The Steigerwald-Strelow memorandum identified two categories of these boilers, differentiated by size. The first ranges in size from 10 to 250 x 10^6 Btu per hour (Btu/hr), and has a "typical plant" size of 10^7 Btu/hr, with "BACT emissions from typical plant" of 53 tpy, and a total of 1,446 sources in the category. The second category ranges in size from 0.3 to 10 x 10^6 Btu/hr, and has a "typical plant" size of 1.3 x 10^6 Btu/hr, with "BACT emissions from typical plant" of 2 tpy, and a total of 11,215 sources in the category. The memorandum discusses these two categories in the context of explaining which source categories exceed a size of 100 tpy—and therefore would be subject to PSD if a 100 tpy threshold were set—by stating, "Fortunately, most truly small boilers and typical space heating operations would not be covered." 122 Cong. Rec. 24549 (July 29, 1976).

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[35] Note that although Congress specifically authorized the states to exempt "nonprofit health or education institutions" from the definition of "major emitting facility," this statement by the DC Circuit should be taken as the Court's view that Congress did not design PSD to cover sources of the small size described.

The legislative history also provides a window into the scope of the program that Congress anticipated and related administrability concerns. According to the Steigerwald-Strelow memorandum, the number of new sources each year whose "BACT emissions from typical plant" exceed 100 for the 28 listed source categories and 250 for all other source categories is less than 100 per year. Although the Steigerwald-Strelow memorandum does not attempt to estimate the number of modifications, it appears that based on this information, Congress had reason to expect the total size of the PSD program to be measured in the hundreds or perhaps thousands of permits each year. A program of this size would be manageable by EPA and the permitting authorities.

(3) PSD Regulatory History: Regulations Concerning the Definition of "Major Stationary Source"

For present purposes, the regulatory history of the PSD program is most noteworthy because it shows that since the inception of the program following the 1977 CAA Amendments, EPA has interpreted the statutory PSD applicability provisions to apply more narrowly—to any air pollutant *subject to regulation*—than their literal meaning ("any air pollutant"). EPA's initial rulemaking implementing the PSD program, which was proposed and finalized in 1977-1978, made explicit that the entire PSD program applied to only pollutants regulated under the Act. 43 FR 26380, 26403, 26406 (June 19, 1978) (promulgating 40 CFR 51.21(b)(1)(i)). In 1979-1980, EPA revised the PSD program to conform to *Alabama Power v. Costle*, 636 F.2d 323 (DC Cir. 1980). 44 FR 51924 (September 5, 1979) (proposed rule); 45 FR 52676 (August 7, 1980) (final rule). In this rulemaking, EPA did not disturb the pre-existing provisions that limited the applicability of the PSD program to regulated air pollutants.[36]

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[36] As noted elsewhere in this notice, in *Alabama Power*, the DC Circuit noted that the definition of "major emitting facility" under CAA section 169(1) could apply to air pollutants not regulated under other provisions of the Act, and discussed the contrast of this broad definition to the narrower application of the BACT provisions. 636 F.2d at 352-53 & n. 60. In its rulemaking notices responding to *Alabama Power*, EPA discussed at length certain issues, such as the applicability of NSR to pollutants emitted below the "major" thresholds, that are based on the reference in "major emitting facility" to "any air pollutant." However, throughout its discussion, EPA interpreted that reference as "any regulated air pollutant," again without specifically acknowledging the difference or without acknowledging the above-noted

In 1996 EPA proposed, and in 2002 finalized, a set of amendments to the PSD provisions that included revisions to conform with the 1990 CAA Amendments, which, in relevant part, exempted hazardous air pollutants (HAPs) from PSD, under CAA section 112(b)(6). *See* 61 FR 38250 (July 23, 1996), 67 FR 80186 (December 31, 2002). In the preamble to the final rule, EPA noted that based on a request from a commenter, EPA was amending the regulations to "clarify which pollutants are covered under the PSD program." EPA accomplished this by promulgating a definition for "regulated NSR pollutant," which listed categories of pollutants regulated under the Act, and by substituting that defined term for the phrase "pollutants regulated under the Act" that was previously used in various parts of the PSD regulations. 67 FR 80240. The definition of "regulated NSR pollutant" includes several categories of pollutants (including, in general, NAAQS pollutants and precursors, pollutants regulated under CAA section 111 NSPS, Class I or II substances regulated under CAA title VI) and a catch-all category, "[a]ny pollutant that otherwise is subject to regulation under the Act." *E.g.*, 40 CFR 52.21(b)(50). As in the previous rulemakings, EPA did not address the difference between the definition of "major emitting facility" and its regulatory approach or indicate that it had received comments on this issue. While the definition of "major modification" in the PSD regulations has changed over time with respect to how emission increases are calculated, the regulatory history with respect to pollutant coverage parallels that of major emitting facility.

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statements in *Alabama Power*. *See* 45 FR 52710-52711. EPA did not indicate that it had received comments on this issue.

We recount this regulatory history as background information. We are not reconsidering or reopening these regulations to the extent they interpret the definition of "major emitting facility" and "modification" narrowly to be limited to pollutants subject to regulation under the Act.

b. Title V Program

Having reviewed the key statutory provisions, their legislative history, and the relevant administrative interpretations for the PSD program, we now do the same for the title V program.

(1) Title V Provisions

The key title V provisions for present purposes start with the applicability provisions, which are found in CAA sections 502(a), 501(2)(B), and 302(j). These provisions provide that it is unlawful for any person to operate a "major source" without a title V permit, section 502(a), and define a "major source" to include "any major stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 501(2)(B) and 302(j). As noted elsewhere, these provisions, taken together and as interpreted by EPA, provide that stationary sources are subject to title V if they emit at the 100-tpy threshold air pollutants that are subject to EPA regulation.

In addition, although title V does not have a set of provisions describing its purpose, it is clear from its provisions and its legislative history, discussed later, that its key goal is to gather into one permitting mechanism the CAA requirements applicable to a source and impose conditions necessary to assure compliance with such requirements, and thereby promote the enforceability of CAA requirements applicable to the covered sources. Section 503(b)(1) requires that the source's permit application contain a compliance plan describing how the source will "comply with all applicable requirements" of the CAA, and section 504(a) requires that "[e]ach permit issued under [title V] shall include * * * such * * * conditions as are necessary to assure compliance with applicable requirements of [the Act]." *See* H.R. Rep. No. 101-490, at 351 (1990) ("It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable to the source.").

Importantly, title V is replete with provisions designed to make the permitting process as efficient and smooth-running as possible, including the expeditious processing of permit applications and the timely issuance of permits. Section 503(c) requires that "the permitting authority shall approve or disapprove a completed application * * * and shall issue or deny the permit, within 18 months after the date of receipt thereof * * *." Section 502(b)(6) requires the permitting authority to develop "adequate, streamlined, and reasonable procedures for expeditiously determining when applications are complete, for processing such applications, for public notice * * * and for expeditious review of permit actions, including * * * judicial review in State court of the final permit action by [specified persons]." Section 502(b)(7) includes a "hammer" provision designed to reinforce timely permit issuance, which is that the permitting authority's program must include:

> To ensure against unreasonable delay by the permitting authority, adequate authority and

> procedures to provide that a failure of such permitting authority to act on a permit application or permit renewal application (in accordance with the time periods specified in [CAA] section 503 * * *) shall be treated as a final permit action solely for purposes of obtaining judicial review in State court of an action brought by any person referred to in paragraph (6) to require that action be taken by the permitting authority on such application without additional delay.

Section 502(b)(8) requires the permit program to include "[a]uthority and reasonable procedures consistent with the need for expeditious action by the permitting authority on permit applications and related matters, to make available to the public [certain permit-related documents]". Section 502(b)(9) requires a permit revision to incorporate requirements promulgated after issuance of the permit, but only if the permit is for a major source and has a term of 3 or more years remaining. In addition, the revision must occur "as expeditiously as practicable." Section 502(b)(10) requires the permit program to include operational flexibility provisions that "allow changes within a permitted facility * * * without requiring a permit revision, if the changes are not modifications * * * and * * * do not exceed the emissions allowable under the permit * * *."

In addition, title V includes a comprehensive and finely detailed implementation schedule that mandates timely issuance of permits while building in EPA and affected state review, public participation, and timely compliance by the source with reporting requirements. Following the date that sources become subject to title V, they have 1 year to submit their permit applications. CAA section 503(c). As noted previously, the permitting authority then has 18 months to issue or deny the permit. CAA section 503(c). Permitting authorities must provide an opportunity for public comment and a hearing. CAA section 502(b)(6). If the permitting authority proposes to issue the permit, the permitting authority must submit the permit to EPA, and notify affected states, for review. CAA section 505(a)(1). EPA then has 45 days to review the permit and, if EPA deems it appropriate, to object to the permit. CAA section 505(b)(1). If EPA does object, then the permitting authority must, within 90 days, revise it to meet the objections, or else EPA becomes required to issue or deny the permit. CAA section 505(c). If EPA does not object, then, within 60 days of the close of the 45-day review period, any person may petition EPA to object, and EPA must grant or deny the petition within 60 days. CAA section 505(b)(2). If a permit is issued, it must include a permit compliance plan, under which the permittee must "submit progress reports to the permitting authority no less frequently than every 6 months," and must "periodically (but no less frequently than annually) certify that the facility is in compliance with any applicable requirements of the permit, and [ ] promptly report any deviations from permit requirements to the permitting authority." CAA section 503(b).

(2) Title V Legislative History

The legislative history of title V, enacted by Congress in the 1990 CAA Amendments, indicates the scope of the program that Congress expected: Congress expected the program to cover some tens of thousands of sources, which would approximate the scope of the permit program under the Clean Water

Act. The Senate Committee on Environment and Public Works stated:

> EPA estimates that the new permit requirements will cover about 8,200 major sources that emit 100 tons per year or more of criteria pollutants (which are regulated under SIPs). In addition, many smaller sources are (or, as EPA promulgates additional regulations, will be) covered by new source performance standards under section 111 of the Act, hazardous air pollutant standards under section 112 of the Act, and nonattainment provisions of this legislation. By comparison, under the Clean Water Act, some 70,000 sources receive permits, including more than 16,000 major sources. Although many air pollution sources have more emission points than water pollution sources, the additional workload in managing the air pollution permit system is estimated to be roughly comparable to the burden that States and EPA have successfully managed under the Clean Water Act.

S. Rep. 101-228, at 353 (1990).[37] Sen. Mitchell, the Senate Majority Leader, stated that he expected "over 10,000 permits [to] * * * be issued under this program." 136 Cong. Rec. S3239-03 (March 27, 1990). Others in Congress had similar estimates. *See, e.g.*, 136 Cong. Rec. S3166 ("thousands and thousands of permit applications * * * will be required to be submitted") (statement of Sen. Nickles).

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[37] The House committee on Energy and Commerce acknowledged that it was "uncertain about the magnitude of permit applications likely to be submitted under the bill initially and thereafter in each State or to EPA," H. Repl. 101-490

Furthermore, the legislative history indicates that Congress did not contemplate that large numbers of very small sources would be subject to title V's requirements.[38] This becomes clear by reviewing the legislative history of a companion piece of legislation to the operating permits provisions that Congress enacted into CAA section 507, which is the "Small business stationary source technical and environmental compliance assistance program." CAA section 507. Under this provision, sources that, among other things, "are not major stationary source[s]" and that emit less than 50 tpy of any regulated pollutant, as well as less than 75 tpy or all regulated pollutants, are eligible for assistance under CAA section 507. CAA section 507(c)(1). The House Committee Report described this provision—including what types of sources it expected this provision to benefit—as follows:

> New section [507] is a small source/small business provision added by the Committee. It seeks to help small businesses to comply with the problems that are likely to occur under the Act as amended by this bill. For purposes of this section, small businesses or small emitters are defined as sources that are emitting 100 tons or less per year and that have a number of employees that would qualify them for assistance from the Small

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[38] Title V can apply to certain small businesses in some circumstances. Under CAA sections 502(a) and 501(2)(A), title V applies to major sources of HAPs, which includes sources that may emit as little as 10 tpy of a single HAP, and which may include some dry cleaners and other small businesses. In addition, under CAA section 502(a), title V applies to area sources subject to standards under CAA sections 111 or 112 (or required to have a PSD or nonattainment NSR permit), unless the Administrator exempts those sources from title V because compliance would be impracticable, infeasible, or unnecessarily burdensome.

> Business Administration (SBA). As we look to the future of environmental protection under the Act, we take special steps here to ensure that it is possible for these small businesses to comply with minimum hassle and in recognition of the problems that are unique to them. Such small businesses include printers, furniture makers, dry cleaners, and millions of other small businesses in this country.

House Committee Report, H.R. 101-590, at 354. In this manner, the House Committee Report made clear that it expected "millions of * * * small businesses"—including "printers, furniture makers, dry cleaners" and many others—to benefit from the CAA section 507 small source/small business program, but Congress did not expect them to become subject to the operating permit requirements of title V because their emissions fell below 100 tpy, which is, in general, the threshold for title V applicability as a "major source."

The legislative history of title V confirms that Congress viewed a principal purpose of title V as providing a vehicle to compile the requirements applicable to the source. As the report of the House Committee on Energy and Commerce ("House Committee Report") stated, "It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable to the source." H.R. Rep. No. 101-490, at 351 (1990). Combined with the source's reporting requirements, this compilation of applicable requirements would facilitate public awareness of a source's obligations and compliance and would facilitate compliance and enforcement.

On the Senate side, Sen. Chafee, one of the floor managers of the bill, made a similar point:

> The permits will serve the very useful function of gathering and reciting in one place—the permit document itself—all of the duties imposed by the Clean Air Act upon the source that holds the permit. This would clearly be an improvement over the present system, where both the source and EPA must search through numerous provisions of state implementation plans and regulations to assemble a complete list of requirements that apply to any particular plant * * *.
>
> Once these permits are in place, plant managers will be better able to understand and to follow the requirements of the Clean Air Act. At the same time, EPA will be better able to monitor how well each plant is complying with those requirements. This is a highly sensible approach for all concerned.

136 Cong. Rec. S213 (January 24, 1990) (statement of Sen. Chafee). Sen. Lieberman made a similar statement. 136 Cong. Rec. 3172-73 (March 26, 1990) (statement of Sen. Lieberman). Thus, a central purpose of the title V permit program is to compile all the requirements applicable to the source into a single place, the permit. Implicit in this purpose is that the sources subject to title V will have applicable requirements to be compiled. As Sen. Chafee directly stated, "[T]he vast majority of these permit applications will * * *, in all likelihood, only codify the existing requirements of the applicable State implementation plan." 136 Cong. Rec. S2720 (March 20, 1990) (statement of Sen. Chafee).

More broadly, the legislative history also indicates congressional concern about the costs of permitting for small businesses, and a determination to minimize those costs to the extent possible. This concern is reflected in several provisions of title V. For example, section 502(a) authorizes EPA to exempt all or part of a source category—except for any major source from the title V permit program if EPA "finds that compliance with [title V] requirements is impracticable, infeasible, or unnecessarily burdensome on such categories." Similarly, the permit fee provisions include a presumptive minimum fee amount, but authorize an exemption from that presumptive amount upon a showing that a lesser amount will meet overall fee requirements, CAA section 502(b)(3)(B)(iv). One of the drafters of this provision, Rep. Wyden, explained that its purpose was to preserve the flexibility of states to impose lower fees of small businesses:

> I note that the provision on fees allows reductions for small sources where appropriate. The state has some flexibility, under the general permit fee provisions, to adjust fee levels for any source so long as the average fee charged meets the statutory minimum.

136 Cong. Rec. H12884 (Oct. 26, 1990) (statement of Rep. Wyden). *See, e.g.*, 136 Cong. Rec. H2559 (May 21, 1990) (statement of Rep. Wyden) (discussing need to "help small businesses through the air permit labyrinth").

The legislative history also indicates that Congress was deeply concerned both about the need not to burden sources generally with undue costs and to assure the administrability of the title V program, and as a result, was determined to make the program as smooth-running as possible. These goals are reflected in many of the title V requirements, as discussed previously. *See, e.g.*, CAA section 502(b)(6) (requiring "adequate, streamlined, and reasonable procedures for expeditiously determining when applications are complete, for processing such applications, for public notice * * * and for expeditious review of permit actions); CAA section 502(b)(7) (includes a "hammer" provision designed to reinforce timely permit issuance); CAA section 502(b)(9)-(10) (limiting circumstances under which permit revision is required; requiring revision to occur "as expeditiously as practicable;" including operational flexibility provisions).

The legislative history confirms that these provisions were designed to reduce costs to sources and promote administrability. The "Chafee-Baucus Statement of Senate Managers" for the bill explained the purpose of the CAA section 502(b)(6) requirement for "[a]dequate, streamlined, and reasonable procedures for expeditious[ ]" permit actions as follows:

> [M]uch concern has been expressed that this new permitting process will unduly delay the proper functioning of many sources, and we intend to mitigate any delay by directing that the process be expeditious.
>
> In addition to this general directive for expeditious processing, we mandate in new section 503 that permitting authorities approve or reject permit applications within certain specified time periods following filing. In this fashion, we have taken explicit steps to protect against undue delays.

136 Cong. Rec. S16941 (statement of Sen. Chafee). The same statement explained that the permit revision procedures of CAA section 502(b)(9) reflect a—

> careful effort to ensure that the permit program works effectively and efficiently. Succinctly, this provision accommodates two competing concerns. On the one hand, it is important to ensure that permit requirements remain up-to-date as the provisions of the Clean Air Act are developed and new requirements are imposed. On the other hand, it also is important to be sure that we do not reduce the permit program to a shambles by requiring sources to engage in a continuous process of revising their permits as these new requirements are imposed.

136 Cong. Rec. 16942 (Oct. 27, 1990) (Chafee-Baucus statement of Senate Managers) (statement of Sen. Chafee).

In addition, these concerns were at the bottom of the following statement by Sen. Chafee, in which he described how the bill's drafters had revised it in response to a concern by industry that an earlier version of the bill would have put undue costs on industry:

> We have also heard concerns from industry that S. 1630 would burden sources unduly by requiring them to submit—along with their permit applications—plans explaining how they intend to comply with all requirements of the Clean Air Act that apply to them.
>
> But, Mr. President, we emphatically do not intend to burden industry with preparation and submission of unnecessary compliance plans. The substitute clarifies that any compliance plans would address only those matters by which the sources would comply with new requirements imposed by this act as it is finally signed into law.

> These plans would not need to address compliance with any existing Clean Air Act requirements, unless the source is in violation of those requirements.

136 Cong. Rec. S2107 (March 5, 1990) (statement of Sen. Chafee).

As another indication of congressional concern over administrability, Congress recognized that at the beginning of the program, large numbers of permit applications might overwhelm the permitting authorities. To protect against this, Congress included in CAA section 503(c) a phase-in schedule for permitting authorities to act on the initial set of permit applications. Under 503(c), permitting authorities were not required to act on the initial set of permit applications within 18 months after it received the application, but rather could act on one-third of them on an annual basis over a 3-year period. Sen. Chafee, in describing an early version of this provision—which would have allowed permitting authorities to phase in the submission of permit applications—explained that its purpose was "to avoid a logjam of permit applications[,] * * * ensure that [regulatory] gridlock can be avoided, and [ensure] that the permitting process will work with a minimum of disruption and delay." 136 Cong. Rec., S2106 (March 5, 1990) (statement of Sen. Chafee).

(3) Title V Regulatory History

As with PSD, for present purposes, the regulatory history of the title V program is most noteworthy because it shows that beginning shortly after the inception of the program following the 1990 CAA Amendments, EPA has interpreted the statutory title V applicability provisions to apply more narrowly—to any air pollutant *subject to regulation*—than their literal meaning ("any air pollutant"). As discussed previously, title V applies to any "major source," defined, as relevant here, under CAA sections 501(2)(B) and 302(j), as "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant * * *." EPA's regulations mirror the CAA definitional provisions. 40 CFR 70.2.

However, since 1993, EPA has interpreted the applicability provisions more narrowly. At that time, which was shortly after title V was enacted, EPA issued a guidance document making clear that it interprets this requirement to apply to sources of pollutants "subject to regulation" under the Act. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993) (Wegman Memorandum). The interpretation in this memorandum was based on: (1) EPA's reading of the definitional chain for "major source" under title V, including the definition of "air pollutant" under section 302(g) and the definition of "major source" under 302(j); (2) the view that Congress did not intend to require a variety of sources to obtain title V permits if they are not otherwise regulated under the Act (see also CAA section 504(a), providing that title V permits are to include and assure compliance with applicable requirements under the Act); and (3) consistency with the approach under the PSD program.

While the specific narrow interpretation in the Wegman Memorandum of the definition of "air pollutant" in CAA section 302(g) is in question in light of the holding in ***Massachusetts v. EPA***, 549 U.S. 497, 533

(2007) (finding this definition to be "capacious"), we believe that the overall rationale for our interpretation of the applicability of title V remains sound. EPA continues to maintain its interpretation, consistent with CAA sections 302(j), 501, 502 and 504(a), that the provisions governing title V applicability for "a major stationary source" can only be triggered by emissions of pollutants subject to regulation. This interpretation is based primarily on the purpose of title V to collect all regulatory requirements applicable to a source and to assure compliance with such requirements, *see, e.g.*, CAA section 504(a), and on the desire to promote consistency with the approach under the PSD program.

In the Tailoring Rule notice of proposed rulemaking, EPA acknowledged the Wegman Memorandum and affirmed the memorandum's continued viability, stating that "EPA continues to maintain this interpretation." 74 FR 55300, col. 3, fn. 8; *see also* 75 FR 17022-23 (Interpretive Memo reconsideration).

As with PSD, we recount this regulatory history as background information, and we are not reconsidering or re-opening this interpretation of the definition of "major source" narrowly to be limited to pollutants subject to regulation under the Act.

5. Application of the "Absurd Results" Doctrine for the PSD Program

Having reviewed the factual background, legal doctrines, and the key components of the PSD and title V programs, we now turn towards interpreting the PSD and title V requirements in accordance with the *Chevron* framework, accounting for the applicable legal doctrines. We begin with the "absurd results" doctrine, and apply it first to the PSD requirements.

In this action, we finalize, with some refinements, the "absurd results" basis we proposed. Specifically, we are revising our regulations to limit PSD applicability to GHG emitting sources by revising the regulatory term, "regulated NSR pollutant," and although our revised regulations do not accord with a literal reading of the statutory provisions for PSD applicability, which are incorporated into the definition of "major emitting facility" and "major modification," we have concluded that based on the "absurd results" doctrine, a literal adherence to the terms of these definitions is not required. Even so, we believe Congress did intend that PSD apply to GHG sources as a general matter. Further, we may apply PSD to GHG sources in a phased-in manner, as we do through the tailoring approach, because either congressional intent is clear on that issue and the tailoring approach best reflects it, or congressional intent is unclear and the tailoring approach is a reasonable interpretation of the statute.

a. Congressional Purpose for the PSD Program

To reiterate, for convenience, CAA section 169(1) defines a "major emitting facility" to include "any * * * source[] [that] emit[s], or ha[s] the potential to emit, [depending on the source category], one hundred [or two hundred fifty] tons per year or more or more of any air pollutant." CAA section 169(1); and a "modification" as any physical or operational change in "a stationary source which increases the amount of any air pollutant emitted by such source," CAA section 169(2)(C), 111(a)(4). We also reiterate that, as discussed above, beginning with our initial rulemaking in 1977-1978 to implement the PSD program, we have interpreted these definitions more narrowly by reading into them the limitation that a source is subject to PSD only if the air pollutants in question are "subject to regulation under the Act." 40 CFR 51.166(b)(49)(iv). EPA is not re-opening this interpretation in this regulation in this action.

Under the current interpretation of the PSD applicability provision, EPA's recent promulgation of the LDVR will trigger the applicability of PSD for GHG sources at the 100/250 tpy threshold levels as of January 2, 2011. This is because PSD applicability hinges on the definition of "major emitting facility," which, under EPA's long-standing narrowing interpretation, but absent further tailoring, applies PSD to sources of any air pollutant subject that is subject to regulation under another provision of the CAA. EPA's promulgation of the LDVR means that GHGs will become subject to regulation on the date that the rule takes effect, which will be January 2, 2011.

But absent tailoring, the January 2, 2011 trigger date for GHG PSD applicability will subject an extraordinarily large number of sources, more than 81,000, to PSD each year, an increase of almost 300-fold. And the great majority of these new sources will be small commercial or residential sources. We believe that for many reasons, this result is contrary to congressional intent for the PSD program, and in fact would severely undermine what Congress sought to accomplish with the program. As a result, under our *Chevron* analysis, accounting for the "absurd results" doctrine, the statutory definition for "major emitting facility" (as interpreted narrowly to include "subject to regulation") should not be read to apply to all GHG sources at or above the 100/250 tpy threshold as of the January 2, 2011 date. Rather, the definitions of "major emitting facility" and "modification" should be tailored so that they apply to GHG sources on a phased-in basis, with the largest sources first, as we describe in this rule.

As explained previously, *Chevron* Step 1 calls for a determination of congressional intent, and the courts consider the best indicator of congressional intent to be the plain meaning of the statute. However, the U.S. Supreme Court has held that the literal meaning of a statutory provision is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls." *United States v. Ron Pair Enterprises*, 489 U.S. 235, 242 (1989). To determine whether "the intentions of the * * * drafters" differ from the result produced from "literal application" of the statutory provisions in question, the courts may examine the overall context of the statutory provisions, including whether there are related statutory provisions that either conflict or are consistent with that interpretation; and the legislative history to see if it exposes what the legislature meant by the terms in question. In addition, the courts may examine whether a literal application of the provisions produces a result that the courts characterize variously as absurd, futile, strange, or indeterminate, and therefore so illogical or otherwise contrary to sensible public policy as to be beyond anything Congress would reasonably have intended. In such cases, the literal language cannot be said to reflect the intention of the drafters, and therefore does not control. *See United States v. Ron Pair Enterprises*, 489 U.S. 235, 242-43 (1989); *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 571 (1982).

Here, applying the definitions of "major emitting facility" and "modification" literally (as EPA has interpreted them more narrowly) at the present time—in the absence of streamlining measures or additional permitting authority resources, and without tailoring—would be contrary to congressional purpose for the PSD provisions, as found in the statutory provisions and legislative history, especially in light of the impact from applying those definitions literally. Congress established the PSD program in large measure because it was concerned that around the country, industrial development, which was confronting barriers to locating in nonattainment areas (that is, areas that do not meet the NAAQS), would attempt to locate in clean air areas (that is, attainment areas or unclassifiable areas), but that as a consequence, the clean air areas would see their air quality deteriorate to the point where they, too, would no longer meet the NAAQS. The end result would be the spread of environmental and health problems to those formerly clean air areas, as well as more barriers to further industrial development. With these concerns in mind, Congress designed the PSD program to require newly constructing or modifying sources in areas with air quality that meets the NAAQS (or that is unclassifiable) to analyze their emissions of NAAQS pollutants and to implement controls as needed to assure that those emissions do not significantly deteriorate air quality. Many of the PSD requirements, and much of the discussion in the legislative history, reflect these aspects of the PSD program. *E.g.*, CAA sections 162, 163, 164, 165(a)(3), 165(d)(2), 165(e), 166; *see generally* H. Rep. 95-294, 95th Cong., 1st Sess. (1977) 103-78.

Congress also designed the PSD program to impose controls on non-NAAQS pollutants, through the requirement under CAA section 165(a)(4) that the source be "subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility." For example, when Congress enacted the PSD provisions in 1977, sources emitting HAPs were required to implement BACT for those pollutants, although in the 1990 CAA Amendments, Congress redesigned CAA section 112, which includes the requirements for HAPs, and excluded HAPs from PSD. CAA section 112(b)(6).

Congress was keenly aware that the PSD program needed to serve two purposes: Protect the environment and promote economic growth. Congress explicitly identified these two goals in the "purposes" section of the PSD provision, CAA section 160, and various PSD requirements clearly reflect them. For example, to protect economic growth, the PSD program expedites the permit process to include a 1-year limitation on the time that the permitting authority has act on permit applications. To protect the environment, in addition to including many provisions that focus on NAAQS pollutants, the PSD program requires that the preconstruction permit impose emission limits that reflect BACT for each pollutant subject to regulation under another CAA provision. CAA section 165(a)(4). This BACT provision also makes clear, by its terms, that although Congress designed the PSD program largely with NAAQS pollutants in mind, Congress also intended that sources subject to PSD control the emissions of their other pollutants as well. The DC Circuit has recognized the twin goals of environmental protection and economic development that underlie PSD, and has upheld EPA interpretations of the PSD program that reflect a balancing of those goals. *See,* *e.g.*, *New York v. EPA*, 413 F.3d 3, 27 (DC Cir.), *rehearing en banc den.* 431 F.3d 801 (2005).

Congress was also keenly aware that the PSD analyses and controls that it was mandating had to be implemented on a source-by-source basis, and that this process would be expensive for sources. As a result, Congress intended to limit the PSD program to large industrial sources because it was those sources that were the primary cause of the pollution problems in question and because those sources would have the resources to comply with the PSD requirements. Congress's mechanism for limiting PSD was the 100/250 tpy threshold limitations. Focused as it was primarily on NAAQS pollutants, Congress considered sources that emit NAAQS pollutants in those quantities generally to be the large industrial sources to which it intended PSD to be limited.

That Congress paid careful attention to the types and sizes of sources that would be subject to the PSD program and designed the thresholds deliberately to limit the program's scope is evident from the legislative history. Several Senate floor statements and the Committee Report made clear that PSD should not apply to small sources. As discussed later, Congress scrutinized information that EPA provided as to types and sizes of sources, found largely in the Steigerwald-Strelow memorandum. Sen. Muskie stated that the Senate bill excluded "houses, dairies, farms, highways, hospitals, schools, grocery stores, and other such sources." 123 Cong. Rec. 18021 (June 8, 1977) (statement of Sen. Muskie). Sen. McClure stated that PSD should be limited to "industrial plants of significant impact," and should exclude "[a] small gasoline jobber, or a heating plant at a community college, [which] could have the potential to emit 100 tons of pollution annually." 122 Cong. Rec. 24548-49 (July 29, 1976) (statement of Sen. McClure). The Senate Committee Report mirrored Sen. McClure's statement, and concisely articulated the cost-related basis for the line-drawing: "[The PSD] procedure * * * must include an effective review-and-permit process. Such a process is reasonable and necessary for very large sources, such as new electrical generating plants or new steel mills. But the procedure would prove costly and potentially unreasonable if imposed on construction of storage facilities for a small gasoline jobber or on the construction of a new heating plant at a junior college, each of which may have the potential to emit 100 tons of pollution annually." S. Rpt. 95-127 at 96-97.

The DC Circuit had occasion, in *Alabama Power*, to acknowledge this legislative history. "Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air." *Alabama Power*, 636 F.2d at 353. The Court added, "Though the costs of compliance with [the PSD] requirements are substantial, they can reasonably be borne by facilities that actually emit, or would actually emit when operating at full capacity, the large tonnage thresholds specified in section 169(1).". *Id.* at 354.

It is not too much to say that applying PSD requirements literally to GHG sources at the present time—in the absence of streamlining or increasing permitting authority resources and without tailoring the definition of "major emitting facility" or "modification"—would result in a program that would have been unrecognizable to the Congress that designed PSD. Congress intended that PSD be limited to a relatively small number of large industrial sources. Without phasing in PSD and title V applicability to GHG sources so as to allow the development of streamlining methods and increases in permitting authority resources, the PSD program would expand by January 2, 2011, from the current 280 sources per year to almost 82,000 sources, virtually all of which would be smaller than the sources currently in the PSD program and most of which would be small commercial and residential sources. Until EPA could develop streamlining methods, all of the sources that would become newly subject to PSD—whether they be larger or smaller sources, whether industrial or commercial/residential sources—would have to undergo source-specific BACT determinations for their GHG emissions, as well as their emissions of conventional pollutants in amounts in excess of the significance levels. We estimate that the commercial and residential sources—the great majority of which are small business—would each incur, on average, almost $60,000 in PSD permitting expenses. This result would be contrary to Congress's careful efforts to confine PSD to large industrial sources that could afford these costs.

A closer look at the legislative history confirms the view that Congress did not expect PSD to apply to large numbers of small sources, including commercial and residential sources, and instead expected the 100/250 tpy thresholds to limit PSD's applicability to larger sources. As noted previously, Congress relied on an EPA memorandum—the Steigerwald-Strelow memorandum—that identified the range of industrial categories that EPA regulated under its program that constituted the precursor to the statutory PSD program, and listed both the estimated number of new sources constructing each year and the amount of pollution emitted by the "typical plant" in the category. The Steigerwald-Strelow memorandum makes clear that the 100 tpy cut-off for the 28 listed sources categories, and the 250 tpy cut-off for all other sources, would exclude from PSD a large number of sources. 122 Cong. Rec. 24548-50 (July 29, 1976). However, virtually all, if not all, of the sources in half the 28 source categories emit CO_2 in quantities that equal or exceed the 100 tpy threshold, and almost all of the sources in the remaining categories emit CO_2 in quantities that equal or exceed the 100 tpy threshold. Therefore, applying the "major emitting facility" definition to GHG sources, in the absence of streamlining methods and without tailorng, would, as a practical matter, vitiate much of the purpose of the 100 tpy cut-off for industrial sources.[39]

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[39] Specifically, of the 28 source categories under CAA section 169(1), information available to EPA indicates that all of the sources in the following categories emit at least 100 tpy of CO_2 annually: fossil-fuel fired steam electric plants of more than 250 million Btu per hour heat input, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, municipal incinerators capable of charging more than 50 tons of refuse per day, nitric acid plants, petroleum refineries, lime plants, primary lead smelters, fossil-fuel boilers of more than 250 Btus per hour heat input. In addition, all but a few kraft pulp mills and glass fiber processing plants emit at least 100 tpy CO_2 annually. Our information is incomplete with respect to the remaining source categories, but with the possible exception of petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, we suspect that virtually all sources emit at least 100 tpy CO_2 annually. *See* "Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation"; Office of Air Quality Planning and Standards; March 29, 2010.

Most telling, in this regard, is the small-sized boilers, which the Steigerwald-Strelow memorandum describes, in terms of size, pollutants emitted, and numbers of sources, as follows: The memorandum identified two categories of these boilers, differentiated by size. The first ranges in size from 10 to 250 x 10^6 Btu/hr, and has a "typical plant" size of 10^7 Btu/hr, with "BACT emissions from typical plant" of 53 tpy, and a total of 1,446 sources in that category. The second category ranges in size from 0.3 to 10 x 10^6 Btu/hr, and has a "typical plant" size of 1.3 x 10^6 Btu/hr, with "BACT emissions from typical plant" of 2 tpy, and a total of 11,215 sources in the category. That memorandum makes clear that EPA did not believe that sources in these two categories—and especially the smallest one—would be subject to PSD under a 100 tpy threshold, by stating, "Fortunately, most truly small boilers and typical space heating operations would not be covered." 122 Cong. Rec. 24549 (July 29, 1976). However, these data and conclusions were all based on emissions of NAAQS pollutants, the amounts of which placed these boilers well below the PSD threshold limitations. In general, most boilers of these small sizes are fired with natural gas, and a natural gas boiler greater than 0.5 x 10^6 Btu/hr emits at least 250 tpy CO_2. Therefore, if the CO_2 emissions of these small boilers are considered—as would occur by applying the definition of "major emitting facility" to GHG sources without tailoring—then most of them would in fact be subject to PSD. Again, this result would directly contravene Congress's intention to limit PSD to "industrial plants of significant impact." 122 Cong. Rec. 24548-49 (statement of Sen. McClure).

Perhaps the most compelling reason why applying the PSD program to GHG sources without tailoring, and before the development of streamlining methods, would be inconsistent with congressional intent, is that the resulting program would prove unadministrable. Although the legislative history of the PSD program does not reveal much explicit congressional focus on administrability issues, the Steigerwald-Strelow Memorandum, which identifies the source categories and numbers of sources that were before Congress as it considered PSD, suggests that the program that Congress fashioned could be expected to cover at most a few thousand sources each year. This appears to be approximately the size of the program that EPA administered before the 1977 CAA Amendments, so that it seems reasonable to assume that Congress expected the PSD program it enacted to be within EPA's and the states' administrative capacities.

Moreover, the *Alabama Power* court stressed the importance of administrability concerns: Most importantly, the Court held that EPA, in interpreting the "modification" provisions that apply PSD to physical or operational changes by major emitting facilities that "increase the amount of any air pollutant emitted," CAA section 111(a)(4), may "exempt from PSD review some emission increases on grounds of *de minimis* or administrative necessity," and went on to state that in establishing the exemption thresholds, "[t]he Agency should look at the degree of administrative burden posed by enforcement at various *de minimis* threshold levels." 636 F.2d at 400,405. In addition, the Court based its holding that potential-to-emit for purposes of the applicability thresholds should be defined as emissions at full capacity with implementation of control equipment, in part on its view that with this definition, the number of sources subject to PSD would be manageable:

> Though the costs of compliance with section 165 requirements are substantial, they can reasonably be borne by facilities that actually emit, or would actually emit when operating at full capacity, the large tonnage thresholds specified in section 169(1). The numbers of sources that meet these criteria, as we delineate them, are reasonably in line with EPA's administrative capability.

Alabama Power, 636 F.2d at 354. However, applying PSD to GHG sources before streamlining and without tailoring would increase the size of the PSD program at least an order of magnitude beyond what Congress seems to have expected, which would have been far beyond the "administrative capability" that Alabama Power described EPA as having.

Beyond this disconnect with congressional expectations, what is most important is that the extraordinarily large number of permit applications would overwhelm permitting authorities and slow their ability to process permit applications to a crawl. Our best estimate at present is that permitting authorities would need to process almost 82,000 permit applications per year, compared to, at most, 800 in the current PSD program. The total additional workload, in work hours, for PSD permits would be more than 19.5 million more work hours, compared to 150,795 work hours for the current PSD program, and the total additional costs would be over $1.5 billion, compared with $12 million for the current PSD program.

At proposal, we noted that the states had estimated that the influx of permit applications that would result from applying the 250 tpy threshold at actual emissions would, without additional resources, result in permitting delays of 3 years. In fact, as we noted at proposal, a literal reading of the PSD requirements would require their application at the 250 tpy PTE level, which would result in ten times more permit applications than were assumed when the states made the 3-year estimate. Further, our current estimates of the numbers of sources that would be subject to PSD requirements are about twice what we estimated at proposal, as described elsewhere. Moreover, our estimate of the number of hours that permitting authorities would need to process a permit application from a source in the commercial or residential sector—which is, by far, the largest single sector—is three and one-half times as long as we estimated at proposal. And under a literal reading of the PSD applicability provisions as applied to GHG sources, the permitting authorities would be required to implement a program of this size beginning on January 2, 2011, less than 9 months from now. We received many comments from states and industry raising concerns about the cost to sources and administrative burdens of PSD permitting if the statutory threshold were to apply for GHG emissions. One commenter estimated a cost of over $5 billion and the dedication of over 17,000 FTEs to this effort.

We consider it difficult to overstate the impact that applying PSD requirements literally to GHG sources as of January 2, 2011—before streamlining or increasing permitting resources and without tailoring—would have on permitting authorities and on the PSD program, and we are concerned that this impact could adversely affect national economic development. The number of PSD permits that would be required from such an approach is far beyond what the PSD program has seen to date. It is clear throughout the country, PSD permit issuance would be unable to keep up with the flood of incoming applications, resulting in delays, at the outset, that would be at least a decade or longer, and that would only grow worse over time as each year, the number of new permit applications would exceed permitting authority resources for that year. Because PSD is a preconstruction program, during this time, tens of thousands of sources each year would be prevented from constructing or modifying. In fact, it is reasonable to assume that many of those sources will be forced to abandon altogether plans to construct or modify. As a result, a literal application of the PSD applicability provisions to GHG sources would slow construction nationwide for years, with all of the adverse effects that this would have on economic development.

The remedies for this scenario would be for permitting authorities to increase their PSD funding by over 100-fold, from $12 million to over $1.5 billion, or the development by EPA and the permitting authorities of streamlining techniques. But it is not possible for permitting authorities to increase their funding to those levels in the foreseeable future, partly because of the sheer magnitude of those levels and partly because of the financial challenges that states currently face. And, for the reasons discussed later, although streamlining offers genuine promise to improve the manageability of the PSD workload, streamlining cannot do so in the very near term and, in any event, the extent to which it can do so has not yet come into focus.

So clear are at least the broad outlines of this picture that EPA did not receive any substantive comments arguing that permitting authorities could in fact administer the PSD program with the applicability requirements applied literally to GHG sources beginning in the very near future.[40] Every permitting authority that addressed this issue in their comments on the proposed Tailoring Rule stated unequivocally that it could not administer the PSD program at the statutory levels. To cite a few examples (each of which considered both the PSD and title V programs together): NACAA, which represents air pollution control agencies in 53 states and territories, stated it "* * * agrees with the EPA that immediately attempting to implement the PSD and title V programs using the statutory thresholds meets the test for invoking the administrative necessity and absurd results doctrines." Similarly, the California Air Resources Board stated that it "* * * concurs with the United States, EPA that if more appropriate applicability thresholds [as opposed to the statutory thresholds] are not set for GHG it will not be administratively possible to implement these [the PSD and tile V] permitting programs." All other state and local permitting agencies that commented on the proposed tailoring provided similar comments that they would not have the adequate staff capacity or resources to be able to successfully administer their permitting programs with the addition of GHG emission sources at the statutory thresholds for PSD and title V.

It is the many-year delays in permit issuance and the consequent chilling of economic development that provide perhaps the clearest indication that applying the PSD applicability provisions to GHG sources without tailoring produces absurd results. These effects would undermine one of Congress's central purposes in establishing the PSD program, which was to promote development in clean air areas by large industrial sources (as long as they included environmental safeguards). As discussed previously, this goal is manifest in the structure of the PSD provisions, and Congress even went so far as to make this goal explicit in the purposes section of the PSD provisions.

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[40] EPA did receive a smaller number of comments that asserted in conclusory fashion that permitting authorities could administer the 100/250 tpy levels.

Moreover, at the present time, there is relatively little environmental benefit in subjecting large numbers of small GHG sources to the expensive, source-by-source PSD permitting requirements. They represent a relatively small share of the GHG inventory and the control options available to them, at present, are limited. As a result, approaches other than source-by-source permitting presently offer more promise for generating emissions reductions in an efficient manner. These approaches, which may be developed through both federal and state efforts, include requirements, incentives, and educational outreach to promote efficiency improvements to boilers and furnaces and energy efficient operations, including, for example, weatherization programs.

For all these reasons, interpreting the definition of "major emitting facility" and "modification" literally—that is, as EPA has interpreted them more narrowly, but without tailoring and before the program requirements can be streamlined or permitting authority resources can be increased—would produce results that are not consonant with, and, in fact, would severely undermine, Congress's purpose for the PSD program. These results may fairly be characterized as the type of absurd results that support our view that the literal terms of the PSD applicability provisions do not indicate congressional intent for how those provisions should applied to GHG sources.

b. Congressional Intent for the Applicability Provisions

(1) Congressional Intent for Whether and How PSD Applies to GHG Sources

Several of the PSD provisions and statements in the legislative history are particularly important in determining whether and how the PSD program should apply to GHG sources, as discussed elsewhere:

(1) The applicability provisions, under CAA section 165(a) and 169(1). These provisions are written broadly, and although, as we explain above, they cannot be read literally to apply to GHG sources at or above the 100/250 tpy, they nevertheless can be read to indicate that directionally, Congress intended that PSD be applied inclusively.

(2) The various PSD provisions that identify the pollutants subject to PSD. Compare, *e.g.*, CAA sections 162, 163, 164, 165(a)(3), 165(d)(2), 165(e), and 166 (NAAQS pollutants) with CAA sections 165(a)(3)(C), 165(a)(4) (other pollutants). These provisions indicate that a major purpose of the PSD program is to control NAAQS pollutants, but that the program also covers non-NAAQS pollutants.

(3) The requirement that permitting authorities act on PSD applications within 1 year. CAA section 165(c). This provision indicates that Congress anticipated the PSD program would be of a size that would allow permitting authorities to meet this deadline.

(4) The purpose provision. CAA section 160. This provision makes clear that PSD is designed both

> to protect public health and welfare and to promote economic growth.
>
> (5) In addition, we consider important the legislative history indicating the Congress intended PSD to apply to large industrial sources because they were the primary source of the air pollution problems and they have the resources to manage the demands of the PSD permitting process; and that, by the same token, Congress expected that small sources would not be subject to PSD. The legislative history does not specifically mention GHG sources.

Looking at these provisions and the legislative history together, we think Congress can be said to have intended that the PSD program apply to GHG sources as a general matter. The most important indication of congressional intent in this regard is the applicability provisions, which provide, in part, that PSD applies to (i) "any * * * source[that] emit[s], or ha[s] the potential to emit [the specified quantity] of any air pollutant," CAA section 169(1); and (ii) to any such source that undertakes a physical or operational change that "increases the amount of any air pollutant emitted." CAA section 169(2)(C), 111(a)(4). These terms are quite broad, and should be read to include GHG sources and GHGs. *See Massachusetts v. EPA*, 549 U.S. 497, 533 (2007) ("Because greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,' we hold that EPA has the statutory authority to regulate the emission of such gases from new motor vehicles."). Moreover, including GHG sources—under certain circumstances—is consistent with the PSD provisions that refer to other pollutants, establish the time-frame for acting on PSD applications, and establish the overall purpose of the program. In addition, including GHG sources—again, under certain circumstances—is consistent with the legislative history that PSD be limited to sources that cause a meaningful part of the air pollution problem and have the resources to manage the PSD requirements. No PSD provision explicitly imposes any limitation of PSD to large industrial sources, and Congress's reasoning for focusing on large industrial sources—which was that these sources are best suited to handle the resource-intensive analyses required by the PSD program—could extend to GHG sources under certain circumstances (that is, large sources first, and smaller sources after streamlining methods are developed). Similarly, as discussed previously, it is reasonable to read into Congress's intent that the PSD program be limited to a size that permitting authorities would be able to administer, but it is consistent with that reading to recognize that the permitting authorities could take certain steps—including adoption of streamlining measures and ramping up resources—that would allow them to handle a higher volume of permitting. Finally, we find nothing in the PSD provisions or legislative history that would indicate congressional intent to exclude GHG sources. Accordingly, we believe that Congress must be said to have intended an affirmative response for whether PSD applies to sources of GHGs as a general matter. Our previous regulatory action defining the PSD applicability provisions made this clear, and we do not reopen this issue in this rulemaking. Moreover, even if this long-established regulatory position were not justifiable based on *Chevron* Step 1—on the grounds that in fact, congressional intent on this point is not clear—then we believe that this position, that the statutory provisions to apply PSD to GHG sources in general, was justified under *Chevron* Step 2.

As to how PSD applies to GHG sources, although, for reasons discussed previously, the 100/250 tpy threshold provision, which establishes the scope of PSD applicability, should not be read as applying literally to GHG sources—and as a result, the applicability provision as a whole cannot be said to have a plain meaning as to the scope of coverage of GHG sources—we believe that the applicability provisions and legislative history nevertheless indicate a congressional intent for how PSD should apply to GHG sources. That is to apply PSD to as many sources as possible as quickly as possible, at least to a certain point. We believe that this intent can be inferred from the inclusiveness of the applicability provision, combined with the legislative history that focuses on Congress's desire to include in the PSD program sources that have the resources to comply with the requirements and, as the Court in *Alabama Power* recognized, Congress's concern about administrability. That is, at first, PSD may apply to the largest GHG sources because they may be expected to have the resources to comply with PSD's requirements and permitting authorities may be expected to accommodate those sources; and over time, with streamlining and increases in permitting authority resources, PSD may apply to more GHG sources. As discussed later, the tailoring approach is consistent with congressional intent in this regard.

We recognize the tension between the applicability provisions, which are inclusive, and the statements in the legislative history that express Congress's expectation that PSD be limited to large industrial sources. At least to a point, the applicability provisions and these statements can be reconciled by recognizing that the reason why Congress expected that PSD would be limited to large industrial sources was that Congress recognized that PSD applied on a source-by-source basis, that this would be costly to sources, and that only the large industrial sources could afford those costs. Taking certain actions—including streamlining PSD requirements—can render PSD more affordable and thereby allow its application to smaller sources in a more cost-effective manner. In this way, PSD's inclusive applicability provisions can be reconciled with the narrower scope Congress expected, and this is part of the reason why we characterize congressional intent as being consistent with phasing in the applicability of PSD to GHG sources through the tailoring approach.[41]

On the other hand, if Congress cannot be said to have expressed an intent as to the manner and scope of PSD applicability to GHG sources, then, under

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[41] Reconciling the applicability provisions with the statements in the legislative history in this manner is also consistent with the U.S. Supreme Court's view that the Clean Air Act has inherent flexibility, as it stated in *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007):

> While the Congresses that drafted § 202(a)(1) might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete. The broad language of § 202(a)(1) reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence. *See Pennsylvania Dept. of Corrections v. Yeskey*, 524 U. S. 206, 212 (1998) ("[T]he fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth" (internal quotation marks omitted)).

Chevron Step 2, EPA may apply a reasonable interpretation of the applicability provisions to determine the scope of coverage of GHG sources that is consistent with the statutory requirements. The Tailoring Rule is a reasonable interpretation under *Chevron* Step 2. It is consistent with (1) The applicability provisions, recognizing that as we have seen, those provisions cannot be applied literally under these circumstances,[42] (2) the provisions described above concerning which pollutants the PSD provisions cover and the timetable for permitting authority action on PSD applications; (3) the purpose provisions of PSD, and the accompanying legislative history, because it protects public health and welfare without inhibiting economic development; and (4) the legislative history indicating Congress intended that PSD be limited to sources that cause a meaningful part of the problem and can manage its requirements, because it will expand PSD's applicability only after streamlining methods and greater permitting authority resources will allow for such an expansion in an orderly manner.

(2) Criteria for Establishing Phase-in Schedule

The specific phase-in schedule under the tailoring approach will depend on several things. The first is our progress in developing streamlining methods that will render the permitting authority workload more manageable by taking some sources off the table (through regulations or guidance interpreting PTE), and by allowing for more efficient permit processing (through general permits and presumptive BACT). At the same time, streamlining techniques will lower permitting costs to sources or even eliminate some sources' obligations to obtain permits altogether. The second is the time that permitting authorities need to ramp up their resources in an orderly and efficient manner to manage the additional workload. The third is information we have as to the sources' abilities to meet the requirements of the PSD program and the permitting authorities' ability to process permits in a timely fashion. That information will be based on the real-world experience the permitting authorities will accumulate as they proceed to process permit application for the larger GHG sources.

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[42] For the reasons discussed above, we believe that Step 2 of the *Chevron* framework, which authorizes the exercise of agency discretion as long as the agency remains consistent with a reasonable construction of the statute, does not require a literal construction of the statute in a case such as this one, in which the "absurd results" doctrine applies so that the statutory requirements cannot be read literally.

Thus, under our present approach, we will develop streamlining techniques, we expect the permitting authorities to ramp up resources in response to the additional demands placed upon them in the first two steps, and we will gather real-world information about the GHG permitting process; and based on all that, we will address expanding the PSD program in a step-by-step fashion to include more sources over time. We intend to follow this process to establish both the PSD applicability thresholds and, as we describe next, the significance levels.

(3) Criteria for Establishing Significance Levels[43]

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[43] It should be noted that strictly speaking, we do not, in our drafting of the regulatory revisions that are part of this rulemaking, establish a significance level for GHG emissions based on CO_2e. Rather, we establish an applicability criteria for determining whether GHGs are subject to regulation with respect to the particular source. We explain our approach in more detail in the Response to Comments document. Throughout

The criteria for establishing the significance levels are the same as for establishing the "major emitting facility" thresholds. As noted previously, under the applicable CAA sections, any physical or operational change at a stationary source that "increases the amount of any air pollutant emitted by such source" or that results in the emission of a new pollutant is treated as a "modification" that is subject to PSD requirements. Although the CAA, by its terms, treats as an "increase" any amount of emissions that is greater than zero, the DC Circuit held in *Alabama Power v. Costle* that EPA may establish a threshold—called the significance level—on *de minimis* grounds for the amount of any particular pollutant that may be increased. 636 F.2d at 400.

Of particular importance, the Court in *Alabama Power* indicated that EPA may rely on administrative considerations to establish significance levels. *Id.* To reiterate, the Court held that "EPA does have discretion, in administering the statute's 'modification' provision, to exempt from PSD review some emission increases on grounds of *de minimis* or administrative necessity." 636 F.2d at 400. The Court added a more detailed exposition of its views in a subsequent part of its opinion, where it discussed the BACT provision, under CAA section 165(a)(4), and the Court made clear that those views applied as well to the "modification" provision. There, the Court invalidated an EPA regulation that established a 100- and 250-tpy exemption from the BACT requirement. Both the BACT provision and the modification provision apply by their terms to all emissions from a source, but the Court stated that each provision must be read to incorporate an

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this preamble, we refer to this action, for convenience, as a significance level.

exemption based on *de minimis* or administrative considerations, and explained:

> We understand that the application of BACT requirements to the emission of all pollutants from a new facility, no matter how miniscule some may be, could impose severe administrative burdens on EPA, as well as severe economic burdens on the construction of new facilities. But the proper way to resolve this difficulty is to define a *de minimis* standard rationally designed to alleviate severe administrative burdens, not to extend the statutory 100 or 250-ton threshold to a context where Congress clearly did not apply it. Just as for the applicability of PSD to modifications, the *de minimis* exemption must be designed with the specific administrative burdens and specific regulatory context in mind. This the Agency has failed to do. We do not hold that 100 tons per year necessarily exceeds a permissible *de minimis* level; only that the Agency must follow a rational approach to determine what level of emission is a *de minimis* amount.
>
> A rational approach would consider the administrative burden with respect to each statutory context: what level of emission is *de minimis* for modification, what level *de minimis* for application of BACT. Concerning the application of BACT, a rational approach would consider whether the *de minimis* threshold should vary depending on the specific pollutant and the danger posed by increases in its emission. The Agency should look at the degree of administrative burden posed by enforcement at various *de minimis* threshold levels. It is relevant that our decision requires the Agency, in its evaluation of

> emissions of facilities, to take into account the facility's air pollution controls. It may also be relevant, though it is certainly not controlling, that Congress made a judgment in the Act that new facilities emitting less than 100 or 250 tons per year are not sizeable enough to warrant PSD review.

Id. at 405. As just quoted, the Court acknowledged the 100 and 250 tpy thresholds for a major emitting facility, and did not indicate whether the modification exemption level could exceed those statutory levels, but nevertheless, the Court made clear that EPA may "consider the administrative burden" associated with modifications to establish an exemption level for modifications.

EPA has established significance levels for various pollutants, generally relying on a *de minimis* basis. *See, e.g.*, 45 FR 52676, 52705-52710 (August 7, 1980). In these actions, EPA generally established the level based on the triviality of the amount of emissions excluded. To this point, we have not attempted to determine *de minimis*—that is, trivial—levels for GHGs. Instead, in this rulemaking, EPA is establishing a phase-in schedule for significance levels based on the *Chevron* framework, accounting for the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines. It is not necessary to establish a permanent *de minimis* level in this rulemaking. For one thing, the Court in Alabama Power explicitly authorized an administrative basis for significance levels. Moreover, were EPA to establish a *de minimis* level, that amount could be below—perhaps even well below—the "major emitting facility" thresholds established in this rulemaking on grounds of "administrative necessity" and the other doctrines.

Accordingly, at present, if we were to establish a permanent significance level on a *de minimis* basis, that level could result in too many small sources being required to submit permit applications while the phase-in is occurring. This would give rise to the same problems concerning undue costs to the sources and administrative burdens for the permitting authorities for which we are fashioning a remedy. Accordingly, the significance levels we establish with this action are the lowest levels that sources and permitting authorities can reasonably be expected to implement at the present time in light of the costs to the sources and the administrative burdens to the permitting authorities.

c. Other Possible Approaches to Reconciling a Literal Reading of PSD Applicability Provisions and Congressional Intent

Commenters have suggested another approach to reconciling the inconsistency between the definition of "major emitting facility" and congressional intent. They urge that the "major emitting facility" definition should be applied so that only sources that emit NAAQS pollutants, for which the area is designated attainment or unclassifiable, in the requisite quantities would be subject to PSD, and sources would not be subject to PSD based solely on their emissions of non-NAAQS pollutants or a NAAQS pollutant for which an area has been designated nonattainment. Some commenters argue that this approach is mandated by several of the PSD provisions, read together or at least that the relevant statutory provisions are ambiguous and that this approach is a reasonable reading of them. Under this approach, we would not need to phase in the application of PSD by lowering the applicability threshold for GHG emitters.

Specifically, many commenters have questioned whether EPA has the authority to regulate GHGs under the PSD provisions. Although the specific lines of reasoning vary somewhat from one commenter to another, in general, they based their arguments largely on CAA sections 161 and 165(a). Under CAA section 161:

> In accordance with the policy of section 101(b)(1), each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 107 as attainment or unclassifiable.

Commenters point out that section 107 applies only to NAAQS pollutants and directs that areas be designated as attainment, nonattainment, or unclassifiable on a pollutant-by-pollutant basis. Under CAA section 165(a), a "major emitting facility" cannot be constructed "in any area to which this part applies" unless it meets certain requirements. According to some commenters, these provisions, read together, limit PSD's applications to only NAAQS pollutants that are emitted from sources in areas that are designated attainment or unclassifiable for those pollutants. Other comments make a similar point, except to state that PSD applies more broadly to pollutants with a local, ambient impact.

Some commenters go on to take the position that NAAQS pollutants for which the area is designated attainment or unclassifiable are the only pollutants that can be regulated under any provision of the PSD requirements; while others take the position that once PSD is triggered for a source on the basis of its NAAQS pollutants, then other, non-NAAQS, pollutants may be regulated under certain PSD provisions, in particular, the BACT provision under CAA section 165(a)(4). These commenters agree, however, that emissions of GHGs, by themselves, cannot trigger PSD applicability. Finally, some commenters state that even if the PSD provisions cannot be read by their terms to preclude GHGs from triggering PSD, then they can be read to authorize EPA to determine that GHG emissions do not trigger PSD.

We recognize, as we have said elsewhere, that a major purpose of the PSD provisions is to regulate emissions of NAAQS pollutants in an area that is designated attainment or unclassifiable for those pollutants. However, we do not read CAA sections 161 and the "in any area to which this part applies" clause in 165(a), in the context of the PSD applicability provisions, as limiting PSD applicability to those pollutants. The key PSD applicability provisions are found in sections 165(a) and 169(1). Section 165(a) states, "No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless [certain requirements are met]." A "major emitting facility" is defined, under CAA section 169(1), as "any * * * stationary source[s] which emit[s], or ha[s] the potential to emit, one hundred [or, depending on the source category, two hundred fifty] tons per year or more of any air pollutant." As discussed elsewhere, EPA has long interpreted the term "any air pollutant" to refer to "any air pollutant subject to regulation under the CAA," and for present purposes, will continue to read the "subject to regulation" phrase into that term.

Although section 165(a) makes clear that the PSD requirements apply only to sources located in areas designated attainment or unclassifiable, it does not, by its terms, state that the PSD requirements apply only to pollutants for which the area is designated attainment or unclassifiable. Rather, section 165(a) explicitly states that the PSD requirements apply more broadly to any pollutant that is subject to regulation. Moreover, another requirement in CAA section 165(a) also applies to air pollutants broadly. Under CAA section 165(a)(3), one of the requirements for securing a preconstruction permit is to demonstrate that the source's emissions "will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area [to which the PSD requirements apply], (B) [NAAQS] in any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter." As just quoted, subparagraph (C), by its terms clearly applies to non-NAAQS pollutants. This is because it refers to (1) "any other applicable emission standard," which distinguishes it from subparagraph (B) and therefore from NAAQS pollutants; and (2) "any * * * standard of performance under this chapter," which refers to standards of performance under section 111, several of which are for non-NAAQS pollutants. *See, e.g.*, 40 CFR 60.33c(a) "municipal solid waste landfill emissions." By the same token, CAA section 110(j) specifically contemplates that a source required to hold a permit under title I of the Act, which includes a PSD permit, demonstrate that the source complies with "standards of performance," which may include requirements for pollutants other than NAAQS.

In addition, CAA section 163(a)(4) includes as a PSD requirement that "the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility." Section 163(a)(4)'s broad reference to "each pollutant subject to regulation under this chapter" clearly indicates that it applies to non-NAAQS pollutants, as long as they are regulated under other provisions of the Act.[44] The DC Circuit, in *Alabama Power v. Costle*, 636 F.2d 323, 361 n.90 (DC Cir. 1980) indicated that, under the law applicable at the time the Court handed down the decision in 1980, PSD applies to HAPs.[45]

In addition, PSD requirements are part of SIPs, and although SIPs generally are limited to provisions that implement the NAAQS, and therefore generally are limited to controlling NAAQS pollutants (or non-NAAQS pollutants that affect ambient air quality), *see generally* CAA section 110, Congress explicitly required SIPs to include requirements to protect visibility, under CAA section 169A-B. *See* CAA sections 110(a)(2)(D)(i)(II), 169A(b)(2)(A). Congress took much the same approach with the PSD program, which was to require that PSD requirements be included in the

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[44] We find no support for the proposition raised by some commenters that this provision is limited to "NAAQS" pollutants. To the contrary, "under this chapter" unambiguously signals an intent to cover any pollutant regulated under the Act. Had Congress intended a narrower focus, they would have specified "any NAAQS pollutant" or any pollutant subject to regulation under this Part (PSD).

[45] In the 1990 CAA Amendments, Congress added section 112(b)(6), which provides that PSD "shall not apply to pollutants listed under this section," that is, HAPs.

SIPs, but to explicitly require that PSD apply to non-NAAQS pollutants.

These provisions—sections 165(a)(3), 165(a)(4), and 110(j)—all indicate by their terms that PSD requirements apply to non-NAAQS pollutants. As such, they lend credence to our view that Congress intended the PSD applicability provisions to include GHG sources. At the very least, they demonstrate that Congress certainly knew how to specifically describe certain air pollutants—*e.g.*, "air pollution in excess of * * * any other applicable emission standard or standard of performance under this chapter," CAA section 165(a)(3)(C)—which indicates that its decision not to specifically describe air pollutants in the applicability provisions suggests an intent to cover air pollutants broadly.

To return to sections 161 and the "in any area to which this part applies" phrase in 165(a), which commenters rely on as the cornerstone of their argument, commenters in effect take the position that Congress intended the geographic references in these provisions—that is, the references to areas designated as attainment or unclassifiable—to limit the scope of the permitting provisions. We think it unpersuasive that Congress would have taken such an indirect, and silently implied, route to limit the scope of the permitting provisions. As noted previously, the permitting provisions apply broadly by their terms. Had Congress intended to limit PSD permitting in the manner urged by commenters, it certainly could have done so directly, such as by limiting PSD permitting to "any pollutant for which an area is designated attainment or unclassifiable." Indeed, Congress did so in other PSD provisions, discussed previously. Similarly, in other sections of the CAA, Congress also directly limited the scope of pollutant applicability by specifying which pollutants are or are not subject to the provision. *See, e.g.*, section 111(d) (performance standards for existing sources apply only to pollutants other than NAAQS or HAPs), section 112(a)(1) (applying air toxics requirements in section 112 to sources that emit above the specified tonnage thresholds of "hazardous air pollutants").

In addition, although section 161 requires that SIPs contain emission limitations and other measures as necessary to prevent significant deterioration in areas designated as attainment or unclassifiable, it does not by its terms limit SIPs to only those measures.

Most broadly, we read the PSD provisions and their legislative history to evidence Congress's intent that PSD apply throughout the country to large sources that undertake new construction or modifications, and that Congress's overall purpose was to assure that, as the industrial stock of the nation turned over, it would become cleaner for all air pollutants emitted. Greenhouse gas sources, as a general matter, fit readily into this overall vision. At the time that Congress enacted the PSD provisions in 1977, every area of the nation was designated attainment or unclassifiable for at least one air pollutant, and that has remained the case to the present time. Accordingly, at all times, PSD has applied in every area of the country. The PSD requirements clearly cover all air pollutants emitted by the source, and provide a process for reviewing those emissions and determining BACT for them under CAA section 165(a)(4). It is true that at the time Congress adopted the PSD provisions, it was primarily concerned about the NAAQS pollutants—or, as some commenters assert, pollutants with local, ambient impact—because those pollutants represented a major component of the air pollution problems it was aware of and was addressing. But its overall purpose was broad enough to cover additional pollutants; the process it enacted for establishing BACT was broad enough to encompass additional pollutants; and the applicability provisions it established were phrased broadly enough to encompass additional pollutants, *see* section 169(1). As a result, we believe that the PSD applicability provisions, which, again, refer to, as we have interpreted them, "any air pollutant [subject to regulation under the CAA]," should be seen as "capacious" and therefore encompass GHG sources, in much the same manner as the U.S. Supreme Court viewed the definition of "air pollutant" to be "capacious" and therefore encompass GHGs. *Massachusetts v. EPA*, 549 U.S. 497, 533 (2007).

In addition, it should not be overlooked that we have applied PSD to non-NAAQS pollutants since the inception of the program over 30 years ago. For example, prior to the 1990 CAA Amendments, PSD applied to HAPs regulated under CAA section 112; and over the years, EPA has established significance levels for fluorides, sulfuric acid mist, hydrogen sulfide, TRS, reduced sulfur compounds, municipal waste combustor organics, municipal waste combustor metals, municipal waste combustor acid gases, and municipal solid waste landfill emissions, *see* 40 CFR 51.166(b)(23)(i); and EPA has proposed a significance level for ozone depleting substances. *See* 61 FR 38307 (July 23, 1996). Of course, the basis for all these actions is PSD's applicability to these non-NAAQS air pollutants. We are not aware that EPA's actions in establishing significance levels for these pollutants gave rise to challenges on grounds that the PSD provisions do not apply to them. As the U.S. Supreme Court recently stated in upholding an EPA approach in another context: "While not conclusive, it surely tends to show that the EPA's current practice is a reasonable and hence legitimate exercise of its discretion * * * that the agency has been proceeding in essentially this fashion for over 30 years." *Entergy Corp. v. Riverkeeper, Inc.*, 129 S.Ct. 1498, 1509 (2009) (citations omitted).

Finally, we note that excluding GHG sources from PSD applicability would create inequitable results. Consider the hypothetical case of two sources that construct in the same area, each of which emits the same amount of GHGs, and that amount is large enough to trigger PSD applicability. Assume that the first one, but not the second, also emits NAAQS pollutants amounts large enough to trigger PSD applicability. If GHG sources are excluded from PSD applicability, then the first of those sources, but not the second, would be subject to PSD requirements for its GHG emissions. Similarly, consider the hypothetical case of two sources that emit identical amounts of the same NAAQS pollutant and identical amounts of GHGs, all amounts of which are large enough to trigger PSD applicability requirements. Assume that the first source constructs in an area that is an attainment or unclassifiable area for the NAAQS pollutant that it emits, and that the second source constructs in an area that is not an attainment or unclassifiable area for that NAAQS pollutant. Here again, if GHG sources are excluded from PSD applicability, then the first of those sources, but not the second, would be subject to PSD requirements for its GHG emissions. These results are inequitable and would create an uneven playing field and for this reason, too, support our view that the PSD applicability provisions apply to GHG sources.

Accordingly, we reject the argument that section 165 must be, or may reasonably be, limited in scope to pollutants for which an area has been designated as attainment or unclassifiable. Rather, the PSD applicability provision—the definition of "major emitting facility" in CAA section 169(1)—applies by its terms (as we have interpreted them narrowly through regulation) to sources emitting any air pollutant subject to regulation, and is not limited to any NAAQS air pollutant. Our research has not disclosed any explicit statements in the legislative history that Congress intended to limit PSD applicability to sources of NAAQS pollutants.

6. Application of the "Absurd Results" Doctrine for the Title V Program

Having discussed the application of the *Chevron* framework, taking account of the "absurd results" doctrine, for the PSD applicability requirements, we now turn towards applying the same approach to the title V applicability requirements. Because of the parallels between the PSD and title V applicability provisions, much of the discussion later parallels the previous discussion of PSD. As with PSD, we finalize, with some refinements, the "absurd results" basis we proposed. Specifically, we are revising our regulations to limit title V applicability to GHG emitting sources by revising the regulatory term, "major source," and although our revised regulations do not accord with a literal reading of the statutory provisions for title V applicability, which are incorporated into the statutory definition of "major source," we have concluded that based on the "absurd results" doctrine, a literal adherence to the terms of this definition is not required. Rather, we may apply title V to GHG sources in a phased-in manner, as we do through the tailoring approach, because although congressional intent is clear that title V applies to GHG sources in general, congressional intent is unclear on the question of how title V applies, and the tailoring approach is a reasonable interpretation of the statute.

To reiterate, for convenience, the title V applicability provisions provide that after the effective date of a title V program, it is unlawful for any person to operate a "major source" without a title V permit (CAA section 502(a), and define a "major source" to include "any major stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." CAA sections 501(2)(B) and 302(j).

Under the current interpretation of the title V applicability provisions, EPA's recent promulgation of the LDVR will trigger the applicability of title V for GHG sources at the 100 tpy threshold levels as of January 2, 2011. This is because title V applicability hinges on the definition of "major source," which, under EPA's long-standing narrowing interpretation, but absent further tailoring, applies title V to sources of any air pollutant that is subject to regulation under another provision of the CAA. EPA's promulgation of the LDVR means that GHGs will become subject to regulation on the date that the rule takes effect, which will be January 2, 2011.

But absent tailoring, the January 2, 2011 trigger date for GHG PSD applicability will see an extraordinarily large number of sources—some 6.1 million—become subject to title V, an increase of over 400-fold over the 14,700 sources that currently are subject to title V. The great majority of these will be small commercial or residential sources.

We believe that for many reasons, this result is contrary to congressional intent for the title V program, and in fact would severely undermine what Congress sought to accomplish with the program. As a result, under *Chevron*, accounting for the "absurd results" doctrine, the statutory definition for "major source" (as EPA has already narrowed it to refer to any air pollutant "subject to regulation") should not be read to apply to all GHG sources at or above the 100 tpy threshold as of the January 2, 2011 date. Rather, the definition of "major source" should be tailored so that it applies to GHG sources on a phased-in basis, with the largest sources first, as we describe in this rule.

a. Congressional Intent for the Title V Program

As we said, previously, in a similar circumstance involving the PSD program, applying title V requirements to GHG sources without tailoring the definition of "major source"—and, as discussed later, without streamlining the title V requirements or allowing for time for permitting authorities to ramp up resources—would result in a program unrecognizable to the Congress that enacted title V, and one that would be flatly unadministrable. Without tailoring, the PSD program would expand from the current 14,700 sources to some 6.1 million, with the great majority of the sources being small commercial and residential sources that not only have never been permitted before, but that in many cases have no applicable requirements under the CAA to include in the permit. In the next several sections, we will describe some of the specific ways that this literal application of title V would not only differ from, but would undermine, congressional intent. But the big picture is readily drawn: The influx of millions of permit applications would do nothing less than overwhelm the program Congress finely crafted for thousands of sources, with its multi-step deadlines measured in days and months, its multiple mandates for expeditious permit processing, its nuanced limitations on the need for permit revisions, its efforts to save smaller sources permit fees. Regulatory gridlock, precisely what Congress strove to avoid, would result.

Most visibly, interpreting the applicability provisions literally to include GHG sources at the 100 tpy level immediately would revise the program from what Congress envisioned in three major ways, the legislative history of each of which was discussed previously:

- It would immediately expand the program to cover several-hundred-fold more sources than Congress anticipated.
- It would immediately expand the program to cover very small sources that Congress expected would not be included in the program.
- It would immediately expand the program so that a large number of sources have empty permits, that is, permits without applicable requirement, and undermine the implementation of the program for sources with applicable requirements.

Revising the program in this way through a literal interpretation of the applicability provisions—without tailoring the applicability requirements and without streamlining the program requirements—is clearly inconsistent with Congress's conception of the program's scope, and these inconsistencies are foundational. Most importantly, the program that would result would be unduly costly to sources and impossible for permitting authorities to implement, and therefore would frustrate the purposes that Congress intended to achieve with the program that it did design.

As discussed previously, Congress was fully aware that with the title V program, it was subjecting sources and permitting authorities to additional costs and administrative burdens, and it was fully aware of concerns that absent careful design, the program could become a formula for regulatory gridlock. Determined to make the program workable, Congress crafted the provisions to be efficient and workable.

However, if title V were to apply to GHG sources at the 100 tpy level, until EPA could develop streamlining methods, all of these sources newly subject to title V would need to apply for permits. We estimate that the commercial and residential sources would incur, on average, expenses of $23,175, while an industrial source would incur expenses of $46,350, to prepare a permit application and receive a permit. The great majority of these sources would be small commercial and residential sources of the type that Congress did not expect would be included in title V. For example, as discussed above, the legislative history of title V, including both the permit program under CAA sections 501-506 and the "small business stationary source technical and environmental compliance assistance program" under CAA section 507, indicated that Congress did not expect that "printers, furniture makers, dry cleaners, and millions of other small businesses" would become subject to title V. House Committee Report, H.R. 101-590, at 354. These sources generally do not have the potential to emit conventional pollutants at or above the 100 tpy threshold.[46] However, many do have the potential to emit GHGs above that threshold. Many printers and furniture makers use a variety of combustion equipment that has the potential to emit at least 100 tpy CO_2, and many commercial dry cleaners have gas-fired driers that have the potential to emit at least 100 tpy of CO_2. All told, there are in fact "millions of * * * small businesses" that would become subject to title V—of the 6.1 million sources that would become subject to title V, the great majority are small businesses—if the title V applicability provisions are applied literally to GHG sources.

Moreover, the overall cost to all 6.1 million sources—before the development of streamlining methods—would be a staggering $49 billion per year over a 3 year period. Imposing burdens of this magnitude on these sources—individually and in total—would of course be contrary to Congress's efforts to minimize the expenses of title V, especially to small sources. The magnitude of the costs is, in a sense, heightened because a great many of these sources will not have applicable requirements to include in their permits; therefore, much of the costs will produce relatively little benefit.

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[46] As noted previously, the fact that some small sources are subject to title V because they are "major sources" of HAPs or certain area sources and therefore are covered under CAA sections 502(a) and 501(2)(A) does not alter the conclusion from the legislative history that Congress did not expect large numbers of small sources to become subject to title V. The fact that Congress authorized the Administrator to exempt area sources from the title V program where compliance with title V would be "impracticable, infeasible, or unnecessarily burdensome" reinforces the conclusion that Congress did not intend the program to be "impracticable, infeasible or unnecessarily burdensome" for small sources.

Yet, the most important reason why applying the title V program to GHG sources without tailoring, and before the development of streamlining methods, would be inconsistent with congressional intent, is that the resulting program would prove unadministrable. Adding some 6.1 million permit applications to the 14,700 that permitting authorities now handle would completely overwhelm permitting authorities, and for all practical purposes, bring the title V permitting process to a standstill.

The costs to permitting authorities of this multi-million-source program would again be staggering. On average, and without streamlining, a permitting authority would expend 214 hours, which would cost $9,844, to issue a permit to a commercial or residential source; and 428 hours, which would cost $19,688, to issue a permit to an industrial source. In all, permitting authorities would face over $21 billion in additional permitting costs each year due to GHGs, compared to the current program cost of $62 million each year.

Beyond this disconnect with congressional expectations as to scope of the program, the extraordinarily large number of permit applications would overwhelm permitting authorities and slow their ability to process permit applications to a crawl. As described at proposal, the survey of permitting authorities conducted by NACAA found that a literal application of the title V applicability provisions to all GHG sources would result in permitting delays of some 10 years. However, as we further noted at proposal, this estimate was based on the assumption that the applicability threshold would be 100 tpy based on actual emissions; in fact, the applicability threshold would be 100 tpy based on PTE, which would sweep in many more sources. Moreover, as stated elsewhere, we currently estimate the amount of per-permit work hours for permitting authorities in processing title V permit applications to be several times higher than what we estimated at proposal. As with PSD, such a program would be beyond anything within our experience, and it is difficult to give a meaningful estimate for how long the permitting process would take for each permit on average. But it is clear that the period would be many years longer than even the 10 years estimated by NACAA.

In addition, applying title V to all GHG sources without tailoring would be in tension with a specific CAA requirement, that of CAA section 503(c), which imposes a time limit of 18 months from the date of receipt of the completed permit application for the permitting authority to issue or deny the permit. It would be impossible for permitting authorities to meet this statutory requirement if their workload increases from some 14,700 permits to 6.1 million, and without streamlining. Instead, as just noted, permit applications would face multi-year delays in obtaining their permits.

Moreover, these delays would undermine the overall statutory design that promotes the smooth-running of the permitting process, and the underlying purpose of the title V program itself. As noted elsewhere, Congress intended through title V to facilitate sources' compliance with their CAA obligations by establishing an operating permit program that requires the source to combine all of its CAA requirements, and explain how it will assure compliance with such requirements. Congress established a comprehensive process to implement the operating permit program. Through this process, following the date that sources become subject to title V, they have 1 year to submit their permit applications. CAA section 503(c). As noted, the permitting authority then has 18 months to issue or deny the permit. CAA section 503(c). Permitting authorities must provide an opportunity for public comment and a hearing. CAA section 502(b)(6). If the permitting authority proposes to issue the permit, the permitting authority must submit the permit to EPA for review, and notify affected states. CAA section 505(a)(1). EPA then has 45 days to review the permit and, if EPA deems it appropriate, to object to the permit. CAA section 503(b)(1). If EPA does object, then the permitting authority must, within 90 days, revise it to meet the objections, or else EPA becomes required to issue or deny the permit. CAA section 503(c). If EPA does not object, then, within 60 days of the close of the 45-day review period, any person may petition EPA to object, and EPA must grant or deny the petition within 60 days. CAA section 505(b)(2). This set of applicant, permitting authority, and EPA actions and deadlines establishes the process for the prompt and efficient issuance of operating permits for the appropriate universe of sources.

But at least for an initial period, until resources could be ramped up and streamlining methods could be developed, the extraordinary numbers of these permit applicants would sweep aside this carefully constructed program, and instead, backlog the permit authorities. This initial period would last for many years. As discussed elsewhere, it would take several years to develop and apply streamlining measures—in particular, general permits—and during that time, the permit backlog would grow so large that it would take many more years for permitting authorities to catch up by raising the requisite funds and hiring and training the necessary employees.

What's more, only a fraction of these millions of sources newly covered by title V will be subject to any CAA requirements due to their GHG emissions, and we suspect that a larger number will not be subject to any CAA requirements at all. As a result, for most of these sources, although they would need to apply for and receive a permit, there would be no applicable requirements to include in the permit and thus the exercise would not improve compliance.

The picture that emerges from a literal application of title V's requirements to all GHG sources—at the 100 tpy level, beginning on January 2, 2011—shows multi-year delays in issuance of all permits, for both the sources that have applicable requirements and that Congress clearly intended the program to cover, and for the millions of sources that may not be subject to any applicable requirements. In short, this literal interpretation would apply title V to millions of sources that Congress did not expect be covered, and the ensuing administrative burdens—at least initially—would impede the issuance of permits to the thousands or perhaps tens of thousands of sources that Congress did expect be covered. This is the type of "absurd results" from a literal application of statutory provisions that the courts have held should be avoided. And even beyond all that, the sheer magnitude of the numbers involved—millions of permits requiring thousands of FTEs at a cost to the permitting authorities of billions of dollars, all this beginning immediately at the time that GHGs become subject to regulation—makes clear that this result of a literal application of the title V provisions to GHG sources cannot be what Congress intended.

b. EPA's Reconciliation of Applicability Provisions With Congressional Intent

For the reasons just described, we should not consider the literal meaning of the applicability provisions to be determinative of congressional intent as to the applicability of title V to all GHG sources; rather, we should examine other provisions of the statute and the legislative history to determine congressional intent on that question. If congressional intent is clear, we must adopt and implement an applicability approach that is as close as possible to congressional intent; and if congressional intent is not clear, then we must select an interpretation that is reasonable and consistent with the statutory requirements. This section explains EPA's view of congressional intent for the applicability of the title V program to GHG sources and the principles and approach EPA is using for tailoring. In addition, we also respond to other approaches that were suggested by commenters.

To determine congressional intent, we consider the statutory provisions and legislative history, and this analysis is similar to that for PSD. The most important title V provisions and legislative history for this purpose are the following:

(1) The applicability provisions themselves, which, as we have interpreted them, apply title V to all sources that emit at least 100 tpy of any air pollutant subject to regulation. CAA sections 502(a), 501(2)(B), 302(j). Although we do not believe these provisions should be applied literally to GHG sources, their broad phrasing indicates, directionally, a congressional intent towards inclusiveness of sources in title V, including GHG sources.

(2) The provisions for general permits, CAA section 504(d); and title V fees, CAA section 502(b)(3)(A). These provisions give title V an important measure of flexibility as to its scope. The explicit authorization of general permits means that title V may be applied to more sources and more efficiently, thereby saving costs to both source and permitting authority. The requirements for permit fees provide a mechanism for permitting authorities to, over time, develop their programs to cover more sources. In this sense, these provisions could be construed to indicate congressional intent to apply title V inclusively, to the extent that permitting authorities can accommodate additional sources through general permits and permit fees.

(3) The detailed procedural requirements—including time periods, such as the 18-month time period for action on permit applications—for title V permit processing. CAA sections 503, 505. Although these requirements are consistent with applying title V to GHG sources—in the sense that at least in theory, there is nothing intrinsic to GHG sources that would mean that permitting authorities could not comply with these requirements—these requirements cast doubt on whether Congress can be said to have intended that title V cover the many small GHG sources (at least immediately) in light of the risk that including all those sources in title V would strain the process.

(4) The provisions and legislative history concerning applicable requirements, which indicate that a purpose of title V is to include sources' applicable requirements in their permits. CAA sections 503(b)(2), 504(a). These provisions, and

> the accompanying legislative history, discussed previously, suggest an intent to include within title V GHG sources that have applicable requirements, but may also suggest that Congress would not have intended to include in title V the large numbers of GHG sources that have "empty permits," at least where their inclusion would undermine implementation of the program for sources with applicable requirements.
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> (5) The small-business-assistance provisions of section 507 and the legislative history of title V—both the permitting program and the small-business-assistance program—concerning the scope of the permitting program and small businesses. These indicate that Congress intended title V to cover some tens of thousands of sources, and did not intend that title V apply to small businesses. These provisions and legislative history suggest that Congress did not intend for title V to apply to include large numbers of small GHG sources.

Finally, the legislative history of title V does not explicitly mention GHG sources, which could suggest that Congress did not have occasion to focus on whether and how title V would apply to GHG sources.

With all this, we believe that Congress had a clear intent on the question of whether title V generally applies to GHG sources, and that was that it does. As with PSD, the most important indication of congressional intent in this regard is the applicability provisions, which provide, in part, that title V applies to "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, [the requisite quantity] of any air pollutant." CAA sections 502(a), 501(2)(B), 302(j). This term is quite broad, and should be read to include GHG sources. *See Massachusetts v. EPA*, 549 U.S. 497, 533 (2007) ("Because greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,' we hold that EPA has the statutory authority to regulate the emission of such gases from new motor vehicles."). Moreover, including GHG sources—under certain circumstances—is consistent with the various statutory provisions and statements in the legislative history described previously.

In the alternative, if it is concluded that Congress did not express a clear intent on that question, then, under *Chevron* Step 2, EPA exercises its discretion to conclude that title V applies to GHG sources as a general matter. This is a reasonable policy because applying the title V program to at least the larger GHG sources will assure promote accountability and enforceability for those sources, which is a key goal of the title V program, and will not impose obligations that are beyond the resources of those sources or insurmountable burdens on the permitting authorities. This policy is a reasonable interpretation of the statutory provisions for the same reasons just discussed.

As to the question of how title V applies to GHG sources, we believe that Congress cannot be said to have expressed a clear intent. A central aspect of how title V is to apply to GHG sources concerns "empty permits," and on this aspect, some of the above-described provisions and statements in the legislative history point in different directions. This is particularly true of, on the one hand the title V applicability provisions, which apply by their terms inclusively and, on the other hand, the requirement that sources include applicable CAA requirements in their permits, and the statements in the legislative history indicating that Congress intended title V to cover sources subject to other CAA requirements.

Because Congress cannot be said to have expressed an intent as to the manner and scope of title V applicability to GHG sources, then, under *Chevron* Step 2, EPA may apply a reasonable interpretation of the applicability provision to determine the scope of coverage of GHG sources that is consistent with the statutory requirements. The Tailoring Rule qualifies as such an interpretation. The Tailoring Rule in effect reads the applicability provisions not to apply title V to GHG sources at or above the 100 tpy level, but instead to apply title V to as many of the GHG sources at or above that level as possible and as quickly as possible, starting with the largest sources first, that is consistent with both the permitting authorities' ability to administer the program and with a sensible imposition of costs to sources. This tailoring approach is consistent with the inclusive direction of the applicability provision, the flexibility in title V's scope that is inherent in the provisions authorizing general permits and requiring permit fees, the detailed process requirements, and the legislative history that focuses on Congress's concern about costs to sources and administrability. With the tailoring approach, over time, more sources may be included in title V, consistent with those provisions and legislative history. This reconciles the inclusiveness of the applicability provisions with Congress's expectations of a more limited scope for the title V program.[47]

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[47] As with PSD, this way of reconciling the PSD applicability provisions with Congress's expectations for a narrower PSD program is consistent with the U.S. Supreme Court's view that the CAA should be read to include "regulatory flexibility, [without

However, as part of the tailoring approach, we recognize that we may at some point determine that it is appropriate to exclude certain sources, such as the smallest of the GHG sources. In addition, we intend to address the issue of sources with "empty permits" in a later rulemaking, as discussed previously.

The specific phase-in schedule will depend on the following: We will gather information about the permitting authorities' ability to process permits, and we will develop streamlining techniques. Based on that information, we will address expanding the title V program in a step-by-step fashion to include more sources over time. Each step will be based on our assessment of the permitting authorities' and sources' ability to comply with their respective obligations under the title V program.

We recognize that the availability of permit fees to support title V permit actions creates a potentially important source of resources, and that this has implications for the permitting authorities' ability to implement the title V program for sources of GHGs. At least in theory, permitting authorities could assess and collect sufficient fees to support hiring and training sufficient personnel so that they could expand their programs to match the expansion in the number of sources covered by the program.

Even so, title V fees cannot be considered a panacea that will resolve all resource problems that permitting authorities will have, for several reasons. Permitting authorities will likely be constrained as to the rate in which they can increase fees in light of the costs to

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which] changing circumstances and scientific developments would soon render the Clean Air Act obsolete." *Massachusetts v. EPA*, 549 U.S. 532.

sources. As indicated elsewhere, at least at the outset of the program before streamlining techniques have been developed, a literal application of the title V applicability provisions to GHG sources would, on average, cost each industrial source $46,400 and each commercial or residential source $23,200 to complete the permit application and take other associated actions; and it would cost each permitting authority, on average, $19,688 to process the industrial source permit and $9,844 to process the commercial or residential source permit. Particularly in light of the high costs to sources of applying for a permit, it is not likely that permitting authorities would be able to pass on to the sources in the form of fees, the entirety of the permitting authorities' own high costs for processing those permits, at least not right away. Even to the extent it would be possible to raise permit fees, permitting authorities would have to undergo a process to assess, impose, and collect those fees, and then hire and train personnel. The survey from the state and local agencies described previously forecast a 2-year period for hiring and training, without counting time for the fee process. For these reasons, we do not believe that the authorization for fees will allow the permitting authorities either to accelerate Steps 1 or 2 of the tailoring schedule or to permit a larger number of sources at those steps. Step 1 will take effect on January 2, 2011, Step 2 will take effect on July 1, 2011, and the process for determining and collecting fees, and then hiring and training personnel will take at least several years after July 1, 2011.

Moreover, we do not believe that the authorization for fees means that permitting authorities can reasonably be expected to permit title V sources at levels below 50,000 tpy CO_2e before 2016. The next level below 50,000 tpy CO_2e for which we have data is

25,000 tpy CO_2e, and the costs to permitting authorities to run their programs at that level ($126 million) is more than double their current costs ($62 million). We do not consider it reasonable to expect permitting authorities to more than double their program within the first 6 years of title V applicability to GHG sources. That it is not reasonable to expect that is made even clearer when the permitting authorities' burdens in implementing their PSD programs are considered. The ability of permitting authorities to impose fees may have more important implications for subsequent steps, and as we address those subsequent steps in future rulemakings, we will consider the fees. EPA's approach to fees in this rulemaking is discussed elsewhere.

c. Other Possible Approaches to Reconciling Literal Reading of Title V Applicability Provisions and Congressional Intent

Having described how the *Chevron* framework, accounting for the "absurd results" doctrine, applies to title V requirements in this case and why it supports this Tailoring Rule—under which we expect to apply title V to more sources, in a step-by-step fashion, over time—we turn to the last part of our discussion of this doctrine. Here, we address another possible approach suggested by comments, which is that EPA should apply the title V program only to sources that are subject to applicable requirements, so that sources should not be required to hold "empty permits" (*e.g.*, permits issued to a source that is not subject to any applicable requirement for any pollutant). To the extent that commenters argue that the statute requires EPA to adopt a "no-empty-permits" theory, we disagree. We believe that although various provisions of title V indicate that one of title V's purposes is to gather a source's applicable requirements into a single permitting mechanism, *see* CAA sections 503(b)(1), 504(a), we do not read those provisions as expressly limiting, as a matter of *Chevron* Step 1, title V to sources with applicable requirements. The applicability provisions, by their terms, include sources based on amount of emissions, and do not include any explicit limits to applicability based on whether the sources has applicable requirements. As described previously, we believe that Congress, although clearly expressing an intent that title V apply to GHG sources generally, did not express a clear intent as to how title V applies to GHG sources. The tension between these two sets of provisions, which we identified in the proposal and commenters further discussed, provides further support for that conclusion. Accordingly, we have discretion under *Chevron* Step 2 to determine a reasonable approach, consistent with the statutory requirements, concerning the application of title V to GHG sources with empty permits.

We note that to date, we have issued permits to sources without applicable requirements, albeit on rare occasions. We have little reason to believe that the "empty-permits" issue will arise in Steps 1 and 2 of our tailoring approach because we believe there will be no "empty permits" in Step 1 or Step 2 or, if there are, that they will be very few in number. As stated elsewhere, we believe that the tailoring approach we adopt in this rulemaking for Steps 1 and 2 is a reasonable approach that is consistent with statutory requirements.

We need to gather more information concerning the potential number and utility of "empty permits" for GHG sources, in light of the fact that the need for requirements in title V permits will vary based on the requirements of each SIP, and the fact that some SIPs contain broadly applicable requirements. As stated elsewhere, we intend to consider the issue of the applicability of title V to GHG sources with "empty permits" in Step 3 of our tailoring approach. When we do so, we will further assess the potential for the approach of excluding empty permits from title V to relieve burden consistent with statutory requirements.

7. Additional Rulemaking for the PSD and Title V Programs

The previous sections 5 and 6 discussed our application of the *Chevron* framework, accounting for the "absurd results" doctrine, to the PSD and title V applicability requirements, respectively. As another point in this regard, which is relevant for both PSD and title V purposes, we also commit to subsequent rulemakings in which we may further address the "absurd results" doctrine.

Specifically, we will propose or solicit comment on establishing a further phase-in, that is, a Step 3, that would apply PSD and title V to additional sources, effective July 1, 2013, and on which we commit to take final action, as supported by the record, by no later than July 1, 2012. We further commit to completing another round of rulemaking addressing smaller sources by April 30, 2016. Our action in that rulemaking would take into account the severity of the remaining problems associated with permitting authority burden and source costs.

While committing to future action, we do not decide in this rule when the phase-in process will ultimately end, or at what threshold level, because all that depends on uncertain variables such as our progress in developing streamlining approaches and on permitting authorities' progress in developing permitting expertise and acquiring more resources. We may continue the phase-in process with further rulemaking(s) after 2016. Alternatively, we may make a final determination through future rulemaking that, under the "absurd results" doctrine, PSD and/or title V do not apply to GHG sources that, while small and relatively inconsequential in terms of GHG contribution, are above the statutory tonnage thresholds for these programs, and thereby end the phase-in process. In addition, we may consider whether to limit title V applicability to GHG sources in order to minimize the number of GHG sources with "empty" permits.

8. Rationale for the Phase-In Schedule for Applying PSD and Title V to GHG Sources

Having discussed in sections V.B.5, V.B.6, and V.B.7 the reasons for tailoring the PSD and title V programs, we now describe our rationale for selecting the specific phase-in schedule in this rule for applying PSD and title V to GHG-emitting sources. To reiterate for convenience, under Step 1 of this schedule, which begins on January 2, 2011, (1) PSD applies to the GHG emissions of "anyway" PSD sources, that is, sources that are subject to PSD anyway due to their emissions of conventional pollutants and that undertake a modification that results in an increase of at least 75,000 tpy CO_2e; and (2) title V applies to "anyway" title V sources, that is, sources that are subject to title V anyway due to their emissions of conventional pollutants. Under Step 2, which begins on July 1, 2011, (1) sources will be subject to PSD on account of their GHG emissions if they newly construct and emit at least 100,000 tpy CO_2e, or if they are existing sources that emit at least 100,000 tpy CO_2e of GHGs and make a modification that results in the emission of at least 75,000 tpy CO_2e; and (2) existing and new sources will be subject to title V on account of their GHG emissions if they emit 100,000 tpy CO_2e in GHG emissions. In addition, EPA intends to begin another round of rulemaking—Step 3—in 2011 and commits to complete it by July 1, 2012. In that rulemaking, we will propose or solicit comment on a further phase-in of GHG sources for PSD and title V applicability, and we may propose or solicit comment on another application of the "absurd results" doctrine that excludes categories of sources from PSD or title V. However, under this rule, in no event will EPA apply PSD or title V to sources below the 50,000 tpy CO_2e levels in Step 3, or any other step we might promulgate prior to April 2016. In addition, EPA commits to conduct a study, to be concluded by April 30, 2015, evaluating the status of PSD and title V applicability to GHG sources, and, based on the study, complete a rulemaking by April 30, 2016 that addresses another round of a phase-in.

a. Rationale for Step 1

In Step 1 of our tailoring approach, which begins on January 2, 2011, PSD and title V requirements will apply to only those sources that are subject to PSD or title V requirements anyway due to their conventional pollutants ("anyway" sources) and that, in the case of PSD, make modifications that result in an increase in GHG emissions of at least 75,000 tpy CO_2e. No sources would become major for PSD or title V under this step based on their GHG emissions alone. This section describes our proposal, comments on the proposal and our response to those comments, and our rationale for Step 1.

(1) Proposal

In our proposal, we proposed (1) the application of PSD and title V requirements to sources that emit at least 25,000 tpy CO_2e, (2) a PSD significance level of between 10,000 and 25,000 tpy CO_2e, and (3) a commitment to undertake a study to be followed by further rulemaking after 6 years. In addition, we solicited comment on the alternative of limiting PSD and title V applicability to "anyway" sources for at least the first 6 years. Under this approach, PSD and title V applicability would be determined based on non-GHG pollutants, and without regard to GHGs, but those sources subject to PSD would also be subject to BACT requirements for GHGs if their GHG emissions exceeded the significance level established in the final rule, and those sources subject to title V would be required to include any applicable requirements for GHGs in their permits.

(2) Comments

Many commenters supported this "anyway"-source approach, and offered a variety of reasons: According to the commenters, (1) This approach is a better reading of Congress's intent in the Act and is consistent with *Alabama Power v. Costle*, 636 F.2d 323 (DC Cir. 1980); (2) this approach would reduce the permitting workload on sources currently considered minor and focus PSD and title V requirements on large sources of non-GHG pollutants, as intended by Congress; (3) it is appropriate to base PSD and title V applicability on non-GHG emissions until data on GHG emissions are available from the mandatory GHG reporting rule; (4) in the initial phase, this approach would be more straightforward to administer, would provide a more predictable permitting workload, and would prevent a flood of newly regulated sources from overburdening state agencies; (5) this approach would provide permitting agencies time to develop experience handling GHG sources and requirements under the PSD and title V programs; (6) this approach would provide EPA and the permitting agencies the time needed to develop streamlining techniques; (7) this approach is consistent with the "absurd results" and "administrative necessity" doctrines because the scope of the permitting programs would remain consistent with both congressional intent and current administrative practice, but EPA and state agencies would still be allowed to begin regulating GHG emissions from existing PSD and title V sources; and (8) sources already required to obtain PSD permits are best equipped to work through BACT issues with permitting authorities.

Commenters added that if BACT is applied for GHGs due to permit actions involving non-GHG pollutants, EPA would need to set a significance threshold for the application of BACT, without which BACT could apply to very small (*e.g.*, 1 ton) GHG increases associated with projects that otherwise triggered PSD for increases of non-GHG.

(3) Determination as to Step 1, PSD and Title V Applicability and PSD Significance Level

After considering the administrative burdens from increased permitting actions and the need for permitting authorities to have sufficient time to develop necessary expertise and staffing resources to address that burden, we have decided in this final action to establish the "anyway" source approach as Step 1. Beginning on January 2, 2011, sources subject to PSD requirements for their conventional pollutants anyway will be required to apply BACT to their GHG emissions if they construct or modify and in so doing, emit at least 75,000 tpy CO_2e in GHGs. Similarly, sources subject to title V requirements anyway due to their conventional pollutants will be required to meet certain requirements for their GHGs, as described elsewhere. These requirements at Step 1 for PSD and title V will not expire. On July 1, 2011, a further phase-in of PSD and title V applicability—Step 2—will kick in.

At Step 1, by definition, all of the covered sources are already subject to PSD and title V permitting requirements, and will simply be adding a GHG component to what would be an otherwise occurring permitting action for conventional pollutants. These sources include fossil fuel-fired power plants, petroleum refineries, cement plants, iron and steel plants, pulp and paper plants, petroleum refineries, large landfills, and other large industrial sources. These sources will need to perform some additional analysis that is unique to GHG emission units, particularly related to the BACT review and selection process, but they will likely be able to utilize information developed as part of other permitting requirements for conventional pollutants, such as equipment fuel usage and operational parameters. Also, because these facilities are familiar with the case-by-case permitting processes, including all the steps from the application to the final review process, they will not confront a high PSD or title V learning curve.

The "anyway" source approach has particular appeal during the first step of the phase-in approach because it begins to apply key PSD and title V program requirements as soon as January 2, 2011 to large sources of emissions, but because it applies only to sources that are already subject to PSD for other pollutants, it can be implemented efficiently and with an administrative burden that is manageable in the next 8 months. We expect that under this approach, the sources and permitting authorities will still face substantial additional work to address the GHG emissions. In addition to the activities discussed elsewhere, there will be significant and complex policy questions about how BACT will be implemented for GHGs that must be resolved. These issues will include how to determine BACT for GHGs, how to do netting, and other similar issues. Even with EPA guidance, many case-specific policy issues will arise and will have to be resolved by the permitting authority in the context of a specific permit application. Nevertheless, with the "anyway" source approach, this work will be manageable because the associated permitting burden will be limited to adding a GHG component to each existing permit action for which it will be required, and will avoid the significantly greater burdens associated with large numbers of new permit actions that would be required for sources and modifications that would be subject to PSD for the first time. Instead, this "anyway" source approach allows permitting authorities sufficient time to develop necessary expertise and staffing resources to address GHG BACT.

We agree with commenters that the establishment of a significance level—which, in effect, is a BACT threshold—is appropriate, and we have decided to establish this level at 75,000 tpy CO_2e because, for reasons discussed later, that is the level that will apply during Step 2. At this level, the administrative burdens, described later, will be manageable. Importantly, we believe a consistent significance level between Steps 1 and 2, as opposed to a lower significance level in Step 1, will provide for a smoother transition and avoid the problems that would arise if PSD applied to modifications during Step 1 that PSD would not apply to in Step 2. Otherwise, we would create a perverse incentive for companies to delay such projects until Step 2 to avoid BACT.

We estimate that Step 1 will result in a 23 percent increase in permitting authority work hours and a $3 million increase—which amounts to a 25 percent increase from the current program cost of $12 million—in their annual costs for running PSD programs. This is primarily due to the GHG BACT review requirements. For title V programs, we estimate a 2 percent increase in permitting authority work hours and a $1 million increase in the title V annual program costs for permitting authorities under Step 1 as compared to the current program cost of $62 million. These work hours and costs will be needed primarily to review GHG emissions information, add any GHG-related requirements to title V revisions and renewal actions that would otherwise be occurring, respond to comments and petitions from the public, as well as develop fee requirements and make fee determinations associated with issuing new or revised title V permits that add GHG-related information. For both the PSD and title V programs on a combined basis, the additional costs for Step 1 will be $4 million, which amounts to a 5 percent increase in the current combined program cost of $74 million.

In addition to these workload and monetary costs, permitting authorities will confront additional burdens before and during Step 1, which we have not attempted to quantify. One of the most significant of these is training staff in the PSD-related areas of GHG emissions calculations and BACT evaluations. In addition, permitting staff will need to build staff expertise and capacity for addressing GHG requirements in preparation for Step 2, which will begin only 6 months after Step 1; and in communicating and providing outreach to sources addressing GHG emissions for the first time. Based on comments we received on the proposal from permitting authorities, we believe these additional training and outreach requirements—for both the PSD and title V programs—will add significantly to the permitting authorities' burden during the initial 6-month period under Step 1.

We believe that these administrative burdens are substantial but manageable. Following this action, permitting authorities will have only 8 months to prepare for Step 1, when they will need to increase their resources by 5 percent for both the PSD and title V programs combined, and be able to implement BACT requirements for GHG sources. During Step 1, they will need to prepare for Step 2, when, as discussed later, they will need to process over 900 additional PSD permits each year and begin to process over 1,100 additional title V permit actions.

We have decided to limit Step 1 to the "anyway" source approach, and not apply PSD or title V to sources based on their GHG emissions, for several reasons. First, we believe that the administrative burdens described previously are the most that the permitting authorities can reasonably be expected to manage before and during Step 1. Tighter PSD and title V applicability requirements would mean greater administrative burdens.

Second, we believe that the costs of GHG permitting to the sources, as described previously, are substantial and as a result, necessitate that we wait for the permitting authorities to develop the PSD and title V programs for GHG sources during the first 6 months of 2011 before subjecting sources to PSD and title V requirements on account of their GHG emissions. By July 1, 2011, when Step 2 takes effect, the PSD and title V programs will be better developed. For example, the permitting authorities will have more experience making BACT determinations. In addition, by that time, sources will have had more time to prepare for the permitting processes. In addition, as suggested by one commenter, the additional time will allow sources and permitting authorities to address the current uncertainty surrounding how to measure high-GWP gases.

Third, we estimate that "anyway" sources account for approximately 65 percent of total national stationary source GHG emissions. As a result, limiting Step 1 to these sources will still capture a large portion of the GHG inventory.

A large number of commenters urged us to leave this "anyway" source approach in place until such time as we complete an assessment and conduct further rulemaking, which we proposed would be 6 years from now. We are not taking this action; rather, for the reasons discussed next, we believe it is reasonable to use GHG thresholds to begin to phase in PSD and title V applicability to additional sources in Step 2.

b. Rationale for Step 2

(1) Proposal

We proposed to establish the applicability level for PSD and title V to GHG sources at 25,000 tpy CO_2e, and we proposed a PSD significance level in the range of 10,000 to 25,000 tpy CO_2e. Our burden estimates at proposal led us to conclude that at those threshold levels, for the PSD program, "approximately 400 additional new or modified facilities would be subject to PSD review in a given year. These include approximately 130 new facilities and approximately 270 modifications * * *." 74 FR 55331, col. 1. We estimated that processing these numbers of additional permits, along with doing the additional work associated with GHG emissions from sources subject to PSD anyway due to their conventional emissions, would increase permitting authority burdens by "approximately 112,000 staff hours at an additional cost of approximately $8 million. This workload amount represents an increase of about 1.3 times, or 32 percent, in the current burden for permitting authorities on a nationwide basis." *Id.* col. 3. We concluded that "this additional burden is manageable," but that "any threshold lower than 25,000 tpy CO_2e, would create undue administrative burdens." *Id.*

For the title V program, we estimated that at a 25,000-tpy CO_2e permitting threshold, "about 13,600 existing facilities" would become subject to title V, and that to manage the additional workload associated with permitting those sources and with the other permit revisions and modifications that would result from the 25,000 tpy CO_2e threshold, permitting authorities would require an additional 492 FTEs, which would be an estimated 50 percent increase over current title V staffing levels. 74 FR 55335, cols. 1-2.

(2)Comments

We received a significant number of comments from both permitting authorities and industry representatives that our proposed GHG threshold of 25,000 tpy CO_2e for major source applicability was too low and would result in an unmanageable amount of permitting actions in the near term. Many offered evidence that we severely underestimated both the number of permitting actions and the per-permit administrative burden, for both PSD and title V programs.

Commenters also asserted that the proposed 25,000 tpy threshold is too low because it will subject small sources (including many small businesses) to PSD and title V, which is not in keeping with Congress's intent to limit PSD and title V to large sources when Congress set the 100/250 tpy thresholds for the permitting programs. EPA, in collaboration with the SBA, conducted an outreach meeting designed to exchange information with small entities that may be interested in these regulations. The EPA took this small business outreach effort into account when finalizing this rule. Many commenters from this outreach effort said that there were many more small businesses that would become subject to PSD and title V due to the proposed permitting thresholds than EPA estimated at proposal.

Many commenters recommended specific major source thresholds for PSD and title V, including levels of 25,000 (as proposed), 40,000, 50,000, 100,000, 150,000, 250,000, and 1,000,000 tpy CO_2e. A majority of the commenters—including both industry and state agency commenters—recommended major source thresholds of 100,000 tpy CO_2e. However, several state agency commenters recommended thresholds of 50,000 tpy CO_2e. Other commenters recommended sector-specific thresholds. For example, solid waste industry commenters suggested thresholds of 820,000 tpy CO_2e for PSD [which they calculate to be equivalent to the existing PSD threshold for "municipal solid waste landfill emissions," *i.e.*, 250 tpy nonmethane organic compounds (NMOC)] and 320,000 tpy CO_2e for title V (calculated to be equivalent to the existing major source applicability threshold of 100 tpy NMOC). Other commenters urged EPA to set the GHG thresholds at levels that correspond to emissions of conventional pollutants at the 100/250 tpy level.

Many of the commenters that recommended increasing the thresholds cited EPA's estimates that a particular threshold would significantly reduce the number of sources subject to the rule while causing only a slight reduction in the percentage of GHGs captured. Several of these commenters noted that Table VIII-2 in the proposal preamble indicates that shifting the major source threshold for PSD from 25,000 to 100,000 tpy CO_2e would reduce the number of major sources from 13,661 to 4,850 while reducing the coverage of U.S. stationary source GHG emissions by only about 4 percent. Other commenters referred to the regulatory impact analysis (RIA) for the mandatory GHG reporting rule to conclude that raising the threshold from 25,000 to 100,000 tpy CO_2e would exclude thousands of entities that, on a combined basis, emit only one percent of the nation's GHG emissions. *See* the RTC document for this final rulemaking for more detailed description of comments received on our proposed burden assessment.

Many commenters also recommended specific PSD GHG significance thresholds, including levels of 10,000 (as proposed), 15,000 (within the proposed range), 25,000 (also as proposed), 40,000, 50,000, and 100,000, and 150,000 tpy CO_2e, as well as suggesting sector-specific thresholds. These recommendations were based on the view that we had underestimated the number of modifications and that the burden of permitting at the proposed levels would therefore be much worse than we projected. A number of the commenters argued that the significance threshold should be no less than the major source threshold, at whatever level that is set. The largest number of commenters recommended a PSD significance threshold of 100,000 tpy CO_2e, although significant numbers also support 25,000 and 50,000 tpy CO_2e.

(3) Rationale for Step 2

Based on these comments, we reassessed our original burden estimates from our proposal. This reassessment is discussed at the beginning of this section. We decided that, once this adjustment is taken into account, the burdens at the proposed 25,000 threshold and the proposed 10,000-25,000 significance levels would be unmanageable. We therefore evaluated higher thresholds ranging from a 25,000 tpy CO_2e major source applicability level for PSD and title V to a 50,000, 75,000, or 100,000 tpy CO_2e level, with associated PSD GHG significance levels of equal or lesser magnitude; and we selected the 100,000/75,000 tpy CO_2e level. Central to our decision to promulgate higher thresholds than what we proposed is our recognition, based on comments and further analysis, that applying PSD to GHG sources at the statutory or any other threshold level or significance level that we have considered would result in (1) a greater number of sources, and significantly greater number of modifications than we first estimated becoming subject to those programs; and (2) a greater per-permit cost than we first estimated to the permitting authority of processing those permit actions. We discussed our revised estimates and reasoning at the beginning of this section.

We now estimate that the 25,000/25,000 tpy level would result in 250 additional PSD permit actions for new construction (either for GHG-only sources or additions to otherwise occurring permits) and an additional 9,200 PSD permits for modifications each year (compared to our estimate at proposal of 130 for new construction and 270 for modifications). This level of permitting would require an additional 2,815,927 work hours, or 1,400 FTEs (compared to our estimate at proposal of 112,000 additional work hours, or 57 FTEs); and would cost an additional $217 million each year (compared to our estimate at proposal of an additional $8 million). *See* 74 FR 55331 (proposal). This $217 million amount represents approximately a 1,800 percent increase over current permitting authority annual cost of $12 million for the major NSR programs.

For title V, under our final burden analysis at a 25,000 tpy CO_2e threshold, we estimate a $64 million annual increase in program costs to permitting authorities to add GHG emission sources, which reflects a greater than 100 percent increase over current program costs of $62 million. We estimate that this increased burden would result in the need for almost 700 new FTEs nationwide at permitting authorities (compared to our estimate at proposal of 492 additional FTEs, or about a 50 percent increase in existing program size). This increase in burden is due to an estimated annual increase of 2,500 new title V permits, over 9,500 permit revisions, and over 2,600 permit renewal actions due to GHG emission sources. These additional title V actions compare to current annual program actions of approximately 50 new title V permits, 1,394 significant revisions, and 3,267 permit renewals.

Based on this information, we have decided not to finalize our proposal to apply a 25,000 tpy CO_2e applicability threshold to GHG sources at the time that PSD and title V take effect. At that level, too many sources—many more than we thought at proposal—would be subject to high permitting costs. In addition, permitting at that level and at that time would not be administratively feasible. The resulting increase in the number of PSD and title V permitting actions and workload would create insurmountable resource demands for permitting agencies in the near term, which would jeopardize the functioning of these permitting programs. We are mindful that not only would the permitting programs have to bear the costs that our estimates are able to monetize, but they would also incur burdens associated with hiring and training staff to make and implement GHG BACT determinations, GHG emissions evaluations, and other evaluations required under the PSD program for a wide variety of formerly unpermitted sources, including significant numbers and types of small manufacturing and commercial or residential establishments. They would also incur burdens associated with reviewing applications, citizen comment and petitions, and the need to communicate and provide outreach to new categories of sources, including, again, significant numbers and types of small manufacturing and commercial or residential sources. Thus, the increased administrative burdens at the 25,000/25,000 tpy CO_2e levels are so great that we have concluded that they would not be consistent with the goals of avoiding absurd results that contravene congressional intent, including avoiding a permitting burden that would overwhelm the capacity of permitting authorities to effectively implement their programs.

Based on our revised burden analysis, in this final action, we have decided to establish a multi-step, phase-in approach that contains a significantly higher initial threshold level. We have determined that a

100,000 tpy CO_2e major source threshold level for PSD and title V purposes, and a 75,000 tpy CO_2e significance level, produce a level of permitting activity that would certainly be an increase over current workload, but that would be administratively feasible by July 1, 2011. As a result, we have decided to finalize these thresholds as Step 2.

In reaching this conclusion, we needed to consider both the sources' abilities to manage the permitting process and the permitting authorities' capacity to address newly-major sources as expeditiously as possible. As to the former, sources subject to Step 2 will, for the most part, continue to include the "anyway" sources subject to Step 1. In addition, we estimate that Step 2 will include about 500 additional sources that are not already subject to permitting. Most of them will become subject to PSD and title V because of fuel burning. In order to meet the 100,000/75,000 threshold, they will have to burn a significant quantity of fuel, and that means they will be a significant size. In general, these sources include municipal or commercial landfills that are large, but not large enough to be covered by the NSPS, pulp and paper facilities, electronics manufacturing plants, chemical production plants, and beverage producers. Although these sources have not been subject to PSD permitting before, some of them have already been subject to minor source permitting, and so will have some familiarity with the permitting process. In addition, in general, these sources are in source categories that have larger sources that are already subject to PSD and title V. As a result, they are in industries that have experience in the permitting process. Because of their relatively large size and access to knowledge about the permitting processes, we believe these sources will be able to manage the permitting requirements.

As to the permitting authorities' capacity to handle the Step 2 workload, we note first that our Step 1 approach does not cover newly-major sources. As a result, the Step 2 threshold and timing has to be established in a way that takes into account permitting authority challenges in addressing many sources and categories that would be subject to major source permitting for the first time.

We considered the various PSD and title V threshold applicability and significance level options in our final burden analysis, summarized in Table VI-1, including levels at 50,000 CO_2e and 100,000 CO_2e. As Table VI-1 indicates, we estimate that a 100,000 tpy CO_2e major source applicability threshold would result in approximately 550 sources becoming newly classified as major sources for PSD based on their GHG emissions, while a 50,000 tpy CO_2e threshold would result in 3,500 newly classified major sources.

We then considered the impact on both PSD and title V programs of different PSD significance level options for GHGs. The choice of a PSD significance level has a direct impact on title V burdens because PSD permit requirements resulting from modification activities will result in required title V permit revisions. We developed PSD and title V burden estimates based on significance levels of 50,000 tpy, 75,000 tpy and 100,000 tpy CO_2e, combined with a major source applicability level of 100,000 tpy CO_2e.

At a 50,000 tpy CO_2e significance level, we estimated an annual increase of approximately 1,800 PSD permitting actions and almost 2,000 additional title V permitting actions, as compared to Step 1. At a 75,000 tpy CO_2e significance level, we estimated an annual increase of approximately 900 PSD permitting actions and just over 1,000 additional title V permitting actions as compared to Step 1. At a 100,000 tpy CO_2e significance level we estimated an annual increase of approximately 25 PSD permitting actions and 210 additional title V permitting actions as compared to Step 1. For title V, under these different scenarios, the major source applicability level of 100,000 tpy CO_2e results in approximately 200 new permits annually, but, as noted, the choice of significance levels affects the number of required permit revisions.

Based on this information, we have decided to set our final Step 2 thresholds at 100,000 tpy CO_2e for major source applicability under PSD and title V and at a 75,000 tpy CO_2e significance level for PSD. Overall, we estimate that the almost 900 additional PSD permitting actions (virtually all of which would be modifications) per year at these levels will result in an approximately $21 million increase (from Step 1) in states' annual costs for running PSD programs. In addition, we estimate that the 1,000 additional title V permit actions will cause the total title V burden for permitting authorities to increase by $6 million annually from Step 1. This total increase in permit program burdens of $27 million represents a 34 percent increase over the $78 million in total cost of PSD and title V programs at Step 1. We consider this a substantial increase particularly because Step 2's start date of July 1, 2011, is only 6 months after Step 1's start date of January 2, 2011. What's more, Step 1 will entail a substantial increase in permitting authority obligations, so that adding the costs of Step 1 and Step 2 together—$31 million—means that permitting authorities will be required to increase their permitting resources by approximately 42 percent between now and Step 2. In addition to the administrative burdens we have been able to monetize, we must be mindful that permitting authorities will incur other burdens, including the significant support and outreach activities by permitting staff for the many newly permitted sources. We believe that any lower thresholds in this timeframe, whether in the PSD and title V applicability levels or in the significance level, would give rise to administrative burdens that are not manageable by the permitting authorities.

Although the burdens at the 100,000 tpy CO_2e/75,000 tpy CO_2e levels are steep, we consider them manageable. Step 2 permitting for GHGs will mostly involve source categories in which some sources have traditionally been subject to permitting, which should render applying even the new GHG requirements more manageable. These source categories include fossil fuel-fired power plants, petroleum refineries, cement plants, iron and steel plants, and petroleum refineries, in addition to other large industrial type source categories. A full description of the type of sources that we expect will have GHG emissions that exceed the 100,000 tpy CO_2e threshold is provided in the "Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation" located in the public docket for this rulemaking. In addition, because Step 2 does not begin until July 1, 2011, permitting authorities have about 14 months to prepare for it.

In addition, we believe that the sources that will become subject to PSD and title V requirements at the 100,000/75,000 tpy CO_2e levels will be able to accommodate the additional costs of permitting. For the most part, these sources will be of a comparable size and activity level as those sources that are already subject to those requirements.

Because the administrative burdens at the 100,000/75,000 tpy CO_2e level are as heavy as the permitting authorities can reasonably be expected to carry, adopting these threshold levels is consistent with our legal basis under the "absurd results" doctrine. Under this basis, we are reconciling the statutory levels with congressional intent by requiring that the PSD and title V requirements be applied to GHG sources at levels as close as possible to the statutory thresholds, and as quickly as possible, in light of costs to sources and administrative burdens.

Because the administrative burdens at the 100,000/75,000 tpy CO_2e level are manageable, we do not believe that higher threshold levels are justifiable for Step 2. Specifically, at the 100,000/100,000 level—which would entail a 100,000 tpy CO_2e significance level, rather than a 75,000 tpy CO_2e level—permitting sources would need to handle only 20 additional modifications beyond current levels, and thus would not incur substantial additional costs. By the same token, we disagree with commenters who suggested that we needed to set permanent GHG permitting thresholds for major sources at a rate equivalent to the amount of GHGs that would be emitted by conventional pollutants at the 100 and 250 tpy level in order to meet the legal bases of the "absurd results" and "administrative necessity" doctrines. These levels would likely be well above 300,000 tpy CO_2e, depending on fuel types and assumptions regarding the relative emissions of GHGs compared to the conventional pollutants. Our data show that none of the levels above 100,000/75,000 tpy CO_2e would result in significant increases in administrative burdens. As a result, establishing these levels would not apply PSD or title V requirements to GHG sources as quickly as possible, and thus would not be consistent with our approach in the Tailoring Rule.

We estimate that facilities meeting the Step 2 major source applicability thresholds account for approximately 67 percent of total national stationary source GHG emissions. Many commenters felt that this should be an important basis for our selection of a threshold, stating that there is no significant loss in GHG emissions coverage of source categories at the 100,000 tpy CO_2e threshold, and in some cases arguing that as a result, we should set the level even higher. We agree that it is important that the coverage in Step 2 represents 86 percent of the coverage at full implementation of the statutory 100/250 thresholds.

c. Rationale for EPA's Plan Beyond Step 2

EPA commits that after Step 2, EPA will begin another rulemaking in 2011 and complete it by July 1, 2012, and in that rulemaking take comment on a further phase-in of GHG sources for PSD and title V applicability (Step 3). However, under this rule, in no event will EPA apply PSD or title V to sources below the 50,000 tpy CO_2e levels prior to 2016. In addition, EPA commits to conduct a study, to be concluded by April 30, 2015, evaluating the status of PSD and title V applicability to GHG sources, and, based on the study, complete a rulemaking by April 30, 2016, that addresses another round of a phase-in.

(1) Proposal

In our proposal, we noted that following implementation of the first phase of PSD and title V applicability to GHG sources, generally at the 25,000 tpy CO_2e threshold, additional action would be required over time to assure full compliance with the statute. We did not establish more steps in the schedule, but we did commit to conduct a study, to be completed by 5 years after promulgation, evaluating the status of PSD and title V applicability to GHG sources, and, based on the study, complete a rulemaking by 6 years after promulgation that addressed an additional step of the phase-in.

(2) Comments

A number of commenters supported the proposal's overall approach to phase in the permitting of GHGs, mainly because this approach will allow permitting of the largest sources of GHGs immediately while collecting more information about smaller sources and more fully considering streamlining options for subsequent phases. Many of these commenters made clear that they do not support implementation of the statutory 100/250 tpy thresholds, even through a phase-in approach. On the other hand, one commenter asserted that EPA has failed to demonstrate that it needs 6 years to study and implement NSR and title V for sources emitting less than 25,000 tpy. The commenter contends that EPA has not analyzed, among other things, what combined effect the full implementation of its streamlining proposals in the 15 months before the due-date for title V permit applications would be to reduce the cost, complexity, and number of title V permit applications that would have to be submitted.

(3) Rationale for Further Steps

We agree with commenters who support a phased-in approach to the Tailoring Rule. Our final action reflects a multi-step process that we believe will facilitate a manageable expansion of PSD and title V applicability, as appropriate, to GHG-emitting sources. In our final action, we have established the initial two steps of a multi-step phase-in of lower threshold applicability with a commitment to take further regulatory activity to consider adopting lower thresholds. We believe this process will provide substantial opportunity for permitting authorities and sources to establish enough experience and information, and to provide significant real-world feedback to EPA, so as to better inform decisions on future phase-in steps.

With this overall phase-in approach in mind, in this final rule, EPA includes an enforceable commitment to undertake a notice-and-comment rulemaking that would begin with an SNPR that we expect to be issued in 2011 and that we commit will be finalized in 2012. The notice will propose or solicit comment on further reductions in the applicability levels. This rulemaking will take effect by July 1, 2013, and therefore, in effect, constitute Step 3. In this action, we are committing to a rulemaking for Step 3, but are not promulgating Step 3, because it is important to allow EPA and the permitting authorities to gain experience permitting sources under Steps 1 and 2, and to allow time to develop streamlining methods, before attempting to determine what would be the next phase-in levels for PSD and title V applicability. While committing to future action, we do not decide in this rule when the phase-in process will ultimately end, or at what threshold level, because all that depends on uncertain variables such as our progress in developing streamlining approaches and on permitting authorities' progress in developing permitting expertise and acquiring more resources. We may continue the phase-in process with further rulemaking(s) after 2016. Alternatively, we may make a final determination through future rulemaking that, under a *Chevron* analysis, accounting for the "absurd results" doctrine, PSD and/or title V do not apply to GHG sources that, while small and relatively inconsequential in terms of GHG contribution, are above the statutory tonnage thresholds for these programs, and thereby end the phase-in process.

In addition, in this action, we are determining that in no event—whether through Step 3 or a subsequent step—will we apply PSD or title V to sources at the 50,000/50,000 tpy CO_2e level or lower prior to May 1, 2016. We have several reasons for making this determination at this time. Most importantly, our examination of the expected burdens to the permitting authorities of applying PSD and title V to GHG sources convinces us that extending the permitting programs to sources at or below the 50,000/50,000 tpy CO_2e level within 6 years of promulgation would result in prohibitively heavy burdens. This threshold option would result in close to 2,000 additional annual PSD permitting actions per year over the current program and more than 1,000 over Step 2, including both new construction and modifications. For title V, we estimated an increase of over 1,000 new title V permits (all newly permitted sources because of GHG emissions) over 2,000 permit revisions per year over the current program, and about 980 new title V permits and 900 permit revisions more than the Step 2 amounts.

These increases, which could occur between 2013 and 2016 under our approach depending on the outcome of the Step 3 rulemaking, represent very substantial additions to the permitting program. In terms of cost, we estimate that these additional actions would result in a $73 million per year increase in joint PSD and title V program costs over the current programs—which is almost a doubling of costs—and \$42 million annual cost increase over Step 2 for the current programs. We believe that it would take permitting authorities some time to adjust to this workload. This is particularly true because at the 50,000/50,000 tpy CO_2e level, smaller sources—including ones not previously subject to permitting requirements—will become subject to PSD and title V. It will take some time for both the permitting authorities and the sources to absorb these new obligations.

Importantly, the next lower cut-off—below 50,000 tpy CO_2e for the major threshold level—is the 25,000/25,000 tpy CO_2e level. For the reasons discussed previously, this level is clearly not manageable within the first 6 years after this action. This applicability level would bring in over 7,000 sources that would be newly subject to title V permitting and result in close to 10,000 new PSD permitting actions. This would result in a 380 percent increase over current program costs for PSD and title V to run these programs. Based on comments we received from state and local permitting agencies on our proposed Tailoring Rule, these levels of permitting activities would far exceed the administrative capabilities of the permitting agencies for at least the near future. Thus, the 6-year exclusion is necessary to provide these agencies and their permittees certainty that this will not occur.

We recognize that at present, we do not have data that would allow us to compile administrative burden estimates for specific levels between the 50,000/50,000 and 25,000/25,000 tpy CO_2e levels we assessed. However, it is clear that the burdens begin to rise sharply below the 50,000/50,000 tpy CO_2e level. To reiterate, the combined PSD and title V administrative burdens at the 50,000/50,000 tpy CO_2e level cost almost twice as much as the current programs, but the burdens at the 25,000/25,000 tpy CO_2e level cost almost four times as much as the current programs. As a result, we conclude that dropping the level below 50,000/50,000 tpy CO_2e too soon would quickly expose the permitting authorities to unacceptably high burdens.

As a further reason for concluding that we will not reduce thresholds beyond 50,000/50,000 tpy CO_2e during the first 6 years, we recognize that the PSD permitting process in particular carries important ramifications for the permitting authorities and the affected sources. If we have underestimated the permitting burden or the ability of states to respond to their additional workload, then permitting backlogs will result, and PSD permit issuance will be delayed, and sources seeking a PSD permit will not be able to construct or modify. If this were to happen on a large enough scale, it could have potentially serious consequences for the national economy.

Moreover, we need to be mindful that the best information we currently have as to permitting authority burdens represents a national average, as described previously. Our information at the individual state and local level, where permitting occurs, is not as robust. Accordingly, we recognize that a particular state may encounter permitting costs that are higher than average, and this may result in permitting backlogs in that state, with the consequence that sources in that state will face long delays in constructing or modifying. Similarly, even if a particular state's costs are in line with the national average, that state may not be able to find the additional resources to cover those costs as readily as other states. For this reason, too, sources in that state could face long delays in constructing or modifying.

Beyond the administrative burdens to permitting authorities, we recognize that the costs of PSD and title V permitting to sources may be high, and we are not inclined to allow their imposition at this time on sources smaller than the 50,000/50,000 tpy CO_2e threshold. At that level, the permitting programs will apply to a significant number of newly permitted sources, including a variety of small manufacturing, commercial and residential categories. The next level that we have analyzed is the 25,000/25,000 tpy CO_2e threshold. At that level, more than 7,000 more sources would become subject to PSD each year—almost all due to modifications—and another 4,000 sources would become subject to title V each year. These sources would be even smaller than those that already will have become subject to PSD and title V due to their GHG emissions. We do not think it reasonable to subject more of those types of sources, and smaller ones, to permitting costs within the next 6 years.

Finally, we note that moving from a 50,000 tpy CO_2e threshold to 25,000 tpy CO_2e will increase the emissions coverage of GHG stationary sources from 70 percent to 75 percent nationwide, which we consider to be a relatively small amount.

We recognize that our progress in developing streamlining methods will be a key determinant to the ability of permitting authorities to administer, and sources to comply with, PSD and title V at GHG emission levels below 50,000/50,000 tpy CO_2e. Although we commit to pursue streamlining, we cannot predict our progress. This uncertainty may be problematic for stakeholders, primarily permitting authorities and industry. That is, permitting authorities will face uncertainty in planning the scope of their programs over the next few years, and industry will face uncertainty as to what new construction projects and modifications will be subject to PSD for GHGs. By determining now that for the next 6 years we will not impose PSD requirements below a floor at the 50,000/50,000 tpy CO_2e level, we add a measure of needed certainty.

We also recognize that selecting a level that is too high or keeping a level for too long means that some sources may construct or modify without implementing BACT level controls, and this could result in additional emissions of GHGs. We need to be vigilant and to protect against this outcome. Even so, all things considered, we believe that our determination not to apply the PSD or title V permitting requirements to sources below the 50,000/50,000 tpy CO_2e level for the first 6 years also represents a reasonable balancing of protection of the environment with promotion of economic development. This type of balancing is consistent with our authority under the PSD provisions.

We also raised the issue of "hollow" or "empty" permits in discussing our rationale for why it may make sense to delay title V permitting under our proposal. We were concerned that many title V permits for GHG sources would contain no applicable requirements, and their issuance would therefore be of little value and would not be the best use of scarce resources. Several commenters agreed that implementing title V for GHGs will, at least initially, require "empty permits" to be issued to GHG sources because such sources will not be subject to "substantive" requirements, and that this would not be the best use of scarce resources.

We believe that the amount of resources that would be spent on, and the limited value that would result from, "empty permits" does warrant consideration under the *Chevron* analysis, taking account of the "absurd results" doctrine. Therefore, we intend to consider the role of "empty permits" when we undertake future rulemaking. However, we believe the issue of "empty permits" has limited or no relevance to the first two steps of the phase-in that we are promulgating in this rule. During Step 1, permitting for GHGs is only required if the source is otherwise subject to permitting for its emissions of non-GHGs. Those sources very likely will be subject to existing substantive applicable requirements for non-GHGs (*e.g.*, NSPS, Maximum Achievable Control Technology (MACT), and SIP requirements, including PSD). Thus, there should be no, or at least no additional, "empty permits" during Step 1. For Step 2, it is possible that sources that become subject to title V requirements for GHG emissions may not be subject to other requirements, but our assessment suggests that this is very unlikely. We estimate that virtually all of the 550 newly-major sources in Step 2 will be subject to applicable requirements under the CAA because they are from categories that have been traditionally subject to regulations, such as smaller industrial sources from already regulated categories, large landfills, and oil/gas/coal production. Even the approximately 50 newly-subject commercial sources in Step 2, which we estimate to be comprised of very large hospitals, are likely to be covered by standards for medical waste incinerators. In addition, we expect these sources may well be subject to SIP requirements. Thus, we do not expect any, or at most very few "empty permits" during Step 2.

In later stages of implementation (*e.g.*, prospective Step 3) or in the event that we permit smaller, nontraditional sources of GHGs that have never otherwise been subject to major source permitting, there would be a greater potential for "empty permits" to be issued under title V. Cognizant of this, we intend to further explore in the rulemaking for Step 3 "empty permit" theories under the "absurd results" rationale that may serve to permanently narrow the scope of title V to exclude sources that would potentially be required to obtain an "empty permit" due to GHG emissions.

In this action, EPA is also finalizing its proposal to commit to conduct an assessment of the threshold levels—to be completed in 2015, 5 years after this action—that will examine the permitting authorities' progress in implementing the PSD and title V programs for GHG sources as well as EPA's and the permitting authorities' progress in developing streamlining methods. We further commit to undertake another round of rulemaking—beginning after the assessment is done, and to be completed by April 30, 2016—to address smaller sources.

We disagree with the commenter who asserted that we do not need 6 years to study and implement PSD and title V for smaller sources. As we discussed in the proposal, and reiterate in this final action, we do not have sufficient information at this time to determine the applicability and effectiveness of the various permitting streamlining techniques. For reasons discussed in more detail in section V.E.1 regarding streamlining, we are not now able to determine how such techniques will be implemented or whether they will prove viable or effective. We agree with the commenter that these measures may reduce the scope, cost, and complexity of these programs, but there is considerable uncertainty as to the extent of this effect. We do commit in this action to fully investigate, propose, and evaluate permit streamlining techniques to determine where they may have applications, how they would be applied, and whether they can withstand legal challenge. Even for those techniques that may ultimately be deemed viable, there is a significant time period necessary for rulemaking and state adoption, all of which could take up to 3 years or more. We also note that we will be required to complete our study of the effectiveness of these techniques within 5 years, meaning that, in order to complete it in time, we will essentially need to begin the study as soon as relevant data are starting to become available. Finally, the sixth year, in which EPA must complete rulemaking, requires proposal and promulgation of a rule within 1 year, which is an ambitious schedule. Therefore we believe that 6 years is appropriate for this type of effort. We also have received a substantial number of comments from permitting authorities that agreed with our 5-year timeframe, or a greater timeframe, to get more prepared for permitting smaller sources.

d. Other Comments on "Absurd Results" Doctrine

We received other comments on our application of the "absurd results" doctrine, which we respond to in the RTC document. One comment was overarching, and so we respond to it here: Commenters have asserted that under the "absurd results" doctrine, EPA does not have authority to, or at least should not, promulgate the endangerment/cause or contribute findings (which we will sometimes refer to as the "findings") or the LDVR because doing so would trigger the PSD and title V requirements, which in turn would give rise to "absurd results". According to commenters, under the "absurd results" case law, EPA is obliged to avoid taking any action that would trigger absurd results and in this case that means foregoing the endangerment/cause or contribute findings and/or the LDVR, or at least deferring finalizing them until EPA has time to streamline PSD and title V requirements so as to avoid "absurd results". Commenters made the related comment that if we promulgate the LDVR, and thereby trigger PSD, we cannot rely on the "absurd results" doctrine because it is our own actions—the promulgation of the LDVR—that will have given rise to the "absurd results," and under those circumstances, the doctrine is not available.

The comments that EPA had no authority to promulgate, or should not have promulgated, the endangerment/cause or contribute findings or the LDVR at the times that EPA did are not relevant to this rule, the Tailoring Rule. EPA has already promulgated the findings and the LDVR, and the LDVR triggers PSD and title V applicability, as we have seen. These comments would have been relevant only to the proposed findings and LDVR, and we are not, in this rulemaking, revisiting or reopening the findings or the LDVR.[48]

Commenters claim that if EPA promulgates the LDVR, the "absurd results" doctrine will no longer apply to the Tailoring Rule because it will have been EPA's own action—promulgation of the LDVR—that gives rise to the "absurd results". We disagree for several reasons. For one thing, commenters have not cited case law, and our research has disclosed none, in which a court specifically addressed a similar situation and issued a holding along the lines of what commenters urge. Moreover, commenters' approach would be punitive because the absurd results would occur absent this rule going final. Such an outcome would be counter to the purpose of the doctrine. That is, it would mean that PSD and title V would apply to GHG sources by their terms—at the statutory levels, as of January 2, 2011—with all the adverse consequences described elsewhere.

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[48] EPA does have pending before it ten petitions to reconsider the endangerment and cause or contribute findings. EPA is carefully evaluating those petitions and expects to issue its decision(s) on or about July 30, 2010.

In any event, and although we are not obligated to respond to these comments on the merits, they are incorrect on the merits, for the reasons that follow. This discussion should not be viewed as reopening the endangerment/cause or contribute findings or the LDVR because, as stated previously, we are not reconsidering or reopening those two actions in this rule.

In determining and implementing congressional intent, it is important that the statutory provisions at issue be considered together—(1) The obligation to make a determination on endangerment and contribution under CAA section 202(a); (2) if affirmative endangerment/cause or contribute findings are made, the obligation to promulgate standards applicable to the emission of any air pollutant from new motor vehicles or new motor vehicle engines under CAA section 202(a); and (3) the PSD and title V applicability provisions. The most appropriate reading, and certainly a reasonable reading, is that we are required to take the action we have taken, and are taking with this rule, and that is to issue the findings, promulgate the LDVR, and promulgate the Tailoring Rule. Our approach gives effect to as much of Congress's intent for each of these provisions, and the CAA as a whole, as possible.

With respect to the endangerment/cause or contribute findings under CAA section 202(a), congressional intent is clear that, as we stated in making the findings and the Supreme Court held in *Massachusetts v. EPA*, we are precluded from considering factors other than the science based factors relevant to determining the health and welfare effects of the air pollution in question. Accordingly, EPA determined that under *Massachusetts v. EPA*, 549 U.S. 497 (2007) we were precluded from deferring or foregoing the findings due to concern over impacts on stationary sources affected by PSD or title V requirements. *See* 74 FR at 66496, 66500-01 ("Taken as a whole, the Supreme Court's decision clearly indicates that policy reasons do not justify the Administrator avoiding taking further action on the questions here."); *see also Massachusetts v. EPA*, 549 U.S. at 533; *see also* 74 FR at 66515-16 (December 9, 2009). (The Administrator "must base her decision about endangerment on the science, and not on the policy considerations about the repercussions or impact of such a finding).[49] Moreover, as EPA also noted, "EPA has the ability to fashion a reasonable and common-sense approach to address greenhouse gas emissions and climate change." 74 FR at 66516.

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[49] Note, that at least one petition for reconsideration on the endangerment/contribution findings raises the same arguments related to the timing of decisions and absurd results. As noted before, EPA is carefully evaluating all the pending petitions for reconsideration.

Regarding the timing of the LDVR, Congress's intent was that endangerment/cause or contribute findings under section 202(a) would in fact lead to control of the air pollutants from new motor vehicles and new motor vehicle engines contributing to the harm. The primary goal of section 202(a) is to achieve such reductions by requiring that EPA adopt emissions standards, and as a result, proceeding with the LDVR is consistent with that goal. In contrast, deferring the LDVR and thereby delaying achievement of the public health and welfare benefits Congress expected and required under section 202(a) would run directly counter to what Congress intended under section 202(a)—EPA issuing emissions standards to address the public health and welfare problems that were identified, not EPA refusing to do so.

Moreover, we have compelling reasons to proceed with the LDVR, in the manner that we did. As we stated in the LDVR, in response to similar comments that we were not obligated to conduct that rulemaking, or to conduct it at the time that we did:

> Some of the comments relating to the stationary source permitting issues suggested that EPA should defer setting GHG standards for new motor vehicles to avoid * * * [adverse] stationary source permitting impacts. EPA is issuing these final GHG standards for light-duty vehicles as part of its efforts to expeditiously respond to the Supreme Court's nearly three year old ruling in *Massachusetts v. EPA*, 549 U.S. 497 (2007). In that case, the Court held that greenhouse gases fit within the definition of air pollutant in the Clean Air Act, and that EPA is therefore compelled to respond to the rulemaking petition under section 202(a) by determining whether or

not emissions from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. The Court further ruled that, in making these decisions, the EPA Administrator is required to follow the language of section 202(a) of the CAA. The Court stated that under section 202(a), "[i]f EPA makes [the endangerment and cause or contribute findings], the Clean Air Act requires the agency to regulate emissions of the deleterious pollutant." 549 U.S. at 534. As discussed above, EPA has made the two findings on contribution and endangerment. 74 FR 66496 (December 15, 2009). Thus, EPA is required to issue standards applicable to emissions of this air pollutant from new motor vehicles.

The Court properly noted that EPA retained "significant latitude" as to the "timing * * * and coordination of its regulations with those of other agencies" (*id.*). However it has now been nearly three years since the Court issued its opinion, and the time for delay has passed. In the absence of these final standards, there would be three separate federal and state regimes independently regulating light-duty vehicles to increase fuel economy and reduce GHG emissions: NHTSA's CAFE standards, EPA's GHG standards, and the GHG standards applicable in California and other states adopting the California standards. This joint EPA-NHTSA program will allow automakers to meet all of these requirements with a single national fleet because California has indicated that it will accept compliance with EPA's GHG standards as compliance with California's GHG standards. 74 FR at 49460. California has not indicated that it would accept NHTSA's CAFE standards by themselves. Without EPA's vehicle GHG standards, the states will not offer the federal program as an alternative compliance option to automakers and the benefits of a harmonized national program will be lost. California and several other states have expressed strong concern that, without comparable federal vehicle GHG standards, the states will not offer the federal program as an alternative compliance option to automakers. Letter dated February 23, 2010 from Commissioners of California, Maine, New Mexico, Oregon and Washington to Senators Harry Reid and Mitch McConnell (Docket EPA-HQ-OAR-2009-0472-11400). The automobile industry also strongly supports issuance of these rules to allow implementation of the national program and avoid "a myriad of problems for the auto industry in terms of product planning, vehicle distribution, adverse economic impacts and, most importantly, adverse consequences for their dealers and customers." Letter dated March 17, 2010 from Alliance of Automobile Manufacturers to Senators Harry Reid and Mitch McConnell, and Representatives Nancy Pelosi and John Boehner (Docket EPA-HQ-OAR-2009-0472-11368). Thus, without EPA's GHG standards as part of a federal harmonized program, important GHG reductions as well as benefits to the automakers and to consumers would be lost. 165 In addition, delaying the rule would impose significant burdens and uncertainty on automakers, who are already well into planning for production of MY 2012 vehicles, relying on the ability to produce a single national fleet. Delaying the issuance of this

> final rule would very seriously disrupt the industry's plans.
>
> Instead of delaying the LDV rule and losing the benefits of this rule and the harmonized national program, EPA is directly addressing concerns about stationary source permitting in other actions that EPA is taking with regard to such permitting. That is the proper approach to address the issue of stationary source permitting, as compared to delaying the issuance of this rule for some undefined, indefinite time period.

75 FR 25,402 cols. 1-3 (May 7, 2010) (footnote omitted).

With respect to both the endangerment/cause or contribute findings and the LDVR, it would require speculation and conjecture to defer—or, certainly, to forego altogether—the findings or LDVR until EPA completed streamlining the PSD and title V requirements on grounds that doing so would allow full compliance in the future with all PSD and title V statutory provisions. That is the gist of commenters' argument—that EPA should defer or forego issuance of the findings and the LDVR to avoid causing an absurd result from implementation of the separate PSD and title V programs. Underlying this claim is the assumption that this would allow EPA to avoid the "absurd results". As we discuss elsewhere in this rulemaking, there is no basis at this point to determine that streamlining will ultimately allow full compliance with the PSD and title V requirements. Rather, it is possible that EPA may conclude that none of the available streamlining techniques will allow all GHG sources at the statutory thresholds to comply with PSD and title V requirements in a manner that does not impose undue costs on the sources or undue administrative burdens on the permitting authorities.

Under these circumstances, EPA may then permanently exclude GHG source categories from PSD or title V applicability under the absurd results doctrine. Moreover, it may well take many years before EPA is in a position to come to a conclusion about the extent to which streamlining will be effective and therefore be able to come to a conclusion as to whether any source categories should be permanently excluded from PSD or title V applicability. In our rulemaking today, we describe what actions we expect to take in the first 6 years after PSD and title V are triggered for GHG sources, and we may well be in a situation in which we continue to evaluate streamlining measures and PSD and title V applicability to GHG sources after this 6-year period.

Accordingly, deferring the endangerment/cause or contribute findings and LDVR until such time that PSD and title V streamlining would allow full implementation of these programs at the statutory limits would serve only to delay the benefits of the LDVR, as well as the benefits that come from phasing in implementation of the PSD program to cover larger sources first. It would rely on an assumption that is unfounded at this point, that is, that such full compliance will be required at some point in the future. Delaying the emissions benefits of the LDVR and the related emissions benefits from partial implementation of the PSD program fails to implement Congress' intent that the endangerment/cause or contribute findings "shall" lead to emissions standards for new motor vehicles contributing to the endangerment, and related emissions controls for the same air pollutant under the PSD program. EPA need not determine at this time what approach would be appropriate if there was a determination that full compliance with PSD and title V would in fact occur at some point in the future. In this case, absent such a determination, it would be improper to rely on speculation of such a future possibility as a basis under section 202(a) to defer or forego issuance of the LDVR on the grounds that EPA should defer or forego the LDVR to avoid causing an absurd result. Likewise there is no basis to defer proceeding at this time with the streamlining of the PSD and title V programs.

With respect to the PSD and title V applicability requirements, as we discuss elsewhere, we believe that Congress expressed a clear intent to apply PSD and title V to GHG sources and that the phase-in approach incorporated in the Tailoring Rule is fully appropriate. Proceeding now with the endangerment/contribution findings and LDVR, even if phasing-in of the PSD and title V programs is required, is consistent with our interpretation of the PSD and title V applicability requirements. Delaying the endangerment/contribution findings or LDVR, and thereby delaying the triggering of PSD and title V requirements for GHG sources, would lead to the loss of a practicable opportunity to implement the PSD and title V requirements in important part, and thereby lead to the loss of important benefits. As discussed elsewhere, promulgating the LDVR and applying the PSD and title V requirements to the largest GHG sources, as we do in this Tailoring Rule, is practicable because the sources that would be affected by the initial implementation steps we promulgate in this rule are able to bear the costs and the permitting authorities are able to bear the associated administrative burdens. Promulgating the LDVR now provides important advantages because the sources that would be affected by the initial steps are responsible for most of the GHG emissions from stationary sources.

It should also be noted that as discussed elsewhere in this rulemaking, our ability to develop appropriate streamlining techniques for PSD and title V requirements is best done within the context of actual implementation of the permitting programs, and not in isolation of them. That is, because the great majority of GHG sources have not been subject to PSD and title V requirements, we will need to rely on the early experience in implementing the permitting requirements for the very large sources that initially will be subject to those requirements in order to develop streamlining techniques for smaller sources. It is the real world experience gained from this initial phase that will allow EPA to develop any further modifications that might be necessary. This would not and could not occur if the LDVR were delayed indefinitely or permanently, so that PSD and title V requirements were not triggered. It is unrealistic to expect that delaying action until a future tailoring rule could resolve all of the problems identified in this rulemaking, absent any real world implementation experience.

At its core, commenters' argument is that EPA should delay (if not forego altogether) doing *anything* to address GHG emissions and the problems they cause until it can do so in a way that does not cause any implementation challenges, even if that delay results in continued endangerment to public health and welfare. EPA does not take such a myopic view of its duties and responsibilities under the CAA. Congress wrote the CAA to, among other things, promote the public health and welfare and the productive capacity of the population. CAA § 101(b)(1). EPA's path forward does just this. Thus, proceeding with the endangerment/cause or contribute findings, the LDVR, and with PSD and title V through the phase-in approach of the Tailoring Rule maximizes the ability of EPA to achieve the Congressional goals underlying sections 202(a) and the PSD and title V provisions, and the overarching CAA goal of protecting public health and welfare. Congress called for EPA (1) To determine whether emissions from new motor vehicles contribute to air pollution that endangers, (2) if that the determination is affirmative, to issue emissions standards for new motor vehicles to address the endangerment, and (3) to implement the PSD and Title V program to address similar emissions in their permitting program as another tool to address the air pollutant at issue. Delaying both the LDVR and PSD/title V implementation, as commenters have called for, would run directly counter to these Congressional expectations. Commenters' calls for deferral or foregoing of the findings or LDVR are generally phrased in a conclusory fashion, and do not demonstrate how EPA could take the required CAA actions concerning GHGs while remaining within the requirements of each of the various CAA provisions, and achieving the overall goals of the CAA. As such the comments do not provide a valid basis for the deferral of agency action they suggest.

9. "Administrative Necessity" Basis for PSD and Title V Requirements in Tailoring Rule

EPA believes that the "administrative necessity" doctrine, within the *Chevron* framework, also justifies this rulemaking. Applying the applicability requirements of the PSD and title V programs according to a literal reading of their terms (as EPA has narrowed them in the past through interpretation) to GHG sources beginning on the January 2, 2011 date that regulation of GHGs takes effect would sweep so many sources into those programs as to render the programs impossible for the permitting authorities to administer. Although streamlining the PSD and title V programs offers some promise to improve the administrability of the programs, given the time needed to implement such streamlining, the step-by-step expansion of PSD and title V requirements to GHG sources that we are promulgating is the most that the permitting authorities can reasonably be expected to administer.

This section discusses the application of the "administrative necessity" doctrine. Our views concerning this doctrine remain similar to what we said at proposal, except that in this rulemaking we place the doctrine more clearly in the *Chevron* analytical framework, we revise our assessment of the administrative burdens due to new analysis we have conducted and information we have received since proposal, and we make certain revisions to the tailoring approach.[50] This analysis and information, as well as the revisions to the tailoring approach, have already been presented previously, in the discussion of the "absurd results" basis. In addition, it is not necessary to reiterate the lengthy discussion of the "administrative necessity" doctrine that we included in the proposal or the factual data presented previously; as a result, this section briefly highlights the conclusions we have reached about the application of this doctrine.

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[50] In addition, we base our reliance on the "administrative necessity" doctrine on the administrative burdens to the permitting authorities of permitting smaller GHG sources, but not on the relatively small amount of GHG emissions associated with the smaller sources. *See Alabama Power v. Costle*, 636 F.2d 323, 357 (DC Cir. 1980) (establishing the "administrative necessity" doctrine as "inherent in the administrative process" and presumptively available under the statutory scheme, absent clear congressional intent to the contrary; but adding that in contrast, "there exists no general administrative power to create exemptions to statutory requirements based upon the agency's perceptions of costs and benefits").

As noted previously, under the PSD and title V applicability provision—read literally, as we have long interpreted them—EPA's recent promulgation of the LDVR will trigger the applicability of PSD and title V for GHG sources at the 100/250 tpy and 100 tpy threshold levels, respectively, as of January 2, 2011. This is because PSD applicability hinges on the definition of "major emitting facility" and title V applicability hinges on the definition of "major sources," and those terms, read literally, and under EPA's long-standing narrowing interpretation, apply PSD and title V, respectively, to sources of any air pollutant that is subject to regulation under another provision of the CAA. EPA's promulgation of the LDVR means that GHGs will become subject to regulation on the date that the rule takes effect, which will be January 2, 2011.

Absent tailoring, the January 2, 2011 trigger date for GHG PSD applicability will give rise to an extraordinarily large number of PSD permitting actions—we estimate more than 81,000 per year—representing an increase of almost 300-fold over the current 280 PSD permitting actions each year. In addition, over 6 million sources will become subject to title V, an increase of more than 400-fold over the 14,700 sources that currently are subject to title V. The permitting authorities will find it impossible to administer programs of these sizes as of that date.

All this results from a literal application of the PSD and title V applicability provisions to GHG sources. However, under *Chevron*, we must interpret and apply statutory requirements on the basis of congressional intent. Although the literal meaning of the statutory provisions is the first and generally the best indicator of congressional intent, there are cases in which that is not so. As discussed previously, we believe that as a general matter, statutory directives should be considered to incorporate Congress's intent that they be administrable, and we believe that this proposition is implicit in the "administrative necessity" doctrine that the DC Circuit has established and that we believe applies here. *See Alabama Power v. Costle*, 636 F.2d 323, 356-57 (DC Cir. 1980). This doctrine authorizes EPA to undertake a process for rendering the PSD and title V requirements administrable. Indeed, the Court in *Alabama Power* established this doctrine specifically in the context of the PSD provisions, including, in particular, the modification provision. As noted elsewhere, the Court held that EPA may "consider the administrative burden" associated with applying PSD for emissions increases, and establish significance levels designed to avoid "severe administrative burdens on EPA, as well as severe economic burdens" on sources. *Id*. at 405.

As we said in the proposal, we read the case law to establish a three-step approach for implementing the "administrative necessity" doctrine: An agency is not required to adhere to literal statutory requirements if the agency, as the first step, makes every effort to adjust the requirements within the statutory constraints, but concludes with justification—at the second step—that it would be impossible to comply with the literal reading of the statute. Under those circumstances, the agency may—at the third step—develop what is in effect a compliance schedule with the statutory requirements, under which the agency will implement the statute as much as administratively possible and as quickly as administratively possible. *See* 74 FR 55315—55316.

a. First Step of the "Administrative Necessity" Analysis: Streamlining

In the proposed rulemaking, EPA discussed at length the prospect of streamlining both PSD and title V. EPA described "several potentially useful tools available in the streamlining toolbox for the PSD permitting threshold level, the PSD significance level, and the title V permitting threshold," specifically:

> For the PSD permitting threshold level and significance level, there are at least three such tools: The first is interpreting the definition of "potential to emit" so that the amount of a source's emissions that counts in determining whether it qualifies as a major source and therefore is above the permitting threshold requirements is closer to the amount of its emissions when it is in actual operation, rather than the amount of emissions that the source would emit if it were operating continuously. Narrowing the definition of PTE is a potentially extremely important tool in this context because identifying the amount of a source's emissions as closer to its actual emissions in this manner would mean that very large numbers of residential and commercial sources would have significantly lower emissions and would fall below the statutory threshold requirements for triggering PSD. Second, EPA believes it may be able to develop programs involving general permits, under which large numbers of similarly situated sources would each be covered by essentially the same permit established through a regulatory action by the permitting authority.

> This approach could achieve economies of scale and thereby reduce administrative burden. Third, EPA believes it may be able to streamline the single most time-consuming element of the PSD permit program, which is the determination of BACT as required under CAA § 165(a)(4), by establishing presumptive BACT levels for certain source categories that comprise large numbers of sources. As for title V, as discussed below in detail, EPA believes that defining "potential to emit" to reflect more closely a source's actual operation and developing a program of general permits could streamline the administration of title V permits.

74 FR 55315 col. 2-3.

At proposal we stated that we would, and we still commit to, vigorously pursue development of these streamlining measures, and, as indicated in our discussion of streamlining methods in section V.E.1 and in response to comments, we have already begun developing those measures. For example, as described elsewhere, we have done much work—both with stakeholders and in-house—to begin to develop recommendations for what controls would qualify as BACT for various industries. This work is important as a foundation for developing presumptive BACT, which is a potentially efficient streamlining measure.

However, it is not possible for us or the state and local permitting authorities to develop and implement streamlining techniques by the time that PSD and title V are triggered for sources emitting GHGs—January 2, 2011—or shortly thereafter. Developing streamlining methods would entail acquiring more information about the affected industry, may entail rulemaking, and would likely entail some type of public review of proposals for streamlining even if not done through rulemaking. As discussed in section V.E, we do not expect that we could complete all those steps for meaningful streamlining measures within 2 years.

b. Second Step of the "Administrative Necessity" Analysis: Demonstration of Administrative Impossibility

With no streamlining measures available at the time that PSD and title V would apply to sources of GHGs or shortly thereafter, under the second step of the "administrative necessity" analysis, we must determine whether implementation of the statutory requirements at that time would be administratively impossible for the permitting authorities. We are mindful that the DC Circuit has cautioned that this showing is a high hurdle. *See* 74 FR 55317.

Even so, we believe there is no question that a literal application of the PSD and title V programs to GHG sources as of January 2, 2011 would be flatly impossible for the state and local permitting authorities to administer for at least an initial period of time.[51] The key facts have been recounted previously, and no more than a brief recitation is necessary here. On the PSD side, annual permit applications would increase by over 300-fold, from 280 to almost 82,000; costs to the permitting authorities would increase more than

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[51] We recognize that in a few states, we are the permitting authority. We do not think that this changes the calculation of administrative burdens. We do not believe that we could reasonably be expected to adjust our budget to accommodate the large new permitting burdens, and even if we could, the administrative burdens would remain in most of the rest of the nation where it is the state or local agencies that bear permitting responsibility.

100-fold, from $12 million to $1.5 billion; and the permitting authorities would need to hire, train, and manage 9,772 FTEs. For title V, total permit applications would increase by over 400-fold, from 14,700 to 6.1 million; costs to the permitting authorities would increase from $62 million to $21 billion; and the permitting authorities would need to hire, train, and manage 229,118 FTEs.

We have elaborated upon these burdens elsewhere in this notice. They bespeak an impossible administrative task. It is not hyperbole to say that if these administrative responsibilities are not considered impossible within the meaning of the "administrative necessity" doctrine, then it is difficult to imagine what would be considered impossible.

c. Third Step of the "Administrative Necessity" Analysis: Tailoring

Under the third step of the "administrative necessity" analysis, we must demonstrate that the steps we intend to take towards implementation of the statutory requirements are the most that can be done during the indicated time frames, in light of administrative resources. In this manner, we adhere most closely to the statutory requirements. *See* 74 FR 55318. This amounts to establishing a schedule for phasing in PSD and title V applicability to GHG sources. Because this step is based on the administrative resources of the permitting authorities, our analysis is similar, and leads to the same conclusions, as we described previously concerning the "absurd results" basis. That is, we believe that our tailoring approach—including Step 1, to be implemented as of January 2, 2011; Step 2, to be implemented as of July 1, 2011; the additional rulemaking that we commit to finalize by July 1, 2012, and that will address further threshold reductions as a Step 3; the study and subsequent rulemaking to address smaller sources by April 30, 2016; and the determination not to lower the threshold below 50,000/50,000 tpy CO_2e before April 30, 2016 at the earliest—is the most that we can do to expand the PSD and title V programs, based on administrative resources and the information we currently have about the prospects for streamlining and increasing permitting resources.

As noted previously, at some point in the process of additional rulemaking, we may conclude under the "absurd results" doctrine that we will not apply PSD or title V to GHG sources below a certain size level. The same conclusion may be supportable under the "administrative necessity" doctrine if we decide, based on the information available to us, that even with all of the streamlining that we are able to accomplish and even with a significant expansion of permitting resources, it may not be administratively feasible to implement PSD or title V to sources below that level. *See Alabama Power v. Costle*, 636 F.2d at 358 (acknowledging, in discussing the "administrative necessity" doctrine, that "[c]ategorical exemptions from the clear commands of a regulatory statute [are] sometimes permitted," although emphasizing that such exemptions "are not favored").

In addition, as noted above, in a subsequent rulemaking, we may conclude that title V should not apply to GHG sources with "empty permits," under the "absurd results" doctrine. The basis for this conclusion could be a determination that (1) although the applicability provisions apply by their terms to sources on the basis of their emissions, and without regard to whether the sources would hold "empty permits," those provisions cannot be read literally under the "absurd results" doctrine; and (2) it is not clear whether Congress intended that title V apply to such sources, and EPA has reasonably determined, under *Chevron* Step 2, that title V does not. If we come to that conclusion, then, at that point in time, the "administrative necessity" doctrine would remain relevant for title V purposes only if it is necessary, for administrative reasons, to phase in the application of title V to GHG sources that have applicable requirements, and that therefore do not have "empty permits." This is because the "administrative necessity" doctrine is relevant only when a statutory directive, read literally, imposes impossible administrative obligations, and Congress may be presumed to have intended that the directive be administrable. The "administrative necessity" doctrine would not come into play if it is concluded either that under the "absurd results" doctrine Congress did not intend the statutory directive or that, under that doctrine, Congress's intent was not clear and EPA reasonably decided that the directive does not apply.

10. "One-Step-at-a-Time" Basis for Tailoring Rule

In addition to the "absurd results" and "administrative necessity" doctrines, the "one-step-at-a-time" judicial doctrine, within the *Chevron* framework, supports EPA's Tailoring Rule. The case law under this doctrine, described previously, indicates that the doctrine justifies an agency's step-by-step approach under the following circumstances or conditions: (1) The agency's ability to comply with a statutory directive depends on facts, policies, or future events that are uncertain; (2) the agency has estimated the extent of its remaining obligation; (3) the agency's incremental actions are structured in a manner that is reasonable in light of the uncertainties; and (4) the agency is on track to full compliance with the statutory requirements. EPA's Tailoring Rule fulfills each of those four.

First, as the DC Circuit stated in *National Association of Broadcaster v. FCC*, 740 F.2d 1190, 1210 (DC Cir. 1984) ("*National Association of Broadcasters*"), incremental agency action is most readily justifiable "against a shifting background in which facts, predictions, and policies are in flux and in which an agency would be paralyzed if all the necessary answers had to be in before any action at all could be taken." Those circumstances are present here, and so is that fact that the task at hand is extraordinarily demanding. As discussed previously, EPA and the permitting authorities' progress in implementing the PSD and title V programs for GHG sources will depend in large measure on the development of streamlining measures and increases in permitting authorities' resources, and those things carry some uncertainty and in any event, under the best of circumstances, cannot have much impact for at least several years. It will take EPA that long to develop streamlining measures, and it will take permitting authorities that long to begin to raise money and hire and train FTEs.

Second, as the Court stated in *National Association of Broadcasters*, "the agency [should] ma[k]e some estimation, based upon evolving economic and technological conditions, as to the nature and magnitude of the problem it will have to confront when it comes to [undertake the remaining steps]" and that estimation must be "plausible and flow from the factual record compiled." *Id.* at 1210. Here, EPA has done this by estimating the number of PSD and title V permits and the costs of issuing them, and has provided as much information as possible about the development of streamlining methods and permitting authority resources.

Third, again as the Court stated in *National Association of Broadcasters*, it must be "reasonable, in the context of the decisions made in the proceeding under review, for the agency to have deferred the issue to the future. With respect to that question, postponement will be most easily justified when an agency acts against a background of rapid technical and social change and when the agency's initial decision as a practical matter is reversible should the future proceedings yield drastically unexpected results." *Id.* at 1211. Here, our tailoring approach is reasonable in light of changes in permitting authority capacity that may occur with the development of streamlining methods and increased resources. In addition, the first two steps that EPA promulgates today are reasonable initial steps that we expect to build on by lowering thresholds, as appropriate, in the future. We have no reason to suspect that we may need to reverse either of the first two steps. Having received and analyzed extensive comment on the number of permitting actions to expect and on permitting authority resources, we consider it unlikely that we would need to establish a higher threshold level than what we have established in Steps 1 and 2. In addition, if we were to adopt an "empty permits" approach for title V, we would not need to reverse either of Steps 1 and 2, as explained above.

Finally, as the DC Circuit stated in *Grand Canyon Air Tour Coalition v. F.A.A.*, 154 F.3d 455, 477-78 (DC Cir. 1998), the Courts will accept an initial step towards full compliance with a statutory mandate, as long as the agency is headed towards full compliance, and we believe that the doctrine is applicable here. EPA intends to require full compliance with the CAA applicability provisions of the PSD and title V programs, but we believe that in the case of GHG-emitting sources, by application of the "absurd results" doctrine or the "administrative necessity" doctrine, full compliance with the applicability provisions does not necessarily mean full compliance with the literal terms of those provisions.[52] Rather, as we have explained elsewhere, in the case of GHG sources, full compliance may mean compliance with higher levels that are consistent with congressional intent, under the "absurd results" doctrine, or that are within the reach of permitting authorities in light of their administrative constraints, under the "administrative necessity" doctrine. This rulemaking constitutes a package of initial steps towards that full compliance, and, seen in that light, is supported by the "one-step-at-a-time" doctrine.

Even if the doctrine were found to apply only when an agency is committed to fully implementing statutory requirements according to their literal terms, we believe that the steps we promulgate in this notice would be considered valid under the one-step-at-a-time doctrine. This is because even if we are incorrect about the applicability of the "absurd results" and "administrative necessity" doctrines, so that GHG sources are required to comply with the literal terms of the PSD and title V applicability provisions, the "one-step-at-a-time" doctrine would allow PSD and title V applicability to be phased in, and the first two steps we promulgate in this notice would be upheld as reasonable initial steps toward full compliance with the literal terms of the CAA. As we have described elsewhere, there is little question but that sources and permitting authorities cannot reasonably be expected to comply with or implement PSD and title V applicability requirements in the near term—by January 2, 2011 and July 1, 2011—except to the limited extent described under Steps 1 and 2. Nor is applicability of the PSD and title V requirements at levels below 50,000 tpy CO_2e reasonable before 6 years from promulgation of this rule, as discussed elsewhere. If further steps resulting in full compliance with the literal terms of the applicability provisions of PSD and title V were required, it would be reasonable for those steps to occur in the future, as part of the rulemaking to be completed by the sixth year after promulgation, to which EPA commits itself as part of this action, or as part of subsequent actions. *See Grand Canyon Air Tour*, 891 F.2d at 476-77 (upholding agency action as a step towards full compliance with statutory mandate when the agency expected full compliance to occur some 20 years after the deadline in the statute).

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[52] For reasons explained elsewhere, our reference to the literal terms of the applicability provisions means the literal terms of the definition of "major emitting facility" for PSD and "major source" for title V, as EPA has narrowed those definitions to refer to "any pollutant" that is subject to regulation under the CAA.

C. *Mechanisms for Implementing and Adopting the Tailoring Approach*

In this section, we discuss three issues related to adoption of the tailoring approach within our regulations and by permitting agencies. The first is the regulatory mechanism for implementing the tailoring approach—that is, the specific way we are revising the PSD and title V applicability provisions to incorporate the tailoring approach—and our rationale. The second is the process by which state or local permitting authorities may incorporate the tailoring approach into their PSD SIP and title V permit programs. Finally, we discuss our reasons for delaying action on our proposal to limit approval of both SIP-approved PSD programs and title V programs, and we request certain information from states on both of their programs and their actions in response to this rule.

In brief, we proposed to exempt sources emitting GHGs below certain threshold levels from the definition of the regulatory terms "major stationary source" and "major modification" in PSD programs and the definition of the regulatory term "major source" in title V programs. We further proposed to effectuate this change in SIP-approved PSD programs (as included in SIPs) and EPA-approved part 70 title V programs by limiting our prior approval of those programs to the revised applicability thresholds for GHGs.[53] These changes would have the effect of putting the higher thresholds adopted under the Tailoring Rule in place in states PSD and title V programs as a matter of federal law. However, state commenters expressed concern that they would not be able to adopt the Tailoring Rule under state laws on an expeditious basis. To address this, our final action differs from our proposed rule in the way we incorporate the limitations promulgated in this Tailoring Rule into the "major stationary source," "major modification" and "major source" definitions. This approach relies on further defining the term "subject to regulation" and although this approach is not substantively different in effect from the proposed rule, it will facilitate more rapid adoption and implementation of the Tailoring Rule by states through interpretation of language in existing state regulations. We believe these differences are a logical outgrowth of our proposed rule. We are also delaying action on our proposed limited approval of EPA-approved PSD programs and part 70 title programs to determine how each state will implement the final rules.

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[53] In the alternative, we also proposed to use our section 110(k)(6) error correction authority to revise SIP-approved PSD program. We are also delaying action on this proposal.

1. PSD Approach: Background and Proposal

Under CAA section 165(a), no "major emitting facility" may construct or modify unless it receives a preconstruction permit that meets the requirements of the PSD program. CAA section 169(1) defines a major emitting facility as "any * * * source[]" in one of 28 specified source categories that "emit[s], or ha[s] the potential to emit, one hundred tons per year or more of any air pollutant;" or "any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant." EPA's regulations replace the term "major emitting facility" with the term "major stationary source" and define the term as "[a]ny of * * * [28 types of] stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant" or "any stationary source which emits, or has the potential to emit 250 tons per year or more of a regulated NSR pollutant." 40 CFR 51.166(b)(1)(i)(a)-(b). The term "regulated NSR pollutant" is defined to include, among other things, "any * * * air pollutant that otherwise is subject to regulation under the Clean Air Act." 40 CFR 51.166(b)(50). Note that the regulatory definition in effect interprets the statutory definition more narrowly to read "one hundred [or two hundred and fifty] tons per year or more of any air pollutant subject to regulation under the Clean Air Act" (emphasis added).

Similarly, under the statute, a modification occurs if there is a physical change or change in the method of operation "which increases the amount of any air pollutant emitted * * *." CAA section 165(a), 169(2)(c), and 111(a)(4). As with the major stationary source definition, we have limited coverage of the modification provision to physical changes or changes in the method of operation that result a significant net emissions increase in emissions of a "regulated NSR pollutant." 40 CFR 51.166(b)(2)(i).

Our proposed rule revised the definition of "major stationary source to (1) exempt GHG from the regulated NSR pollutants that, if emitted by a source in the 100 or 250 tpy quantities, would cause the source to qualify as a "major stationary source," and (2) add a specific threshold at which a source that emits a specified quantity of GHGs (at proposal, that quantity was 25,000 tpy CO_2e) would qualify as a "major stationary source." 74 FR 55351, proposed 40 CFR 51.166(b)(1)(i)(*a*), (*b*), and (*d*). We also proposed a significance threshold, which is the amount of an increase needed to trigger PSD for a modification or to require BACT for a new source, at a level between 10,000 and 25,000 tpy CO_2e. 74 FR 55351; 40 CFR 51.166(b)(23)(i).

Additionally, we recognized that it may take some time before states could change their SIP-approved PSD programs and that as a result, absent additional action on our part, GHG-emitting sources would remain subject to the 100 or 250 tpy thresholds, and subject to a zero significance threshold for major modifications as a matter of federal law. To address this issue, we proposed to narrow our previous approval of those SIPs. The effect of our proposal would be that EPA would have approved the SIP PSD programs only to the extent they apply PSD and requirements to GHG sources at or above the thresholds established in the Tailoring Rule (which, generally, were 25,000 tpy CO_2e), and EPA would have taken no action on the SIP PSD programs to the extent they apply PSD requirements to GHG sources below that threshold. We relied on the authority of the APA and the general authority of CAA section 301 and, in the alternative, on the error correction mechanism under CAA section 110(k)(6). Our limited approval would revise existing EPA-approved SIP PSD programs to authorize permitting under the CAA only for GHG sources at the appropriate levels.

In response to our proposed approach, we received numerous comments from state and local permitting agencies expressing significant concern. They observed that our proposed approach could meet its objectives to avoid applying PSD requirements to small sources under federal law, but would not succeed in avoiding the application of PSD requirements to those small sources under *state* law. The commenters explained that, although EPA was changing federal PSD applicability thresholds; for GHG-emitting sources to incorporate the tailoring approach, and limiting the scope EPA approval of SIPs consistent with these thresholds, the state rules containing the originally-approved SIP thresholds would continue to apply as a matter of state law. As commenters explained, for the most part, the laws and regulations states adopt to implement federal PSD programs mirror EPA's regulations, so that the state laws, apply PSD to sources that emit air pollutants subject to regulation at the 100/250 tpy threshold. Commenters reasoned that, until the states can change their state laws, the 100/250 tpy thresholds will continue to apply as a matter of state law, even though the higher thresholds apply as a matter of federal law.

Importantly, these commenters emphasized, their state process requires that they promulgate a rulemaking, or in some cases, a legislative change, to incorporate the higher thresholds for GHG sources in their SIPs. These processes would require many months and in some cases as long as 2 years. As a result, sources that emit GHGs below the federally established levels in the final rule, but at above the 100/250 tpy levels in state laws and rules, would still be required to obtain PSD permits under state law. As a result, states, in attempting to implement state permitting requirements, would be faced with the same administrative difficulties that EPA recognized in the proposed rule as impossible. Commenters emphasized that this situation was untenable.

In addition to the state comments just described, we received comments that took issue with our view that we were in effect revising the numerical thresholds for PSD applicability as the legal mechanism for the tailoring approach. They asserted that in fact, our mechanism consisted of interpreting the term "any source" to exclude small GHG-emitting sources. Other commenters objected to our proposed mechanism of narrowing our previous SIP approval, arguing that this mechanism was without legal basis.

2. Rationale for Our Final Approach To Implementing PSD

In response to these concerns, we are adding another mechanism to implement the tailoring approach for PSD, and that is to adopt a definition, within our PSD regulations, the phrase "subject to regulation," as found within the phrase "any regulated

NSR pollutant," which, in turn, is part of the definitions of "major stationary source" and "major modification." To implement this mechanism, we are defining the phrase "subject to regulation" so that the GHGs emitted by sources that fall below the thresholds or scope established in Steps 1 and 2 are not treated as "subject to regulation," and therefore do not trigger PSD for the sources that emit them. As discussed in section V.B.3., the term "subject to regulation" is one of four terms that should be considered not to apply literally in the case of GHG sources.

To understand this approach, it is useful to return to the definition of "major stationary source," which, again, is central to PSD applicability. The definition, quoted previously, employs the term "regulated NSR pollutant," which is a defined term. The definition incorporates many other elements as well (*e.g.*, the 100/250 threshold requirements), but for convenience, we quote it as follows: A "major stationary source" is "[a]ny * * * source[-] of air pollutants, which emits, or has the potential to emit, [depending on the source category, either] 100 [or 250] tons per year or more of any air pollutant that is subject to regulation under the Clean Air Act." 40 CFR 51.166(b)(1)(i)(a)-(b). Applying our definition of "subject to regulation" to exclude GHG sources that emit below specified thresholds, the definition may now be paraphrased as follows: A "major stationary source" is any source of air pollutants, which emits, or has the potential to emit, depending on the source category, either 100 or 250 tpy or more of any air pollutant subject to regulation under the CAA, except that the source's GHGs are considered to be subject to regulation under the CAA only the extent indicated under Steps 1 and 2 of the Tailoring Rule, *e.g.*, for Step 2, only if the source's GHG emissions exceed the threshold established in Step 2. We adopt the same approach for the definition of the regulatory term "major modification."

Although EPA is revising its regulations to apply the phrase subject to regulation in this manner, we have been advised that states may be able to adopt our approach without having to undertake a rulemaking action to revise their state regulations or without requiring an act of the state legislature. Instead, it is our understanding that states may adopt our approach by interpreting the term "subject to regulation" reflected in their regulations to have the same meaning that we are assigning to that term in our regulations in this rulemaking. This is particularly—although not exclusively—the case in a state that has taken the position, or determines now, that the state's definition of "subject to regulation," or, more broadly, "regulated NSR pollutant" or "major stationary source" or "major modification," is intended to be interpreted in a way that tracks the meanings that EPA has assigned to these phrases. Such states can adopt the meaning of "subject to regulation" that we establish in this rule by January 2, 2011, and thereby avoid the situation in which, as a matter of state law, GHG-emitting sources above the 100 or 250 tpy thresholds become subject to PSD by that date. The following explains our basis for concluding that states may apply EPA's approach under existing regulations that use the term "subject to regulation." On December 18, 2008, EPA issued the Interpretive Memo, establishing EPA's interpretation of the definition "regulated NSR pollutant" found at 40 CFR 52.21(b)(50). EPA intended this memorandum to resolve ambiguity in subparagraph (iv) of this definition, which includes "any pollutant that otherwise is subject to regulation under the Act." Specifically, the memorandum stated that EPA will interpret the definition of "regulated NSR pollutant" to exclude pollutants for which EPA regulations only require monitoring or reporting but to include pollutants subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant.

After reconsidering this interpretation through a formal notice-and-comment process, EPA refined its interpretation to establish that the PSD permitting requirements will not apply to a newly regulated pollutant until a regulatory requirement to control emissions of that pollutant "takes effect." 75 FR 17704. Importantly, as stated previously, because the term "regulated NSR pollutant" is embedded within the definition of "major stationary source," this interpretation effectively defines which major stationary sources are subject to PSD permitting. As a result, for example, EPA explained that PSD and title V permitting requirements for GHGs will not apply to GHGs until at least January 2, 2011, following the anticipated promulgation of EPA regulations requiring control of GHG emissions under title II of the CAA. *Id*.

In the RTC document for EPA's reconsideration of the PSD interpretative memorandum, we stated that,

> Absent a unique requirement of state law, EPA believes that state laws that use the same language that is contained in EPA's PSD program regulations at 52.21(b)(50) and 51.166(b)(50) are sufficiently open-ended to incorporate greenhouse gases as a regulated NSR pollutant at the

> appropriate time consistent with EPA's interpretation of these regulations (emphasis added). (Docket ID No. EPA-HQ-OAR-2009-0597-0128).

Because the state regulations that include EPA's definition of the term "subject to regulation" in the reconsideration of the Interpretive Memo are "sufficiently open-ended to incorporate greenhouse gases as a regulated pollutant," those state regulations are also sufficiently open-ended to incorporate the further refinement to the meaning of the phrase "subject to regulation" that we make in this rulemaking.

By the same token, EPA has historically interpreted certain state SIP-approved programs as sufficiently open-ended such that the rules provide for the "automatic assumption for the responsibility for review" of new pollutants before the general deadline for states to revise their PSD programs. *See, e.g.*, 52 FR 24682. Conversely, we have also read federal rules and state rules approved in SIPs to provide for the automatic removal of a pollutant when such pollutant is no longer "subject to regulation." For example, the 1990 CAA Amendments exempted HAPs listed in section 112(b)(1) from the PSD requirements. *See* CAA section 112(b)(6). Following passage of the amendments, EPA issued "New Source Review (NSR) Program Transitional Guidance," a memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards to Regional Air Division Directors on March 11, 1991. In that guidance, EPA interpreted its PSD regulations to automatically cease to apply to listed HAPs (with some noted exceptions), and implicitly stated that a state with an open-ended SIP-approved PSD rule could also take the position that its SIP-approved rule automatically ceased to regulate HAPs.

After reviewing these past practices in the PSD permitting program, and EPA's prior statements regarding pollutants subject to the PSD program, we conclude that states with SIP-approved rules that contain the same language as used in 40 CFR 52.21(b)(50) or 40 CFR 51.166(b)(49), or that otherwise have sufficiently open-ended PSD regulations, would be able to implement our Tailoring Rule approach to permitting by interpreting their regulations, and without needing to promulgate a regulation or seek state legislative action. This is particularly—although not exclusively—the case for states that take the position that they intend their rules to apply in the same manner as EPA's counterpart rules. If states adopt this reading of their regulations, GHG sources falling below the specified cutoffs would not be emitting pollutants "subject to regulation" within the definition of "regulated NSR pollutant" and therefore would not be subject to PSD permitting as a major stationary source or for making a major modification.

During our consideration of this action, we participated in teleconferences with one local and six state agency permitting authorities to discuss this issue of whether they could implement the proposed rule without the need for state law or regulation changes or a revision of the provisions of state law that are a part of the SIP. We specifically discussed whether defining the phrase "subject to regulation" would better facilitate state incorporation of the limitations in this final rule. The state and local agencies participating in the calls generally agreed that defining the phrase "subject to regulation" would, compared to our proposed approach, better facilitate state incorporation of the limitations in the final rule in states with regulations that mirror the existing federal rules, or in states whose rules are otherwise sufficiently open-ended to incorporate the limitations in the final rule by interpretation. Participants from each agency also indicated that their rules contain the term "subject to regulation" and that term has not been previously interpreted in ways that would preclude application of the meaning assigned to the term by EPA. We therefore concluded it is likely the state rules are sufficiently open-ended to apply EPA's approach by interpretation (although some states indicated they may elect to pursue rulemaking in addition to or instead of interpretation). Accordingly, we selected the "subject to regulation" regulatory approach as the mechanism for implementing the final rule.

3. Other Mechanisms

As just described, we selected the "subject to regulation" mechanism because it most readily accommodated the needs of states to expeditiously revise—through interpretation or otherwise—their state rules. Even so, it is important to recognize that this mechanism has the same substantive effect as the mechanism we considered in the proposed rule, which was revising numerical thresholds in the definitions of major stationary source and major modification. Most importantly, although we are codifying the "subject to regulation" mechanism, that approach is driven by the needs of the states, and our action in this rulemaking should be interpreted to rely on any of several legal mechanisms to accomplish this result. Thus, our action in this rule should be understood as revising the meaning of several terms in these definitions, including: (1) The numerical thresholds, as we proposed; (2) the term, "any source," which some commenters identified as the most relevant term for purposes of our proposal; (3) the term, "any air pollutant; or (4) the term, "subject to regulation." The specific choice of which of these constitutes the nominal mechanism does not have a substantive legal effect because each mechanism involves one or another of the components of the terms "major stationary source"—which embodies the statutory term, "major emitting facility"—and "major modification," which embodies the statutory term, "modification," and it is those statutory and regulatory terms that we are defining to exclude the indicated GHG-emitting sources.[54]

4. Codification of Interpretive Memo

As noted previously, we recently affirmed and refined our interpretation of the term "subject to regulation" as it applies broadly to the PSD program through a formal notice and comment process. "Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs," 75 FR 17004. In the proposal associated with that action, we requested comment on whether we should codify our interpretation in the regulatory text. 74 FR 51535, 51547 (October 7, 2009). We elected not to codify our interpretation in the final action on reconsideration of the Interpretive Memo because we concluded such an action was not necessary and that it was important to apply the refined interpretation immediately. 75 FR 17015. However, in the RTC document for that action, we indicated that we had not ruled out the option of codifying our interpretation at a later time. Since we are otherwise adopting a definition of "subject to regulation" in this rule as the mechanism for implementing the phase-in, it makes sense in this final rule to codify the interpretation reflected in the Interpretive Memo and the final action on reconsideration at the same time to bring clarity to our rules. Specifically, the definitions of the term "subject to regulation" contain a paragraph that reflects our existing interpretation of that term (*i.e.*, prior to adopting the provisions that implement the phase-in). Codification of the Interpretive Memo in this action makes sense to ensure the regulations reflect a complete picture of the meaning of "subject to regulation" applied by EPA. We also are moving existing exceptions (*e.g.*, section 112 HAPs) to a new paragraph within the definition of "subject to regulation." This minor reorganization of these regulations is not intended to effect any change in how they are to be implemented, but merely simplifies and clarifies the regulations by clearly delineating different terms and concepts.

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[54] We also think that this approach better clarifies our long standing practice of interpreting open-ended SIP regulations to automatically adjust for changes in the regulatory status of an air pollutant, because it appropriately assures that the Tailoring Rule applies to both the definition of "major stationary source" and "regulated NSR pollutant."

This codification of this interpretation of "subject to regulation" from the reconsideration for the Interpretive Memo is not necessary to assure the effectiveness of the interpretation, and it does not disturb states' existing authority to adopt the definition through interpretation of their existing rules. Codifying our existing interpretation in this action will ensure that parties reading the regulations have a full understanding of how EPA applies the PSD program requirements. Since the interpretation described in the Interpretive Memo and the April 2, 2010 final action are otherwise applicable at this time, the particular time sensitivity discussed in the latter action is not the same for this final action tailoring the PSD requirements.

5. Delaying Limited Approvals and Request for Submission of Information From States Implementing a SIP-Approved PSD Program

Because we now anticipate that many states will be able to implement our tailoring approach through interpretation of the term "subject to regulation," and without the need to revise their SIPs, we are delaying further action on our proposal to limit our approval of SIPs until we better understand how permitting authorities will, in fact, implement our tailoring approach. For this purpose, we ask each state to submit a letter to the appropriate EPA Regional Administrator no later than August 2, 2010. In that letter, the state should explain whether it will apply EPA's meaning of the term "subject to regulation" and if so, whether the state intends to incorporate that meaning of the term through interpretation, and without undertaking a regulatory or legislative process. If a state must undertake a regulatory or legislative process, then the letter should provide an estimate of the time needed to adopt the final rules. If a state chooses not to adopt EPA's meaning by interpretation, the letter should address whether the state has alternative authority to implement either our tailoring approach or some other approach that is at least as stringent, whether the state intends to use that authority. If the state does not intend to interpret or revise its SIP to adopt the tailoring approach or such other approach, then the letter should address the expected shortfalls in personnel and funding that will arise if the state attempts to carry out PSD permitting for GHG sources under the existing SIP and interpretation.

For any state that is unable or unwilling to adopt the tailoring approach by January 2, 2011, and that otherwise is unable to demonstrate adequate personnel and funding, we will move forward with finalizing our proposal to limit our approval of the existing SIP. Although we received comments questioning our authority to limit approval as proposed, using our general rulemaking and CAA section 110(k)(6) authorities, we are not responding to those comments at this time. We will address these comments in any final action we take to implement a limited approval.

In our proposed rule, we also noted that a handful of EPA-approved SIPs fail to include provisions that would apply PSD to GHG sources at the appropriate time. This is generally because these SIPs specifically list the pollutants subject to the SIP PSD program requirements, and do not include GHGs in that list, rather than include a definition of NSR regulated pollutant that mirrors the federal rule, or because the state otherwise interprets its regulations to limit which pollutants the state may regulate. At proposal, we indicated that we intended to take separate action to identify these SIPs, and to take regulatory action to correct this SIP deficiency.

We ask any state or local permitting agency that does not believe its existing SIP provides authority to issue PSD permits to GHG sources to notify the EPA Regional Administrator by letter, and to do so no later than August 2, 2010. This letter should indicate whether the state intends to undertake rulemaking to revise its rules to apply PSD to the GHG sources that will be covered under the applicability thresholds in this rulemaking, or alternatively, whether the state believes it has adequate authority through other means to issue federally-enforceable PSD permits to GHG sources consistent with this final rule. For any state that lacks the ability to issue PSD permits for

GHG sources consistent with this final rule, we intend to undertake a separate action to issue a SIP call, under CAA section 110(k)(5). As appropriate, we may also impose a FIP through 40 CFR 52.21 to ensure that GHG sources will be permitted consistent with this final rule.

6. Title V Programs

Our final action also differs from the proposal in the specific regulatory mechanism by which we tailor the definition of "major source" for title V permit programs, but is a logical outgrowth of our proposed rule. EPA proposed to implement tailoring for GHGs under title V by excluding sources of GHGs from the general definition of "major source" under 40 CFR 70.2 and 71.2, and adding a separate definition of "major source" with tailored thresholds for sources of GHGs. In response to comments, particularly from states concerned with implementation of the proposed approach under state law, EPA is adopting an approach in the final rule that (1) amends the definition of "major source" by codifying EPA's long-standing interpretation that applicability for a "major stationary source" under CAA sections 501(2)(B) and 302(j) and 40 CFR 70.2 and 71.2 is triggered by sources of pollutants "subject to regulation," and (2) adds a definition of "subject to regulation." Further, we are delaying our action to move forward with limiting our previous approval of existing state part 70 programs.

We are finalizing this alternative approach to address concerns similar to those we received with respect to state implementation of SIP-approved PSD programs. Specifically, we received comments that the mechanism we proposed would not address the significant administrative and programmatic considerations associated with permitting GHGs under title

V, because the 100 tpy threshold would continue to apply as a matter of state law. Commenters stated that states would need to undertake a regulatory and/or legislative process to change the threshold in their state laws which they could not complete before the laws would otherwise require issuance of operating permits to GHG sources.

After considering the commenters' concerns, we are finalizing an approach designed to address the state law concerns for states. As a result, it is unnecessary to move forward at this time with our proposed approach to limit approval of existing part 70 programs in many states.

EPA's approach involves the interrelationship of terms within the part 70 definition of "major source" in title V and EPA's implementing regulations, and EPA's historical practice of interpreting the term "any air pollutant" in the "major stationary source" component of that definition. EPA believes the approach in the final rule will allow many states to adopt the final rule through interpretation of existing state laws. Specifically, paragraph (3) within the definition of "major source" found in 40 CFR 70.2 and 71.2 defines a major source as "a major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant * * *." The EPA previously articulated the Agency's interpretation that the regulatory and statutory definitions of "major source" under title V, including the term "any air pollutant," applies to pollutants "subject to regulation." Memorandum. EPA recently re-affirmed this position in EPA's Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs. 75 FR 17704, 17022-23 (April 2, 2010) (Interpretive Memo reconsideration final action).

Accordingly, under our long-established policy, states historically have interpreted the term "any air pollutant" under the title V definition of "major source" to mean any pollutant "subject to regulation" under the Act. Thus, as a matter of established interpretation, EPA and states effectively read the definition of "major source" under title V to include a source "* * * that directly emits or has the potential to emit, 100 tpy or more of any air pollutant *subject to regulation under the Act*" (emphasis added). By amending our regulations to expressly include and define "subject to regulation" to implement our tailoring for GHGs under title V, we are seeking to enable states to adopt and implement this approach through a continued interpretation of the phrase "any air pollutant" within the "major source" definition, without the need for changes to state regulations or statutes. States may be able to track EPA's approach to tailoring for GHG permitting without regulatory or statutory changes, for example, where a state has taken the position, or determines now, that the state's interpretation of "major source," "subject to regulation" and/or "any air pollutant" is intended to track EPA's interpretation.

Thus, EPA is adding the phrase "subject to regulation" to the definition of "major source" under 40 CFR 70.2 and 71.2. EPA is also adding to these regulations a definition of "subject to regulation." Under the part 70 and part 71 regulatory changes adopted, the term "subject to regulation," for purposes of the definition of "major source," has two components. The first component codifies the general approach EPA recently articulated in the "Reconsideration of Interpretation of

Regulations That Determine Pollutants Covered by Clean Air Act Permitting." 75 FR 17704. Under this first component, a pollutant "subject to regulation" is defined to mean a pollutant subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant and that has taken effect under the CAA. *See id.* at 17022-23; Wegman Memorandum at 4-5. To address tailoring for GHGs, EPA includes a second component of the definition of "subject to regulation," specifying that GHGs are not subject to regulation for purposes of defining a major source, unless as of July 1, 2011, the emissions of GHGs are from a source emitting or having the potential to emit 100,000 tpy of GHGs on a CO_2e basis.

As explained previously, we find no substantive difference between the alternative mechanisms for implementing GHG tailoring in the final rule. Whether we add GHG thresholds directly to the definition of "major source" (as we proposed), or alternatively, expressly add and define the term "subject to regulation," both approaches revise the definition of "major source" to implement the Tailoring Rule. Accordingly, we adopt the later approach to facilitate state implementation of the final rule through an interpretation of existing state part 70 programs. Similar to our explanation previously for PSD, while we adopt the "subject to regulation" mechanism for implementing GHG tailoring in the final rule, the thrust of our rulemaking is to apply the title V definition of "major source"—which includes the statutory term, "major stationary source"—to GHG sources by treating only GHG sources that emit at levels above the Steps 1 and 2 thresholds as meeting that definition. Further, we believe that our action may reasonably be construed to revise any of several terms in that definition, including (1) The numerical thresholds, as we proposed; (2) the term "any air pollutant," (3) the term "a major stationary source," (4) the term "subject to regulation," which, as discussed previously, our regulations graft into the definition of "major source." We believe that the specific choice of which term constitutes the legal mechanism does not have a substantive legal effect because each mechanism involves one of the components of the regulatory term "major source"—which embodies the meaning of the statutory term, "major source"—and it is that term that we are interpreting to tailor title V applicability for GHG-emitting sources. Thus, while the "subject to regulation" mechanism facilitates expeditious implementation by states, and we are therefore revising our regulations to adopt this approach, we otherwise find no substantive difference between the alternative mechanisms we may use to finalize the proposed rule.

Further, similar to our revised approach for addressing state SIP-approved PSD programs, we are delaying our action to limit our previous approvals for state part 70 operating permit programs. In our proposed rule, we explained our concern that states lack adequate personnel and resources to carry out part 70 operating permit programs for GHG sources that emit or have the potential to emit 100 tpy of GHGs. Accordingly, we proposed to use our general rulemaking authority under section 301(a) of the CAA and APA section 553 to limit our prior approval of state operating permit programs. This limited approval action would have had the effect of applying CAA permitting requirements only to sources that exceed the permitting thresholds established in this rule for the phase-in, because only those sources would be covered by the federally approved part 70 programs.

74 FR 55345. As discussed previously, we are proceeding with a slightly revised approach to address concerns similar to those raised with our proposed approach for addressing SIP-approved PSD permit programs. Because we now recognize that, like the PSD program, many states will be able to implement the final rules without the need to revise their existing part 70 operating permit programs, we are delaying further action on our proposal to limit approval of existing part 70 programs until we better understand how permitting authorities will implement our final rule.

In addition to the information requested previously on SIP-approved PSD permit programs, we ask each state to submit a letter to the appropriate EPA Regional Administrator no later than August 2, 2010 detailing the state's plan for permitting of GHG sources under the state's part 70 program. In that letter, states should explain whether they will adopt an interpretation of the terms "major source" or any of its component terms—"a major stationary source," "any air pollutant," or "subject to regulation," or the numerical thresholds—that is consistent with EPA's regulatory interpretation of these terms as codified at 40 CFR 70.2, and whether the state intends to adopt the interpretation without undertaking a regulatory or legislative process. This approach may be available, for example, where a state has taken the position, or determines now, that the state's interpretation of these terms is intended to track EPA's interpretation, resulting in title V permitting for sources of GHGs as described in EPA's regulations adopted in this rule. If a state must revise its title V regulations or statutes to implement the interpretation, we ask that it provides an estimate of the time to adopt final rules or statutes in its letter to the Regional Administrator. If a state chooses not to (or cannot) adopt our interpretation, the letter should address whether the state has alternative authority to implement the GHG tailoring approach or some other approach that is at least as stringent, but which also addresses the expected shortfalls in personnel and funding and delays in permitting that would exist if the state carried out permitting under part 70 program thresholds lower than those adopted by EPA in this final rule. For any state that is unable or unwilling to adopt the permitting thresholds in the final rules, and otherwise is unable to demonstrate adequate personnel and funding, EPA will move forward with finalizing a narrowed limited approval of the state's existing part 70 program. If we do so, then we will respond in that action to comments on our proposal.

In our proposed rule, we also noted that a handful of part 70 operating permit programs may include provisions that would not require operating permits for any source of GHG emissions because, for example, the programs may apply only to pollutants specifically identified in the program provisions, and the provisions do not specifically identify GHGs. In these cases, states may be unable to interpret their regulatory provisions to interpret the term "any pollutant" to include pollutants "subject to regulation." We indicated that we intended to take separate action to identify these programs, and to take regulatory action to correct this deficiency. Accordingly, we ask any state or local permitting agency that does not believe its existing part 70 regulations convey authority to issue title V permits to GHG sources consistent with the final rule to notify the EPA Regional Administrator by letter as to whether the state intends to undertake rulemaking to revise its rules consistent with these applicability thresholds. This notification should be done no later than the previously described letter regarding adoption of the Tailoring Rule, and could be combined with similar notifications we request regarding the PSD program. We intend to undertake a separate regulatory action to address part 70 programs that lack the ability to issue operating permits for GHG sources consistent with the final rule. We also intend to use our federal title V authority to ensure that GHG sources will be permitted consistent with the final rule.

D. Rationale for Treatment of GHGs for Title V Permit Fees

The title V program requires permitting authorities to collect fees "sufficient to cover all reasonable (direct and indirect) costs required to develop and administer [title V] programs."[55] To meet this requirement, permitting authorities either collect an amount not less than a minimum amount specified in our rules (known as the "presumptive minimum"), or may collect a different amount (usually less than the presumptive minimum). We did not propose to change the title V fee regulations in our notice of proposed rulemaking for this action, nor did we propose to require new fee demonstrations when title V programs begin to address GHGs. However, we did recommend that each state, local or tribal program review its resource needs for GHGs and determine if the existing fee approaches will be adequate. If those approaches will not be adequate, we suggested that states should be proactive in raising fees to cover the direct and indirect costs of the program or develop other alternative approaches to meet the shortfall. We are retaining this proposed approach, and are not changing our fee regulations as part of this final action establishing Steps 1 and 2 of the phase-in. However, we are offering some additional clarification of our fee approach during these steps in response to comments we received on this issue. Additional discussion of fees will be included as part of subsequent actions establishing Step 3 and beyond.

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[55] The fee provisions are set forth in CAA section 502(b)(3) and in our regulations at 40 CFR 70.9 and 71.9.

A few state commenters suggested that EPA should modify part 70 to adopt a presumptive minimum fee (or range for such fee) for GHGs, some of whom suggested that current fees may be insufficient to cover the costs of their program. It is important to clarify that altering the presumptive minimum would only affect those states that chose to charge the presumptive minimum fee to sources. Most states—including some of the commenters asking EPA to raise the presumptive minimum—collect a lower amount that is not based on the presumptive minimum, but rather, relies on another fee schedule that it developed and EPA approved as adequate to cover costs. Therefore, it is useful to first discuss our approach to programs that have fee schedules resulting in a different amount before discussing our approach to the presumptive minimum.

Because of the added GHG title V permitting workload described elsewhere in this notice, any state that will not, under its current fee structure, collect fees adequate to fund the permitting of GHG sources must alter its fee structure in order to meet the requirement that fees be adequate to cover costs. Changes may not be required in every instance; circumstances will vary from state to state. For example, a state may see increases in revenue from newly-covered sources (based on emissions of pollutants already subject to fees) that fully cover the state's increased costs, or a state may be over-collecting fees now and could use the surplus to offset the increased costs. Nonetheless, in many cases, we think states will need to adjust their fee structures to cover the costs of GHG permitting in order to meet the requirements of the Act and our regulations.

For this reason, although we are not calling for new fee demonstrations at this time, we plan to closely monitor state title V programs during the first two steps of the Tailoring Rule to ensure that the added workload from incorporating GHGs into the permit program does not result in fee shortfalls that imperil operating permit program implementation and enforcement, whatever the basis of the states' fee schedule. As described in the proposal, such fee oversight by EPA may involve fee audits under the authority of 40 CFR 70.9(b)(5) to ensure that adequate fees are collected in the aggregate to cover program costs, with emphasis on whether the additional GHG workload is being appropriately funded. Also, EPA retains the ability to initiate a program revision under 40 CFR 70.4(i)(3) or issue a notice of deficiency under the process described in 40 CFR 70.10(b) to address fee adequacy issues, which may be uncovered during a fee audit. By relying on existing oversight measures, we are ensuring that the fee requirements are met with a minimum of disruption to existing programs at a time when they will already be facing significant challenges related to GHG permitting.

Turning to the minority of states that do use the presumptive minimum, we did not propose to change the presumptive minimum calculation method to account for GHGs. Currently under the statute and our rules, the presumptive minimum is based on a subset of air pollutants (*i.e.*, VOCs, NAAQS pollutants except for CO, and pollutants regulated under the NSPS and MACT standards promulgated under sections 111 and 112 of the Act, respectively) that does not include GHGs. The amount is specified on a per-ton basis and changes with inflation (it is currently set at $43.75/ton), but does not apply to emissions over 4,000 tpy of a given pollutant from a given source. We noted several difficulties in applying the presumptive minimum to GHG, including the large amounts of GHG emissions relative to other pollutants and the need for better data to establish a GHG-specific amount. Noting that GHGs are not currently included in the Act's list of pollutants to which the presumptive fee applies, we also invited comment on whether we should raise the fee for listed pollutants to cover the added cost of GHG permitting.

A few state commenters asked us to set a presumptive fee for GHGs, which we take to mean we should add GHGs to the list of pollutants to which a presumptive fee would apply. However, many commenters noted that the current presumptive minimum fee is unreasonable for GHGs because GHGs are emitted in greater quantities than the pollutants currently subject to presumptive fees, which would result in excessive fees. These commenters believe that EPA needs to limit the fees that states can charge for GHGs. Moreover, one commenter read the statute to prohibit us from listing GHGs in the presumptive fee calculation in the first place. Several commenters disagreed with the idea of increasing the presumptive fee for other pollutants to cover the cost of regulating GHGs, some of whom believed that this would unfairly punish existing sources or would bring in no new revenue from sources triggering title V for the first time.

After considering these comments, we remain disinclined, as we were at proposal, to change the presumptive fee calculation regulations. While there is some support for changing the regulations, the comments confirm the challenges in doing so. While we expressly rejected charging the full presumptive cost per ton amount for GHG, we also did not propose language to establish a different amount just for GHG, to establish whether a different tpy cap would apply, or to assess whether GHGs could even be added to the list. Thus, many commenters were very concerned about whether the full $43.75 or the 4000 tpy cap would apply to GHG if we listed it as a regulated pollutant for fee purposes. Furthermore, we noted at proposal, and commenters did not disagree, that more data would be needed to establish the appropriate basis for the GHG presumptive minimum. We are not taking a final position in this notice on whether the statute is amenable to including GHG in the presumptive fee calculation currently, but these comments illustrate some of the difficulties of such an approach.

At the same time, we are not increasing the presumptive minimum for other pollutants already included in the fee calculation. We disagree with the commenter who said such an approach would bring in no new revenue from newly-subject sources. Many of the newly-subject sources would emit already-included pollutants. If new revenue from these pollutants were insufficient, and because the Act does not specify how the shortfall must be addressed, the amount of any projected shortfall could be made up by increasing fees on these pollutants. In fact, the projected shortfall could be addressed without having to inventory GHG emissions from title V sources, since the emissions of already-included pollutants are well-known. We also note that, although some commenters are concerned that failing to assess fees for GHGs directly would be unfair, the statute does not provide that the presumptive fee be proportional to each type of pollutant or be proportionally allocated to all sources. Rather, the presumptive fee approach provides a backstop for states that do not wish to adopt a more tailored approach. Nonetheless, we have decided not to increase the presumptive fee amounts for other pollutants because we lack information about the extent to which shortfalls exist due to GHG permitting, and which mix of sources and fees is appropriate for addressing any such shortfall in a state. This decision also provides greater flexibility to states and minimizes disruption to existing programs.

We note that, contrary to the statements of some commenters, the CAA provisions allowing for a presumptive fee calculation do not override the basic requirement that fees be adequate to cover costs. As noted previously, we expect states to see a revenue increase from emissions of listed pollutants at newly-major sources for GHGs, and it is also possible that the presumptive minimum may currently be resulting in over-collection of fees in a state. Thus, a state continuing to use the presumptive minimum may not have a shortfall. However, if states using the presumptive minimum approach do have a revenue shortfall due to GHG permitting, the statute requires the shortfall to be addressed. The EPA has had, and will continue to have, the ability to require states that use the presumptive minimum to increase their fees if the presumptive minimum results in a revenue shortfall that imperils operating permit program implementation and enforcement. Thus, although we are not changing the presumptive minimum in our regulations, we plan to follow the same oversight approach for states using the presumptive minimum as for those collecting less based on a resource demonstration. As described previously, this approach may involve fee audits with emphasis on whether the additional GHG workload is being appropriately funded, and other appropriate follow-up.

Consistent with our proposal, EPA is not modifying its own part 71 fee structure (which closely mirrors the presumptive minimum) in order to charge an additional fee for GHGs. EPA must revise its fee schedule if the schedule does not reflect the costs of program administration. We have not determined that the existing fee structure will be inadequate to fund the part 71 programs costs during the first two phases of permitting GHGs as set forth in this action. However, we are required to review the fee schedule every 2 years, and make changes to the fee schedule as necessary to reflect permit program costs. 40 CFR 71.9(n)(2). Thus we will continue to examine the increases in part 71 burden due to GHG permitting, the current revenue collection, and the increases in revenue from newly-subject part 71 sources, and will adjust the part 71 fee approach accordingly.

Finally, several state and industry commenters asked EPA to provide guidance and recommendations for an appropriate GHG fee structure. We note that title V grants permitting authorities considerable discretion in charging fees to sources for title V purposes and does not require or prohibit fees specifically for GHGs, provided the states collect fees in the aggregate that are sufficient to cover all the direct and indirect program costs. In responding to requests for guidance, we do not wish to limit state discretion. For example, some commenters suggest that EPA prohibit emissions-based fees for GHGs or cap the amount that can be collected, while others suggest we provide a range of acceptable fees. We are concerned that, given the wide variety of fee approaches that states now take, providing specific guidance may be disruptive, rather than helpful, to states.

On the other hand, we recognize that it will initially be difficult for states to establish an appropriate emissions fee for GHGs. As noted previously, there are currently limited data available for establishing such a fee, and, due to the large quantities of GHG emissions, such a fee may only amount to a few cents per ton. At the same time, as noted in the proposal, a number similar to that used for other pollutants (*e.g.*, the presumptive minimum of approximately $45/ton of GHG) would be inappropriate because it would likely result in huge over-collection. Because of this challenge, we note that 40 CFR 70.9(b)(3) allows the state to charge fees to individual sources on any basis (*e.g.*, emission fee, application fee, service-based fees, or others, in any combination). While most states use emissions-based fees, there is merit to considering all the available fee bases to address increased GHG workload, including approaches that do not require a GHG emissions inventory for fee purposes. For example, where it is possible to estimate a revenue shortfall as a percentage of fee revenue, it may be appropriate to simply attach a percentage-based surcharge to each source's fee to match that shortfall. Similarly, where the shortfall could be estimated as a total dollar amount, a flat surcharge could be added to each source's fee to address the shortfall.

These suggestions should not be read to indicate that EPA prefers any particular approach, or that EPA rejects a cost per ton approach. Rather, they illustrate that it is possible to address a revenue shortfall without establishing a GHG per-ton fee. While the EPA is declining to recommend specific approaches in this preamble, we are committed to assisting states in implementing the fee requirements for GHG. Therefore, we will work with any state that requests assistance from EPA in developing a workable fee approach.

E. Other Actions and Issues

1. Permit Streamlining Techniques

In our proposal, we stated that while we were phasing-in permitting requirements, we would make a concerted effort to assess and implement streamlining options, tools, and guidance to reduce the costs to sources and permitting authorities of GHG permitting. We recognized that the development and implementation of these techniques should be an integral part of our strategy during the phase-in period, and we stated that we would undertake as many streamlining actions as possible, as quickly as possible. We discussed several streamlining techniques in particular, including: (1) Defining PTE for various source categories, (2) establishing emission limits for various source categories that constitute presumptive BACT, (3) establishing procedures for use of general permits and permits-by-rule, (4) establishing procedures for electronic permitting, and (5) establishing "lean" techniques for permit process improvements. The first three of these approaches have the potential to have the greatest impact in reducing the numbers of sources subject to PSD or title V (the definition of PTE) or of reducing permitting costs (presumptive BACT and general permits or permits-by-rule).

In our proposal, we also described the timing for development and implementation of these streamlining techniques. We explained that each of the first three techniques would generally take 3-4 years to develop and implement, and therefore would be of limited use in the near-term. This time frame is necessary because EPA will first need to collect and analyze small source data that we do not currently have—because these are sources that EPA has not traditionally regulated—in order to assess which of these techniques are viable or effective for such sources. In general, EPA will then need to conduct notice-and-comment rulemaking to establish the approaches, and that rulemaking will need to address various legal and policy aspects of these approaches. After that, the permitting authorities will need some time to adopt the streamlining techniques as part of their permitting programs.

We received several comments on streamlining techniques. In general, the comments indicate widespread support for our pursuit of streamlining approaches, but some commenters were concerned that one or more of EPA's identified streamlining options were complex, vague, ineffective, and questionable legally. Noting our proposal to phase in permitting, in part to allow more time to develop streamlining options for smaller sources, some commenters suggested that we should delay permitting for larger sources for the same reasons. We disagree. Such a delay is not justified under our legal basis for this rule. While implementation of Steps 1 and 2—which will cover larger sources—will pose implementation challenges, and some of the streamlining tools could assist with meeting these challenges, we have assessed the burdens associated with GHG permitting and have established a phase-in schedule that represents a manageable workload, even in the absence of streamlining techniques. On the other hand, we do agree with these commenters that, absent streamlining, applying PSD and title V requirements to the much larger number of small sources would lead to absurd results and administrative impossibility. The sources for whom the phase-in delays applicability are precisely the sources that have the greatest need for streamlining measures, and thus the greatest need for a deferral while we develop and implement streamlining options.

In addition, commenters generally echoed many of our concerns about why it will take time to put these measures in place, and no commenter presented any information to suggest that our 3-4 year estimate for the PTE, presumptive BACT, and general permit measures was invalid.

For these three techniques, we continue to believe that as we noted at proposal, we will require collection of significant category-specific data for source and emission unit types that have heretofore generally not been regulated by the CAA (*e.g.*, furnaces, water heaters, etc.), which could take up to 1 year. Moreover, commenters had differences of opinion as to whether and how we should move forward on these approaches, and some raised policy and legal issues that we would likely want to explore through a notice and comment process in order to assess which of these measures are viable to pursue further.[56] Even if a rulemaking were done expeditiously, it would likely require 1 year. Finally, unlike lean and electronic permitting, these approaches, once finalized by EPA, will likely require additional time of up to 2 years for states to adopt. Thus, it is clear that these approaches will not be in place in time to ease any burden prior to the planned rulemaking for Step 3.

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[56] We do not attempt to address or resolve the various opinions about what legal or policy direction we must take regarding any of these streamlining options. The proper forum for doing that will be in the action(s) where we apply a given option. Nonetheless, our RTC document provides additional detail about the

Some commenters did observe that the fourth and fifth techniques, lean and electronic permitting, could, at least theoretically, become available sooner. However, these commenters also noted that successful design and implementation of these approaches will require implementation experience with GHG permitting that is not now available. We expect that for the lean and electronic permitting techniques, at least 1 year of implementation experience (of the type that we will gain starting in 2011) would be required, plus at least an additional year to extrapolate that experience to small sources and put these approaches into effect for small source permitting. Thus, we do not think the lean and electronic permitting would be in place before the beginning of 2013. Moreover, a handful of commenters questioned whether lean and/or electronic permitting would alleviate significant burden. Thus we are not able, at this time, to presume that these approaches will ease any burden prior to the planned rulemaking for Step 3.

It is also important to note that, as a practical matter, while these efforts to streamline the program for small sources are underway, EPA and states will also be devoting a significant amount of their

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options we described and what commenters said about our proposed options. In addition, the comments themselves can be accessed in the docket for this action.

permitting resources and expertise to implementing the PSD and title V programs for the GHG-emitting sources covered under Steps 1 and 2. We have established these steps in a manner that they will be feasible for EPA and state/local/tribal authorities, but even so, they will not only consume current permitting authority resources, but they will also require substantial additional resources. As a result, the efforts to develop and implement streamlining techniques will have to compete with the work necessary to administer existing programs. For example, during the remainder of 2010, as described elsewhere in this notice, EPA permitting program resources will, in addition to continuing to administer programs for non-GHG pollutants, be used to conduct *at least* the following GHG-related activities in addition to streamlining: (1) Develop BACT and other information and guidance for implementing programs for sources covered by Step 1, followed by additional guidance and information for sources covered by Step 2; (2) review and act on information we receive regarding state adoption of GHG permitting requirements, which may entail narrowing of previous SIP approvals or processing of other programmatic revisions; and (3) propose and finalize measures to address programs with deficiencies in GHG coverage. As the beginning of Step 2 nears, we will also begin to receive and process the first applications for permits that will incorporate GHG requirements (*i.e.*, those that will be issued after January 2, 2011). States seeking to implement streamlining approaches will face similar competition for permitting resources.

These time frames and resource considerations for streamlining confirm the approach to phase-in that we are taking in this rule. First and foremost, they make clear that it will not be possible to have streamlining measures in place in time for either Step 1 or Step 2. Therefore our selection of threshold for those steps is not built on assumptions that streamlining will remove some or all of the burden during those steps.

Second, they make clear that, while no significant streamlining can be in place by the time we must begin to develop the Step 3 rule (*i.e.*, latter half of 2011, to promulgate by July 2012, effective July 2013), it is likely that by that time EPA and states will have had an opportunity to gain implementation experience that could serve as the basis for beginning to implement streamlining techniques that do not require rulemaking or state adoption (*e.g.*, lean and electronic permitting). It is also likely that we will have had an opportunity to gather technical information—which we have already begun to gather—for certain source and emissions unit categories that would be necessary to support proposal of PTE or presumptive BACT approaches for those categories. We expect that the Step 3 rulemaking will provide an opportunity for us to use that experience and data to begin to propose streamlining approaches that need notice and comment rulemaking. We can also begin to take into account any burden reductions from possible early streamlining efforts—that is, through lean and electronic permitting—in the establishment of Step 3.

Third, it is clear that the potential availability of streamlining measures does not call into question our decision that in no event will we broaden PSD and title V applicability to cover GHG-emitting sources below the 50,000 tpy CO_2e level prior to July 2016, as discussed elsewhere. EPA cannot now predict the resources that will be required to implement PSD and title V programs for GHG-emitting sources once various streamlining techniques are ultimately completed. This is uncertain not only because we need data and implementation experience with GHG permitting during Steps 1, 2, and 3 that we can apply to estimates for small sources, but also because, as comments indicate, there is a broad range of legal and policy issues to consider in crafting the streamlining approaches we ultimately adopt. We have presented an initial assessment of options and obtained views of commenters both supporting and opposing them, and it is the result of these future actions, whose outcomes are uncertain at this time, that will ultimately determine the extent to which streamlining approaches will allow for the administration of PSD and title V programs for numerous small sources. Thus, while we are optimistic that we can craft workable, common-sense solutions, we nonetheless, believe it is important to preserve our small source exclusion until we have not only had time to put the streamlining approaches in place, but also have had time to assess the burdens that remain, before we bring in additional sources below the 50,000 tpy CO_2e levels. We believe that the 6-year timeframe will require a sustained intensive effort by EPA and states to develop, adopt, and implement streamlining techniques, and will require EPA to then evaluate those techniques and complete a rulemaking concerning PSD and title V applicability to small-sources based on that evaluation. In this manner, the 6-year period will give us the necessary time to make the best decisions about the actions we should take beyond Step 3.

While comments make clear that there are issues to be addressed, nothing in the comments has persuaded us that we should abandon our streamlining efforts. To the contrary, the strong support for these efforts shown by many commenters reinforces our intention, as stated at proposal, to move forward with these approaches as an integral part of our phase-in approach. Moreover, notwithstanding the competition for GHG permitting resources and expertise, we believe it is critical that we move forward expeditiously. As noted previously, we are already taking a first step by initiating permitting for larger sources, beginning January 2011, that will begin to provide valuable implementation experience. This experience can be useful in allowing states to begin implementing early streamlining measures, like lean and electronic permitting, which do not require EPA action. We have also already begun, and will continue, developing data necessary to support possible rulemakings addressing approaches such as PTE, presumptive BACT, and/or general permits. We expect to be able to use these data to support possible rulemakings on these topics, as appropriate, at about the same time as our Step 3 rulemaking. There may also be available streamlining options that were not described in our proposal that warrant further consideration. Because of the uncertainty surrounding such approaches, we are not committing to finalize rules on any particular approach, but we do plan to explore all streamlining options as expeditiously as possible, beginning immediately and proceeding throughout the phase-in period, and we encourage permitting authorities to do the same. We commit to consider a wide array of possible streamlining measures, and we commit to propose and take comment on, in the Step 3 rulemaking, a set of those measures that we determine are viable to pursue further.

2. Guidance for BACT Determinations

The CAA requires that a PSD permit contain, among other things, emissions limits based on the

BACT for each pollutant subject to regulation under the Act emitted from the source that triggers PSD. 42 U.S.C. 7475(a)(4); 42 U.S.C. 7479(3). BACT is defined as follows:

> (3) The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to enactment of the Clean Air Act Amendments of 1990.

42 U.S.C. 7479(3).

Thus, the BACT process is designed to determine the most effective control strategies achievable in each instance, considering energy, environmental, and economic impacts. However, the case-by-case nature of BACT, together with the range of factors and technologies that must be considered, presents a challenge in determining BACT for newly regulated pollutants. When a new pollutant is regulated, the first permit applicants and permitting authorities that are faced with determining BACT for a new pollutant will likely need to invest more time and resources in gathering and analyzing information necessary to make an assessment of BACT under the statutory criteria. Once the PSD permitting program matures with respect to the new pollutant, successive BACT analyses will establish precedents that can inform subsequent BACT determinations. While the BACT provisions clearly contemplate that the permitting authority evaluate control strategies on a case-by-case basis, EPA recognizes the need to develop and share policy guidance and technical information for sources and permitting authorities as they begin to permit sources of newly regulated pollutants, such as GHGs. When applied in a practical manner, this additional EPA guidance and technical information should reduce time and resource needs when evaluating BACT for newly regulated pollutants.

As described in the proposed Tailoring Rule, EPA intends to compile and make available technical and background information on GHG emission factors, control technologies and measures, and measurement and monitoring methodologies for key GHG source categories. We expressed our intent to work closely with stakeholders in developing this supporting information and to ensure this information is available in sufficient time to assist permitting agencies in their BACT determinations. The proposal took comment on what other types of support or assistance EPA can provide to initially help air pollution control agencies with the permitting of GHGs.

Commenters on the proposed Tailoring Rule generally supported EPA providing technical information and policy guidance for sources of GHGs. Several commenters specifically requested guidance to clarify GHG-related issues, such as how to compute CO_2e emissions, how to evaluate emissions of CO_2 from biomass fuel, and whether an air quality analysis will be required for GHGs. Additionally, commenters requested that EPA issue "white papers" and other tools that would provide information on a range of control technologies and measures for major stationary source categories, such as power plants, cement kilns, glass furnaces, and other sources. Many of these commenters further requested that EPA provide an opportunity for stakeholder input on the guidance, and a few commenters insisted that permitting for sources of GHGs should not begin prior to issuing final guidance.

Consistent with our commitment at proposal to involve all stakeholders in our guidance development, EPA called upon the CAAAC in September 2009, to provide assistance and recommendations for what types of guidance and technical information would be helpful.[57] Specifically, our charge to the CAAAC was "* * * to discuss and identify the major issues and potential barriers to implementing the PSD Program under the CAA for greenhouse gases * * * [and] focus initially on the BACT requirement, including information and guidance that would be useful for EPA to provide concerning the technical, economic, and environmental performance characteristics of potential BACT options." This charge also requested the CAAAC to "identify and discuss approaches to enable state and local permitting authorities to apply the BACT criteria in a consistent, practical and efficient manner."

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[57] The CAAAC is a senior-level policy committee established in 1990 to advise the U.S. EPA on issues related to implementing the CAA Amendments of 1990. The committee is chartered under the Federal Advisory Committee Act and has been renewed every 2 years since its creation. The membership is approximately 40 members and experts representing state and local government, environmental and public interest groups, academic institutions, unions, trade associations, utilities, industry, and other experts. The CAAAC meets three times a year, normally in Washington, DC. It provides advice and counsel to EPA on a variety of important air quality policy issues. The committee has formed

At its October 6, 2009 meeting, the CAAAC established a Climate Change Work Group, made up of 35 representatives from a variety of industries, state and local governments, and environmental and public health non-profit organizations, organized under CAAAC's Permits, New Source Review and Toxics Subcommittee. The Work Group initially focused its attention on the procedure for evaluating BACT and decided that the process and criteria for determining BACT for criteria pollutants represented a workable and acceptable framework for GHGs. The Work Group also recommended a second phase, in which the Work Group would consider member proposals regarding possible alternative or supplementary approaches to applying the PSD program to GHG sources.

In February 2010, the CAAAC completed work on the first phase of its effort and sent EPA a list of recommendations that highlighted areas of the BACT determination process that are in need of technical and policy guidance. For more information, see the Interim Phase I Report on Issues related to BACT for

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several subcommittees to provide more detailed discussion and advice on many technical issues.

GHGs, February 3, 2010 that is located in the public docket for this rulemaking and at http://www.epa.gov/air/caaac/climate/2010_02_InterimPhaseIReport.pdf. In response, we are working on a number of fronts to develop technical information, guidance, and training to assist states in permitting large stationary sources of GHGs, including identifying GHG control measures for different industries. EPA is currently working with states on technical information and data needs related to BACT determinations for GHGs. This includes developing the EPA Office of Research and Development GHG Mitigation Strategies Database, enhancing the RACT/BACT/LAER Clearinghouse to include GHG-specific fields, and preparing technical information on sector-based GHG control measures. Also, EPA is actively developing BACT policy guidance for GHGs that will undergo notice and comment and will culminate in training courses for state, local, and tribal permitting authorities. The results of all of these efforts will roll out over the remainder of 2010. EPA currently awaits the Work Group's recommendations from its second phase of deliberations, which is underway as of the date of this notice.

EPA does not agree with some commenters' suggestion that EPA should delay permitting of any sources until final BACT guidance is issued. As discussed in the final action on reconsideration of the Interpretive Memo, delaying the application of BACT to enable the development of guidance or control strategies is not consistent with the BACT requirements. 63 FR 17008. Furthermore, as just described, EPA expects such a delay to be unnecessary because EPA will soon begin providing technical information to inform BACT decisions, and will continue to provide additional guidance prior to the date that GHG permitting begins. However, even in the absence of such guidance, a delay would not be justified under the legal doctrines of "absurd results" and "administrative necessity." While implementation of the BACT requirement during Steps 1 and 2 will pose implementation challenges, EPA has assessed the burden associated with GHG permitting with consideration given to these challenges, and has established a phase-in schedule that represents a manageable workload.

Thus, while BACT will remain a case-by-case assessment, as it always has been under the PSD program, EPA is confident that this guidance development effort will help support a smooth transition to permitting emissions of GHGs. Furthermore, EPA will continue to work to provide the most updated information and support tools to allow permitting authorities to share and access the most updated information on GHG BACT determinations as they are made once permitting of GHGs begins. EPA remains committed to involving stakeholders in the upcoming efforts to develop guidance to help permitting authorities in making BACT determinations for sources of GHGs.

3. Requests for Higher Category-Specific Thresholds or Exemptions From Applicability

Although we did not propose any categorical exemptions, many commenters requested exemptions from major source and major modification applicability determinations under title V and PSD for certain types of GHG-emitting sources or certain types of GHG emissions as follows:

Source Categories. Many commenters requested various exemptions or exclusions from source applicability for GHGs under both PSD and title V permitting, either during the phase-in period or permanently, citing anticipated burdens, societal costs, and differences in emission characteristics. Commenters representing non-traditional sources or source categories (sources that have not historically been required to get permits) requested exemptions from permitting based on GHG emissions, including agricultural sources, residential sources, and small businesses. In general, these commenters sometimes, but not always, cited "absurd results" and "administrative necessity" arguments in their exemption requests.

Several commenters from sectors that consume a great deal of energy in their industrial processes and that are subject to international competitiveness, such as aluminum, steel, cement, glass, pulp and paper, and other manufacturers, requested that they be exempt from permitting under this final rule. These commenters state that we have not carefully considered the environmental and economic consequences of this action because if we had, we would have exempted them for several reasons, including (1) other countries typically exempt similar sources from GHG cap and trade programs because the industries are making significant energy efficiency improvements even in the absence of GHG regulation, and (2) permitting such sources may cause many facilities to move to countries that have less regulation or no regulation for GHGs.

Other industry groups cited unique characteristics of their emissions, or the quantities in which they are emitted, that they argued should justify exclusion or unique thresholds. Semiconductor production facilities asked for exemptions, arguing that combustion-related GHG emissions are different from their GHG emissions, which result from the use of high-GWP industrial gases, such as PFCs, with higher GWP values that are more likely to trigger permitting requirements at relatively low tpy values. One lime production commenter stated that EPA could encourage energy efficiency projects at its plants by excluding calcination and other process emissions, arguing that these emissions are a relatively small portion of the national inventory that will have no material effect on air quality and global warming. Another commenter requested that EPA exclude emissions from poultry production (natural bird respiration) from permitting consideration because the IPCC excludes them from its GHG emission estimates. Representatives of the landfill industry pointed to the relationship between current statutory thresholds that apply to their regulated emissions, primarily NMOC, and the equivalent amount of GHG emissions this corresponds to. They argued for a source-category specific threshold that is at least equivalent to their current NMOC threshold, or roughly 750,000 tpy CO_2e according to their estimate.

Although the proposal for the Tailoring Rule generally addressed how the statutory requirements for major source applicability (100/250 tpy thresholds) could be phased in in ways that would offer relief to traditional and non-traditional sources, such as residences, farms, small business, and semiconductor manufacturers, it did so by establishing relatively high CO_2e thresholds during the early implementation period and lowering the thresholds over time as streamlining mechanisms become available to reduce administrative burdens. We did not propose any permanent exemptions of any kind or temporary exemptions based on source category. Also, note that the proposal discussed energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes in the context of short-term, low-cost means of achieving GHG emission reductions for small-scale stationary sources, but not in the context of exemptions.

As discussed previously, we are still considering whether permanent exemptions from the statute are justified for GHG permitting based on the "absurd results" legal doctrine. We do not have a sufficient basis to take final action at this time to promulgate any of the suggested exclusions on the grounds, described previously, suggested by the commenters. We note, however, that nothing in this rule forecloses the opportunities we may have to explore such options in the future. Therefore, we are taking no action in this rule on these various commenters' requests for exclusions.

Some commenters also recommended that we create exclusions for their particular source categories for the specific purpose of avoiding overwhelming permitting burdens. We did solicit comment on alternative approaches to burden relief in the proposal. Some commenters suggested that the "administrative necessity" or "absurd results" rationale, each of which would be based on extraordinary administrative burdens, could be used to create at least temporary exclusions that would allow more sources to escape permitting than what we proposed. However, commenters have not, to date, provided specific information about the costs and administrative burdens associated with permitting their source categories.

Regarding the specific concerns about the need for a small business exclusion, we note that the Office of Advocacy of the SBA made several recommendations on the proposal to address concerns about large numbers of small businesses becoming subject to the permit programs. For example they recommended that EPA adopt major source thresholds of 100,000 tpy and major modification thresholds of 50,000 tpy CO_2e. They also recommended that we adopt an interpretation of the effective date of the LDVR to provide additional time to prepare. We took action consistent with the latter recommendation in the Interpretive Memo, and we are taking action consistent with the former recommendation in this rule (although the threshold for modifications we are adopting is higher, for reasons explained previously). We are finalizing Steps 1 and 2 using the threshold-based approach, which applies the various legal doctrines, in the context of the *Chevron* framework, in a way that effectively exempts all small sources during this part of the phase-in, while assuring the administrability of the permitting programs for the sources that remain subject to them. We anticipate that virtually all small businesses not already subject to PSD and title V would be excluded under this approach. Similarly, with respect to high GWP gases as discussed previously, we are maintaining the statutory mass-based threshold, and this should address commenters' concerns regarding the inclusion of those gases. Therefore, we reiterate that we are not finalizing any such exclusions in this rule and, as noted above, we are not taking final action in the commenters' requests for exclusions.

Concerning the comment that we did not take appropriate economic and environmental considerations into account for this rulemaking action, we disagree. The approach we finalize in this notice for Steps 1 and 2 minimizes economic burdens by limiting permitting to the largest GHG emission sources. We further note that the PSD program as applied to the sources that are covered in Steps 1 and 2 contains an express requirement to take energy, environmental, and economic considerations into account when making control technology (*i.e.*, BACT) decisions and accordingly many of the concerns about control costs will be able to be accounted for in that analysis.

Biomass Combustion/Biogenic Emissions. Several commenters request that EPA exempt emissions from biogenic activities or biomass combustion or oxidation activities, including solid waste landfills, waste-to-energy projects, fermentation processes, combustion of renewable fuels, ethanol manufacturing, biodiesel production, and other alternative energy production that uses biomass feedstocks (*e.g.*, crops or trees). For example, commenters urged that EPA exclude emissions from biomass combustion in determining the applicability of PSD to GHGs based on the notion that such combustion is "carbon neutral" (*i.e.*, that combustion or oxidation of such materials would cause no net increase in GHG emissions on a lifecycle basis). Some commenters oppose the exemption of biogenic/biomass activities, claiming the lack of a valid scientific basis for treating these GHG emissions differently than other GHG emissions and expressing concern that we should not assume all biomass combustion is carbon neutral.

The proposed Tailoring Rule did not address this issue of exemptions for biomass combustion or biogenic emissions. We are mindful of the role that biomass or biogenic fuels and feedstocks could play in reducing anthropogenic GHG emissions, and we do not dispute the commenters' observations that many state, federal, and international rules and policies treat biogenic and fossil sources of CO_2 emissions differently. We note that EPA's technical support document for the endangerment finding final rule (Docket ID No. EPA-HQ-OAR-2009-0472-11292) states that "carbon dioxide has a very different life cycle compared to the other GHGs, which have well-defined lifetimes. Instead, unlike the other gases, CO_2 is not destroyed by chemical, photolytic, or other reaction mechanisms, but rather the carbon in CO_2 cycles between different reservoirs in the atmosphere, ocean, land vegetation, soils, and sediments. There are large exchanges between these reservoirs, which are approximately balanced such that the net source or sink is near zero."

Nevertheless, we have determined that our application of the "absurd results," "administrative necessity," and one-step-at-a-time legal rationales that support this rule, which are based on the overwhelming permitting burdens described previously, does not provide sufficient basis to exclude emissions of CO_2 from biogenic sources in determining permitting applicability provisions at this time. This is because such an exclusion alone, while reducing burdens for some sources, would not address the overwhelming permitting burdens described above, and a threshold-based approach would still be needed. As noted above, we have not examined burdens with respect to specific categories and thus we have not analyzed the administrative burden of permitting projects that specifically involve biogenic CO_2 emissions taking account of the threshold-based approach, nor did the commenters provide information to demonstrate that an overwhelming permitting burden would still exist, justifying a temporary exclusion for biomass sources.

At the same time, the decision not to provide this type of an exclusion at this time does not foreclose EPA's ability to either (1) provide this type of an exclusion at a later time when we have additional information about overwhelming permitting burdens due to biomass sources, or (2) provide another type of exclusion or other treatment based on some other rationale. Although we do not take a final position here, we believe that some commenters' observations about a different treatment of biomass combustion warrant further exploration as a possible rationale. Therefore, although we did not propose any sort of permanent exclusion from PSD or title V applicability based on lifecycle considerations of biogenic CO_2, we plan to seek further comment on how we might address emissions of biogenic carbon dioxide under the PSD and title V programs through a future action, such as a separate Advance Notice of Proposed Rulemaking (ANPR). This action would seek comment on how to address biogenic carbon under PSD and title V, the legal and policy issues raised by options regarding implementation. We will provide an opportunity for public comment before adopting any final approach.

We further note that, while we are not promulgating an applicability exclusion for biogenic emissions and biomass fuels or feedstocks, there is flexibility to apply the existing regulations and policies regarding BACT in ways that take into account their lifecycle effects on GHG concentrations. This topic has already been explored by the CAAAC workgroup on BACT issues related to GHGs that recently provided recommendations to EPA. These recommendations are located in the public docket for this rulemaking and at http://www.epa.gov/air/caaac/climate/2010_02_InterimPhaseIReport.pdf. While that group was unable to come to a consensus on how biomass-based emissions should be treated, it provided us with information that we will consider as we issue guidance on BACT. As previously discussed, we plan to issue BACT guidance later this year, but are not doing so as part of this rulemaking. Without prejudging the outcome of our process to seek comment whether and how we might address emissions of biogenic carbon under the PSD and title V programs through a future action, this issue warrants further exploration in the BACT context as well, and we plan to fully explore it and take action if appropriate.

Fugitive Emissions. Numerous commenters believe that fugitive GHG emissions should be excluded from major source determinations, citing difficulties in measuring or estimating such emissions. Others believe EPA did not address fugitive emissions in the proposal and they ask for clarification of the treatment of fugitive GHGs in applicability determinations under PSD and title V. Some of these commenters state that EPA has not undertaken a rulemaking under CAA section 302(j) for any source category of fugitive GHGs, so they should not be included. Several commenters representing the solid waste disposal industry requested exemptions for fugitive emissions for landfills and waste-to-energy projects, pointing out that current practice under PSD is for fugitive emissions from certain landfills to not be counted toward major source determinations.

In the proposal, EPA did not offer any specific guidance or discuss exemptions for fugitive emissions of GHGs. Commenters did not suggest that a fugitive exemption would address the overwhelming permitting burdens described previously, or that it was necessary to specifically tailor GHG applicability through the use of a fugitive emissions exclusion for categories that would otherwise be required to include them.

We do agree with commenters who stated that we should clarify how to count fugitives in determining applicability under this rule. In response, we note that we are not taking final action with respect to commenters' request, and we are not finalizing any special rules for fugitive emissions related to GHG. Thus, EPA's rules related to the treatment of fugitives would apply. Regarding the comment that a CAA section 302(j) rulemaking is required before fugitive emissions may be counted, we disagree. As we read section 302(j), once EPA has established by rule that fugitive emissions are to be counted for a specific source category, nothing in section 302(j) requires EPA to conduct new rulemaking to allow for the counting of additional pollutants from that category. We read section 302(j) as imposing an obligation to determine if fugitive emission generally should be counted from a source or source category and not requiring that EPA list both source categories and relevant pollutants. Indeed, our practice in listing categories has not been to limit the pollutants to which the listing applies. Therefore, we are applying our existing rules and policies for fugitive emissions for GHG as we would any other pollutant.

Pollution Control Projects. Other commenters request exemptions for pollution control projects from PSD major modification requirements, particularly projects that increase the efficiency or thermal performance of a unit or facility, resulting in emission reductions on a pounds/megawatt-hour or production basis. The current PSD rules do not exclude pollution control projects from being considered a physical change or change in the method of operation that would—if it resulted in a significant net emissions increase—constitute a major modification, and the case law makes clear that we could adopt a permanent exclusion in the future.[58] To the extent that the commenters seek an exclusion for pollution control projects that relies solely on "absurd results" or "administrative necessity" for reasons similar to those described previously for other requested exclusions, we take no action on this request in this rulemaking.

4. Transitional Issues Including Requests for Grandfathering

In the Tailoring Rule proposal, we did not discuss or specifically ask for comment on any provisions to address the transition from a permitting regime that does not incorporate GHGs to one that does, such as "grandfathering" provisions or similar approaches that would exempt previously issued permits or pending applications from having to incorporate requirements for GHGs. We nonetheless received several public comments that addressed a variety of transitional issues. One group of comments addresses situations prior to permit issuance where a PSD or title V application is either administratively complete or more generally being processed prior to the trigger date for GHG permitting ("in process" applications). Another group of comments addresses situations where a PSD or title V permit is issued prior to the

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[58] On June 24, 2005, the United States Court of Appeals for the District of Columbia Circuit vacated the portions of the 2002 and 1992 NSR rules that pertained to pollution control projects, among other provisions. In response to this Court action, on June 5, 2007, EPA removed these provisions from the NSR regulations. (*See* 72 FR 32526). These provisions were added as part of EPA's NSR improvement rule that was issued on December 31, 2002.

GHG trigger date and the commenters request that the application and/or permit be exempt from any requirements for updates related to GHGs after permit issuance.

With respect to PSD, many commenters requested that we adopt a "grandfathering" approach to applicability to exempt projects that have administratively complete PSD or minor NSR permit applications pending when the GHG permitting requirements go into effect. Several commenters urged us to promulgate transition provisions (without specifically using the term "grandfathering"), pointing out that we have provided transition periods for revising pending PSD permits, in the past, when new PSD rules were issued (*e.g.*, in late 1970s and 1980). These commenters assert that GHG requirements will cause more disruption than those previous rule changes. Several commenters asked that PSD applications be evaluated on the basis of the PSD requirements effective when the application is submitted and if submitted prior to the trigger date, then the application and permit would not need to address GHGs. Several commenters also asked that PSD sources with a valid permit that commences construction within 18 months of the trigger date not be required to seek a revised PSD permit for GHGs. Similarly, several commenters asked that PSD permits issued prior to the GHG trigger date not be required to be reopened only for the purpose of addressing GHG emissions. Additional commenters asked that we clarify that sources or projects not be required to obtain PSD permits if they obtained a determination that PSD did not apply (a "non-applicability" determination) prior to the GHG trigger date. Finally, many commenters also requested "grandfathering" for title V so that existing title V applications and permits do not need to be amended, revised, or resubmitted to address GHGs after they become "subject to regulation." Other commenters asked that transition provisions for title V be provided in the final action that would be similar to those requested for PSD.

We partially addressed transitional issues for PSD permitting in our April 2, 2010 final action on reconsideration of the Interpretive Memo. 75 FR 17021. This action addressed the applicability of PSD permitting requirements for GHGs to pending PSD permit applications that were (or will be) submitted prior to January 2, 2011 based on emissions of pollutants other than GHGs. However, we have not yet addressed the questions raised by public comments concerning sources that obtain PSD permits, minor NSR permits, or determinations that no such permits are needed prior to the Step 1 period set forth in this rule. We have also not yet addressed questions about the applicability of PSD permitting requirements for sources that are not currently required to submit an application for a PSD permit but that could be required to do so in Step 2 of the phase-in established in this action. In addition, our April 2, 2010 action did not address transitional issues concerning the application of the title V provisions to GHGs.

a. Transition for PSD Permit Applications Pending When Step 1 Begins

In our action on April 2, 2010, EPA explained that the Agency did not see grounds to establish a transition provision for pending PSD permit applications because we had determined that PSD permitting requirements would not apply for GHGs for another 9 months. We explained that permit applications submitted prior to April 2, 2010 should in most cases be issued prior to January 2, 2011 and, thus, effectively have a transition period of 9 months to complete processing before PSD requirements become applicable to GHGs. We also observed that, in the case of any PSD permit application review that cannot otherwise be completed within the next 9 months based on the requirements for pollutants other than GHGs, it should be feasible for permitting authorities to begin incorporating GHG considerations into permit reviews in parallel with the completion of work on other pollutants without adding delay to permit processing. Additional discussion of EPA's reasons for not developing transition provisions for PSD permit applications that are pending on January 2, 2011 are provided in the April 2, 2010 notice. 75 FR 17021-22.

For these same reasons, we continue to feel that a transition period is not warranted to incorporate GHG requirements into any PSD permit applications that are pending when Step 1 of the permitting phase-in begins for those sources that would otherwise need to obtain a PSD permit based on emissions of pollutants other than GHGs. Thus, this action makes no change to the position we expressed on this particular issue in the April 2, 2010 notice. In this final rule on tailoring the PSD program to address GHGs, we have determined that the additional burden of incorporating GHG requirements into PSD permits for the sources already required to obtain such permits is manageable in the Step 1 period. Thus, this rule has added no additional requirements or limitations that would justify deferring the establishment of pollution controls for this category of GHG sources once PSD permitting requirements are initially triggered for GHGs.

While we do not provide for grandfathering of PSD applications, we do note that there are more than 7 months left before GHG BACT requirements will be triggered at anyway sources for projects that increase GHG emissions by more than 75,000 tpy CO_2e and more than a year before the requirements would be triggered at sources solely because of emissions of GHGs (more than 100,000 tpy of CO_2e). We intend to work constructively and affirmatively with permitting authorities to use this time to ensure expeditious processing of pending permits and to further assure that the triggering of BACT requirements at such sources will not result in adverse impacts on pending projects. We have separately described our plans to expeditiously issue GHG BACT guidance, but we understand that for pending projects that will be permitted soon after January 2, 2011, an opportunity for earlier engagement with EPA on BACT issues would be beneficial for permitting authorities to issue these permits without delay.

Therefore, following the issuance of this rule, we will contact permitting authorities that have pending PSD permit applications to identify those applications with a reasonable likelihood that final issuance will occur after January 2, 2011, and therefore will be required to contain GHG BACT limits. We will then work closely with those permit agencies to provide technical, legal, or policy assistance to help prepare BACT analysis and provide additional support as necessary to expedite permitting for those pending applications. Similarly, when EPA is the permitting authority, we will provide assistance to applicants with pending permits to ensure that GHG permitting decisions are made promptly, and that administrative processes move forward expeditiously.

b. PSD Permits Issued Prior to Step 1

EPA has not historically required PSD permits to be updated or reopened after they are issued in the absence of an action by the applicant to change the physical or operational characteristics of the source described in the permit application. EPA's PSD permitting regulations contain no provisions that address the modification or amendment of a PSD permit or require a PSD permit to be reopened or modified on the basis of new PSD permitting requirements that take effect after the final permit is issued. Since PSD permits are construction permits, EPA has not required updates to PSD permits in the same manner as is typically required for operating permits that incorporate a variety of applicable requirements (such as title V permits and National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act). In addition, unlike operating permits, PSD permits are not required to be renewed. However, if construction under a PSD permit is not commenced in a timely manner or is discontinued for an extended period, a PSD permit may expire if an extension is not requested or justified. *See* 40 CFR 52.21(r)(2); 40 CFR 124.5(g).

With respect to the application of PSD permitting requirements for GHGs beginning on January 2, 2011, we do not see any cause to deviate from our historical practice of not requiring PSD permits to be reopened or amended to incorporate requirements that take effect after the permit is issued. Thus, we are not promulgating any new rules or requirements pertaining to PSD permits issued prior to Step 1 of the phase-in described in this rule. There is no mandatory requirement to reopen a previously issued PSD permit to incorporate GHG requirements that were not applicable at the time the permit was issued.

A major source that obtains a PSD permit prior to January 2, 2011 will not be required under EPA regulations to reopen or revise the PSD permit to address GHGs in order for such a source to begin or continue construction authorized under the permit. Our current PSD permitting regulations provide that "[n]o new major stationary source or major modification to which the requirements of paragraphs (j) through (r)(5) of this section apply shall begin actual construction without a permit that states the major stationary source or major modification will meet those requirements." 40 CFR 51.166(a)(7)(iii); 40 CFR 52.21(a)(2)(iii). The term "begin actual construction" generally means "initiation of physical onsite construction activities on an emissions unit which are of a permanent nature" and includes activities such as "installation of building supports and foundations, laying underground pipework and construction of permanent storage structures." 40 CFR 51.166(b)(11); 40 CFR 52.21(b)(11). A source that begins actual construction authorized under a PSD permit prior to January 2, 2011 will not be in violation of the prohibition described previously if it continues construction after that date. This portion of the regulation precludes only beginning construction without the appropriate preconstruction permit and does not require a permit to be updated to continue actual construction that has already begun.

Furthermore, a source that is authorized to construct under a PSD permit but has not yet begun actual construction on January 2, 2011 may still begin actual construction after that date without having to amend the previously-issued PSD permit to incorporate GHG requirements. Sections 51.166(a)(7)(iii) and 52.21(a)(2)(iii) require "a permit that states that the major stationary source or major modification will meet those requirement," which refers to the "requirements in paragraphs (j) through (r)(5)" referenced earlier in those provisions. EPA construes this language to describe a permit that meets the requirements of paragraph (j) through (r)(5) that are in effect at the time the permit is issued. Permitting and licensing decisions of regulatory agencies must generally reflect the law in effect at the time the agency makes a final determination on a pending application. *See Ziffrin v. United States*, 318 U.S. 73, 78 (1943); *State of Alabama v. EPA*, 557 F.2d 1101, 1110 (5th Cir. 1977); *In re: Dominion Energy Brayton Point, LLC*, 12 E.A.D. 490, 614-616 (EAB 2006); *In re Phelps Dodge Corp.*, 10 E.A.D. 460, 478 n. 10 (EAB 2002).

Thus, a source may begin actual construction on or after January 2, 2011 under a PSD permit that authorized construction to begin prior to January 2, 2011 because such a permit states that the source will meet the requirements of paragraphs (j) through (r)(5) of these regulations (or state equivalents) that were in effect at the time the permit was issued. However, this would not be the case if the permit has expired because the applicant has discontinued construction or failed to commence construction by the necessary date. *See* 40 CFR 52.21(r)(2).

This approach is consistent with EPA's practice when the preconstruction permitting requirements change by virtue of the designation of an area as a nonattainment area after a PSD permit is issued. In transitional guidance issued by EPA in 1991, EPA explained that "the area designation in effect on the date of permit issuance by the reviewing agency determines which regulations (part C or D) apply to that permit." Memorandum from John S. Seitz, Director OAQPS, New Source Review (NSR) Program Transitional Guidance, page 6 (March 11, 1991). This memorandum explained further that "where a source receives a PSD or other permit prior to the date the area is designated as nonattainment, the permit remains in effect" as long as the source meets the conditions necessary to prevent the permit from expiring. *Id.* at 6.

This approach does not apply if the source engages in a major modification after January 2, 2011 that is not authorized by the previously issued permit. Once Step 1 of the phase-in begins, if the PSD requirements for GHGs are applicable to a previously-permitted source that engages in a major modification not covered by the permit, such a source will need to obtain a new PSD permit to authorize the modification and that permit may need to include GHG requirements depending on the level of increase in GHGs that results from the modification.

c. Additional Sources for Which PSD Applies in Step 2

In light of the terms of existing PSD regulations and the lead time provided in this action for sources that will first become subject to PSD permitting in Step 2, we do not believe there is presently a need to establish transition provisions for sources that will be required to obtain PSD permits for the first time in Step 2 of the phase-in. As described previously, under our current PSD permitting regulations, a new major stationary source or major modification may not begin actual construction without a PSD permit that meets the applicable preconstruction permitting requirements. 40 CFR 51.166(a)(7)(iii); 40 CFR 52.21(a)(2)(iii).

Since a permit must be obtained before a major source may begin actual construction, the major source preconstruction permitting requirements in 40 CFR 51.166 and 52.21 of the regulation do not generally apply to a source that begins actual construction at a time when it was not a major source required to obtain a PSD permit. One exception, however, is the unique circumstance when a source becomes a major source solely by virtue of the relaxation of an enforceable limitation on the source's PTE. 40 CFR 51.166(r)(2); 40 CFR 52.21(r)(4). But absent these circumstances, PSD preconstruction permitting requirements do not generally preclude a source from continuing actual construction that began before the source was a source required to obtain a PSD permit. Thus, a source that began actual construction under the authorization of any previously required minor source or state construction permit is not required to meet any PSD preconstruction permitting requirement that becomes applicable after actual construction begins unless the source engages in a major modification after PSD permitting requirements are applicable. Likewise, a PSD permit is not required after a source begins actual construction based on a valid determination (by the source or the permitting authority) that the source need not obtain either a major PSD permitting requirements or and minor NSR permit. Based on these provisions in existing regulations, EPA will not require any sources to which PSD permitting requirements begin to apply in Step 2 to obtain a PSD permit to continue construction that actually begins before Step 2 begins.

However, we will expect Step 2 sources that begin actual construction in Step 2 (*i.e.*, beginning July 1, 2011) to do so only after obtaining a PSD permit in accordance with 40 CFR 52.21 or 51.166, or any applicable state regulation that meets the requirements of 40 CFR 51.166. We recognize the potential for the triggering of Step 2 to result in a change in status where a project may legally have begun actual construction before Step 2 but did not do so and would then need a PSD permit. However we also note that we are providing over a year of lead time before PSD permitting requirements become applicable to Step 2 sources. If projects would be adversely affected by this change in status, this lead time affords an opportunity for sources planning such projects to secure appropriate minor NSR permits (which generally take less than a year to issue), non-applicability determinations, etc. in time to avoid such a change in status. If a new or modified source that would become newly subject to PSD in Step 2 plans to begin actual construction before Step 2, it has more than a year to obtain the applicable preconstruction approvals and begin actual construction. Likewise, a Step 2 source that does not anticipate the ability to begin actual construction before Step 2 begins should have enough lead time to submit a PSD permit application and obtain the necessary permit without significantly delaying the project further. Therefore, we do not think it is necessary or appropriate to promulgate a transition provision that would exempt Step 2 sources from PSD permitting requirements that will apply based on construction that begins after Step 2 takes effect.

This approach for Step 2 sources that have obtained a minor source construction permit or non-applicability determination differs from the approach described previously for source that obtained a PSD permit prior to Step 1. As described previously, a Step 1 source that is authorized to begin actual construction before January 2, 2011 under a previously-issued PSD permit may begin actual construction under that permit after January 2, 2011 without modifying the PSD permit to address GHGs. However, a Step 2 source that was not required to obtain a PSD permit before Step 2 begins would need to obtain a PSD permit addressing GHGs if it has not yet begun actual construction prior to Step 2, even if the source had obtained any preconstruction approvals that were necessary to authorize construction prior to Step 2. This is because such a Step 2 source that begins actual construction after Step 2 would likely be doing so without having any permit meeting the requirements of paragraphs (j) through (r)(5) of 40 CFR 52.21 or 51.166, or a state equivalent. A source that has obtained only a minor source permit prior to Step 2 but that begins actual construction after July 1, 2011 would violate the requirements of 40 CFR 52.21(a)(2)(iii) or 51.166(a)(7)(iii), or a state equivalent, unless the source took care to ensure that it was authorized to construct under a PSD permit or could demonstrate that the source's minor source construction permit makes clear that requirement of paragraphs (j) through (r)(5) of 40 CFR 52.21 or 51.166, or a state equivalent, would be met by the source even though such a permit was not nominally a PSD permit. This difference in approach for non-PSD sources is driven by the terms of 40 CFR 52.21(a)(2)(iii) and 51.166(a)(7)(iii). Since we have not provided any prior notice that we might be considering revisions to 40 CFR 52.21 and 51.166 to address this topic, we are unable to revise the regulations in this action to achieve the same result for non-PSD sources as for

PSD sources. Furthermore, at the present time, we see no indication that this difference in approach is unreasonable since non-PSD sources will not trigger permitting for GHG until Step 2 (only anyway PSD source trigger in Step 1). Thus sources will have until July 1, 2011, an additional 6 months of lead time (for a total of more than 14 months), to prepare for the transition described here. Nevertheless, we recognize that the transition to the increased coverage of new sources and modifications that occurs in July will represent an unusual occurrence that may have unanticipated impacts. For this reason it is important to note that nothing in this rule forecloses our ability to further address such impacts, as necessary, by adopting rule changes or using other available tools.

EPA has previously promulgated exemptions that have authorized some sources that were not previously subject to the PSD regulations to commence construction on the basis of minor source permits after the date new PSD requirements have took effect in 1978 and 1980. *See*, *e.g.*, 40 CFR 52.21(i)(1)(iv)-(v). There is a notable distinction between these provisions, which use the term "commence construction," and the terms of 40 CFR 52.21(a)(2)(iii) and 51.166(a)(7)(iii), which use the term "begin actual construction." "Commence construction" is defined more broadly than "begin actual construction" to include obtaining all necessarily preconstruction approvals and either beginning actual on-site construction or entering into binding contracts to undertake a program of actual construction. 40 CFR 52.21(b)(9); 40 CFR 51.166(b)(9). The term "commence construction" is also defined in the CAA. 42 U.S.C. 7479(2)(A). Among other purposes, the term "commence construction" is generally used in the Act and EPA regulations to distinguish construction activities that are exempt from new PSD permitting requirements from those that are not. *See, e.g.*, 42 U.S.C. 7475(a); 40 CFR 52.21(i)(1)(i)-(v). In the absence an explicit exemption in the CAA or the PSD regulations that uses the term "commence construction," we do not believe we can use the date a source "commences construction" under a minor source construction permit approval as a demarcation point for Step 2 sources that may continue ongoing construction activities without having to obtain a PSD permit based on emissions of GHGs. Since we did not provide prior notice of an intention to adopt transition provisions applicable to this situation, we are unable to adopt such an exemption in this action that applies the term commence construction in this context. Consequently, the approach described previously applies the term "begin actual construction" based on the language in 40 CFR 52.21(a)(2)(iii) and 51.166(a)(7)(iii).

d. Transitional Issues for Title V Permitting

Since the title V permitting regulations already include a robust set of provisions to address the incorporation of new applicable requirements and other transitional considerations, we do not see grounds to establish unique transition or grandfathering provisions for GHGs in this action. Furthermore, since the purpose of title V is to collect all regulatory requirements applicable to a source and ensure compliance, we do not believe special exemptions for GHG requirements are likely to be justified. The existing title V rules do not provide any exemptions that relieve the obligation to incorporate all applicable requirements into a title V permit. However, the title V regulations contain numerous provisions that allow a reasonable period of time for incorporating new applicable requirements or applying for a title V permit that was not previously required. Transitional issues for incorporation of GHG requirements into title V permitting generally involve questions in the following categories: (1) Permit application requirements for sources not previously subject to title V that will become subject to title V requirements in Step 2 of the phase-in; (2) the need for updates or amendments to title V permit applications that are pending when GHGs become subject to regulation in Step 1 of the phase-in; and (3) the incorporation of new applicable requirements for GHGs into existing permits for sources currently subject to title V.

With respect to the first category, a title V source applying for the first time must submit its permit application within 12 months after the source "becomes subject to the [operating] permit program" or such earlier time that the permitting authority may require (*see* 40 CFR 70.5(a)(1)). Sources not otherwise subject to title V can become major sources subject to title V due to emissions of GHG no sooner than July 1, 2011. If a source becomes "subject to the [operating] permit program" on July 1, 2011, then its permit application under the title V operating permit program would typically have to be submitted no later than July 1, 2012.

There are also existing regulations relevant for the second category of GHG transition issues, where sources currently subject to title V have title V permit applications pending with a permitting authority as of January 2, 2011. Where additional applicable requirements become applicable to a source after it submits its application, but prior to release of a draft permit, the source is obligated to supplement its permit application. *See* 40 CFR 70.5(b); 71.5(b).

Furthermore, title V permits are generally required to contain provisions to assure compliance with all applicable requirements at the time of permit issuance. *See* CAA section 504(a); 40 CFR 70.6(a)(1) and 71.6(a)(1). If a permitting authority determines that additional information is necessary to evaluate or take final action on an application (*e.g.*, because of uncertainty over whether a draft permit assures compliance with all applicable requirements), it may, and should, request additional information from the source in writing and set a reasonable deadline for a response. *See* 40 CFR 70.5(a)(2); 71.5(a)(2).

Likewise, the existing title V regulations provide sufficient transition for the third category of issues, where a source has additional GHG-related applicable requirements (such as the terms of a PSD permit) that must be incorporated into its existing title V permit. Where a source is required to obtain a PSD permit, the source must apply for a title V permit or permit revision within 12 months of commencing operation or on or before such earlier date as the permitting authority may establish (or prior to commencing operation if an existing title V permit would prohibit the construction or change in operation). *See* 40 CFR 70.5(a)(1)(ii); 71.5(a)(1)(ii); *see also* 40 CFR 70.7(d) and (e); 71.7(d) and (e) (permit modifications). In addition, where a source becomes subject to additional applicable requirements, the permitting authority is required to reopen the permit to add those applicable requirements if the permit term has three or more years remaining and the applicable requirements will be in effect prior to the date the permit is due to expire. *See* 40 CFR 70.7(f)(1)(i); 71.7(f)(1)(i).

Finally, EPA notes that the existing title V regulations require sources to furnish permitting authorities, within a reasonable time, any information the permitting authority may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, and for other reasons, and further provide that permitting authorities shall reopen and revise permits if EPA or the permitting authority determine that the permit must be revised or revoked to assure compliance with applicable requirements. *See* 40 CFR 70.6(a)(6)(v); 71.6(a)(6)(v) and 70.7(f)(1)(iv); 71.7(f)(1)(iv).

Thus, EPA believes that the existing title V regulations provide an adequate regulatory framework for managing the transition to incorporating GHG requirements in title V permits and additional specific exemptions or transition rules for title V are not currently warranted.

VI. What are the economic impacts of the final rule?

This section of the preamble examines the economic impacts of the final rule including the expected benefits and costs for affected sources and permitting authorities. The final rule uses a phased-in approach for requiring sources of GHG emissions to comply with title V operating permit and PSD statutory requirements, essentially lifting this burden for the phase-in period for a large number of smaller sources of GHG. Thus, this rule provides regulatory relief rather than regulatory requirements for these smaller GHG sources. For larger sources of GHGs that will be required to obtain title V permits and/or comply on PSD requirements, there are no direct economic burdens or costs as a result of this final rule, because these requirements are not imposed as a result of this rulemaking. Statutory requirements to obtain a title V operating permit or to adhere to PSD requirements are already mandated by the CAA and by existing rules, not by this rule. Similarly, this rule will impose costs to society in the form of foregone environmental benefits resulting from GHG emission reductions that, absent this rule, might otherwise have occurred at sources deferred from permitting during the phase-in period.

The RIA conducted for this final rule provides details of the benefits or regulatory relief that smaller GHG sources will experience in terms of costs avoided as a result of this final rule and the potential for social costs in terms of foregone environmental benefits during this 6-year period. Complete details of the RIA conducted for this final rule may be found in the document "Regulatory Impact Analysis for the Final Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule," in the docket for this rulemaking.

This rulemaking provides permitting thresholds for sources of GHG that exceed levels contained in the CAA, and these levels are phased-in steps based upon application of the "administrative necessity" and "absurd results" doctrines as explained in section V.B. For Step 1, which is effective from January 2, 2011, through June 30, 2011, only sources required to undergo title V or PSD permitting based upon non-GHG air pollutants are required to obtain an operating permit or PSD permit to include GHG emissions (referred to as the "anyway" threshold). Step 2, effective from July 1, 2011, until such time as EPA acts on a rule to amend it (which for reasons described previously, we assume is June 30, 2013, for the purposes of this analysis), will phase in title V permit requirements for larger sources emitting GHG above

100,000 tpy CO_2e (if they do not already have one) and phase in for such sources, PSD requirements when they are newly constructed or modify in a way that increases emissions by more than a 75,000 tpy CO_2e significance level. Step 2 is referred to as the 100,000 tpy CO_2e threshold. Thereafter, EPA makes an enforceable commitment to consider a possible Step 3 to further lower thresholds below 100,000 tpy CO_2e and/or permanently exclude some sources from the program(s), but only after a regulatory process is conducted addressing "administrative necessity" and "absurd results" considerations based upon the actual permitting experiences in the first two steps of the phase-in. In addition, EPA provides a deferral of permitting until we take required action in April 2016 for sources and modifications that emit below 50,000 tpy CO_2e. The deferral will end when a required study is conducted of the permitting process for sources of GHG and EPA acts, based on the study, to promulgate a rule that describes the additional GHG permitting requirements beyond 2016. In the 6 years following promulgation of this rule, the EPA estimates that compared to baseline estimates that do not include the effects of this rule, over six million sources of GHG emissions in total will be allowed to continue to operate without a title V operating permit. During this period, tens of thousands of new sources or modifying sources each year will not be subject to PSD requirements for GHG. For this large number of smaller sources, this rule alleviates the regulatory burden associated with obtaining an operating or PSD permit or complying with NSR BACT requirements. Therefore, this final action may be considered beneficial to these small sources because it provides relief from regulation that would otherwise be required.

This decision does potentially have environmental consequences in the form of higher emissions during the 6-year period of time (generally because emissions increases would have been lower if BACT were applied). These consequences are limited due to the fact that sources between 100/250 and 100,000 tpy CO_2e account for an estimated 11 percent of the six directly emitted GHG nationally from industrial, commercial, and residential source categories, while representing over 95 percent of the total number of sources potentially requiring an operating or PSD permit for GHG under current permitting thresholds in the CAA. Moreover, requiring such a large number of small sources to obtain permits for the first time would overtax the permitting authorities' abilities to process new permits and would therefore interfere with any such benefits actually being achieved. Moreover, reductions from these small sources will still be occurring, notwithstanding the fact that permitting requirements would not apply to them. These smaller sources of GHGs will be the focus of voluntary emission reduction programs and energy efficiency measures that lead to reductions in GHGs. We will also reevaluate this decision after a 6-year period and complete a study of the implications for those sources and permitting authorities of permitting smaller GHG sources beyond 2016.

In reaching the preceding decisions for this final rule, we carefully considered comments received on the Tailoring Rule proposal. We received several comments specifically on our description of the impacts of this rule. Most of these comments disagreed with our assertion that the rule is a "relief" rule. Others assert that we should have prepared a more comprehensive RIA than prepared for the rule proposal. Those commenting contend: (1) We understated the burdens of the rule while overstating its relief at proposal; (2) we erroneously omitted the impacts for "larger sources" of GHGs from the proposal RIA and should have recognized the burden to "larger sources" due to other GHG actions; (3) the economic impacts the rule will have on industry and the U.S. economy and society in general will be burdensome, especially given the current state of the economy; and (4) we need to propose a full RIA or a complete estimation of impacts to comply with CAA section 307(d) and the APA.

EPA has carefully considered the comments addressing the issue of whether the Tailoring Rule is a regulatory "relief rule," and we are not persuaded that we erred in concluding that the effect of the Tailoring Rule is to provide regulatory relief to a large number of sources of GHG for a period of up to 6 years. This final rule will provide relief from title V permitting to over 6 million sources of GHG in this country. Likewise tens of thousands of sources potentially subject to PSD permitting requirements annually for GHG will have regulation postponed for a period of up to 6 years under this rule, followed by an additional required rule addressing the period beyond 6 years. While larger sources of GHG may be required to obtain title V permits or modify existing permits and to comply with PSD requirements, these burdens result not from the Tailoring Rule but rather from the CAA requirements to apply PSD and title V to each pollutant subject to regulation, which are triggered when the LDVR takes effect. To clearly illustrate this, consider what would occur if EPA did not complete the Tailoring Rule. Sources would not be relieved of the requirement to obtain permits addressing each pollutant subject to regulation when they construct or modify, nor would they be relieved of their obligation to obtain title V permits. Instead, these requirements would simply apply to a much larger population of sources and modifications, and would lead to the absurd results and severe impairment to program implementation that this rule is designed to address.

In response to comments asserting that the RIA completed for proposal of this rulemaking: (1) Understated the burdens of the rule and overstated the benefits, (2) did not fully recognize the rule will be burdensome, especially given the current state of the economy; and (3) does not consider a complete estimation of impacts to comply with the APA and CAA section 307(d) and needs to correct flawed or erroneous assumptions, EPA did make improvements and modifications to the RIA completed for this final rule. Based upon comments, EPA modified estimates of the number of sources affected at various threshold levels upward. EPA also improved the burden estimates associated with obtaining permits for sources and permitting authorities.

After consideration of the burden imposed by the proposed rule with these improved estimates for affected sources, the EPA modified the steps of the phase-in period to include two initial steps, described in section V, that are higher, and therefore cover fewer sources and are less burdensome than the proposal threshold of 25,000 tpy CO_2e emissions. EPA also increased the threshold below which permitting would not apply for 6 years from 25,000 to 50,000 tpy CO_2e. After the initial two step period, EPA has committed to consider lower thresholds but only down to 50,000 tpy CO_2e, and only after a regulatory process that uses information gathered on actual permitting activity during the first two steps of the phase-in period. The

RIA conducted for the final rule also incorporates improvements in our estimates of the number of sources affected at alternative thresholds and improved estimates of the costs of obtaining permits by sources and processing permits by permitting authorities. The EPA acknowledges that the regulatory relief associated with the control costs due to BACT requirements for PSD new and modifying sources is not included in the RIA for the final rule due to the lack of sufficient data about the nature of those requirements. However, it is the case that, as it relates to burden, those estimates would simply increase the amount of regulatory relief associated with this final rule.

Finally, with regard to comments that the RIA should have been a more comprehensive analysis to include the larger sources of GHG that will be required to obtain permits when GHG are regulated, the EPA maintains as previously explained that there are no direct economic burdens or costs as a result of this rule for these sources. Requirements for larger GHG sources to obtain title V or PSD permits are already mandated by the Act and by existing rules and are not imposed as a result of the Tailoring Rule. Thus the economic impacts for larger sources of GHG do not occur because of this Tailoring Rule. To include these larger sources in the RIA would actually be an inaccurate assessment of how this rule affects sources and would ignore the fact that this rule provides regulatory relief.

A. *What entities are affected by this final rule?*

As previously stated, this final rule does not itself result in the application of permitting requirements to any industrial, commercial, or residential entities. Entities affected by this rule are those who experience regulatory relief due to the higher thresholds and deferred applicability set forth in this rule. This action increases the threshold to obtain a title V and PSD permitting from statutory CAA levels using a phased-in step process as previously discussed. As Table VI-1 shows, this action lifts permitting requirements for over six million potential title V sources in total and tens of thousands of potential PSD new sources annually that would be otherwise required by the CAA to obtain permits. Under Step 1, over six million title V sources in total and approximately 20 thousand new PSD sources per year will not be required to obtain permits. Under Step 2, requiring sources over a 100,000 tpy CO_2e to obtain a permit, over six million title V sources in total and approximately 19.9 thousand new PSD sources per year will obtain regulatory relief. While the threshold approach differs for Steps 1 and 2 of the phase-in plan, the estimated number of sources affected does not differ greatly as shown in Table VI-1. Sectors experiencing this regulatory relief include electricity, industrial, energy, waste treatment, agriculture, commercial and residential.

TABLE VI-1—ESTIMATED NUMBER OF AFFECTED SOURCES EXPERIENCING REGULATORY RELIEF [1,2]

Sector	Number of sources experiencing regulatory relief			
	Step 1 Anyway		*Step 2 100,000 tpy*	
	Title V	New PSD	Title V	New PSD
Electricity	285	93	285	33
Industrial	170,910	604	170,654	599
Energy	2,588	48	2,536	44
Waste Treatment	3,358	2	3,166	1
Agriculture	37,351	299	37,351	299
Commercial	1,355,921	12,041	1,355,870	12,039
Residential	4,535,500	6,915	4,535,500	6,915
Totals	6,105,913	20,002	6,105,381	19,930
% Emissions Covered [3]	13%		11%	

Notes: (1) Number of sources is determined on a PTE basis. Estimates for title V are the total number of sources expected to experience regulatory relief. PSD sources are annual estimates of newly constructed facilities and do not include modifications at existing facilities that may also be subject to PSD requirements. (2) See appendices to "Regulatory Impact Analysis of the Final Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule" for more details of how thresholds and sources affected are developed. (3) Percentage of emissions covered represent estimated actual emissions from sources expected to experience regulatory relief as a percentage of total stationary source GHG emissions.

B. *What are the estimated annual benefits to sources due to regulatory relief from the statutory requirements?*

EPA estimated the annual benefits (avoided costs) to sources of GHG emissions and permitting authorities anticipated from this final rule. In addition, an accounting of the benefits from this action as measured by avoided permit processing costs for state, local, and tribal permitting authorities is provided. These benefits or avoided costs relate specifically to permit burden costs postponed for smaller sources of GHG emissions otherwise required to obtain an operating permit under title V or required to modify an existing permit to address GHG emissions. Avoided costs shown also include permit burdens for additional PSD permits postponed for new or modifying smaller sources of GHG, as well as the avoided costs to state, local and tribal permitting authorities. We are providing an illustrative monetary estimate of statutory permitting requirements to show the magnitude of the savings that hypothetically result from this rulemaking. While we believe it is impossible to implement these permit requirements by January 2, 2011, for the reasons laid out in this preamble, it is useful to understand the scale of what the burden may have been. For sake of simplicity, we refer to this illustrative monetary estimate as the monetized benefits of the regulatory relief presented by this rulemaking or regulatory relief benefits for brevity.

These benefit estimates do not consider avoided emission control costs associated with PSD requirements for potential BACT requirements. Estimates for BACT are unavailable at this time because of the difficulty predicting the results of the BACT process as it would be applied to new pollutants and classes of sources for which there is no previous BACT experience on which to rely.

1. What are annual estimated benefits or avoided burden costs for title V permits?

Table VI-2 shows that the estimated annual title V benefits to sources and to permitting authorities in terms of avoided information collection cost resulting from this final action to be approximately $70,535 million under Step 1 of the phase-in. These avoided costs become $70,520 million annually under Step 2 of the phase-in. where permitting is required for sources at or above the 100,000 tpy CO_2e threshold. Under the anyway threshold Step 1, approximately $49,457 million in regulatory relief will accrue to sources and approximately $21,078 million to permitting authorities annually in the form of avoided permit processing costs. With the 100,000 tpy CO_2e threshold for phase-in Step 2, these annual regulatory relief benefits are expected to be quite similar at $49,447 million for sources of GHG emissions and $21,072 million for permitting authorities. Industrial sources permitting costs are estimated to be $46.4 thousand per permit for a new permit and $1.7 thousand for a permit revision. The EPA estimates that over tens of thousands of industrial sources per year will avoid incurring these permitting costs under Steps 1 and 2 of the phase-in period. The cost for a permit for new commercial and residential sources is estimated to be

$23.2 thousand per permit with approximately 2 million of these permits avoided annually.

State, local, and tribal permitting authorities will also benefit in terms of avoided permitting administrative costs of over $21 billion as a result of the decisions final in this action. For industrial sources, the cost for permitting authorities to process a new industrial title V permit is approximately $19.7 thousand per permit and $1.8 thousand for a permit revision. Similarly, permitting authority avoided permit processing costs are approximately $9.8 thousand per permit for a new commercial or residential title V permit. All estimates are stated in 2007 dollars.

TABLE VI–2—ANNUAL TITLE V REGULATORY RELIEF FOR SOURCES AND PERMITTING AUTHORITIES [1,2]

Activity	Cost per permit (2007$)	*Step one anyway*		*Step two 100,000 tpy CO₂e*	
		Number of permits	Avoided costs (millions 2007$)	Number of permits	Avoided costs (millions 2007$)
Sources:					
New Industrial	$46,350	71,829	$3,329	71,657	$3,321
New Commercial/Residential	23,175	1,985,948	46,024	1,985,930	46,024
Permit revisions due to GHG	1,677	61,836	104	60,921	102
Source Total		2,119,613	49,457	2,118,508	49,447
Permitting Authority:					
New Industrial	19,688	71,829	1,414	71,657	1,410
New Commercial/Residential	9,844	1,985,948	19,550	1,985,930	19,550
Permit revisions due to GHG	1,840	61,836	114	60,921	112
Permitting Authority Total		2,119,613	21,078	2,118,508	21,072
Total Title V Regulatory Relief			70,635		70,620

Notes: Sums may not add due to rounding.

[1] Annual title V avoided costs estimates represent information collection costs for one third of the total number of title V sources obtaining regulatory relief shown in Table VI–1 potentially requiring permits or permit revisions for GHG.

[2] More details on these estimated regulatory relief benefits are available in the appendices to the "Regulatory Impact Analysis for the Final Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule."

2. What are annual benefits or avoided costs associated with NSR permitting regulatory relief?

Table VI-3 summarizes the estimated annual permit burden costs avoided by sources and permitting authorities for PSD permitting due to this Tailoring Rule. The benefits associated with avoided cost of compliance for BACT for these sources is not included in these estimates due to a lack of available data. The estimated avoided burden or reporting and recordkeeping cost that would occur absent this rule for new industrial sources to obtain permits is estimated to be $84.5 thousand for a modifying PSD industrial source and $59.2 thousand for a modifying commercial or multi-family residential source. New PSD sources will also be required to obtain a title V permit increasing these costs to $130.9 thousand per permit for new industrial sources and to $82.3 thousand per permit for new commercial or multi-family residential sources. (Note the title V costs for these new PSD sources have been included in title V estimates shown in Table VI-2.) New and modifying sources avoid approximately $5.5 billion annually in PSD permitting costs with this rule under the phase-in Step 1 threshold. Under the phase-in Step 2, 100,000 tpy CO_2e threshold and 75,000 tpy CO_2e significance level, this avoided PSD permitting cost estimate becomes $5.4 billion annually. State, local, and tribal permitting authorities are expected to avoid about $1.51 billion annually in administrative expenditures associated with postponing PSD program requirements for these GHG sources under Step 1 and $1.49 billion under Step 2. All estimates are shown in 2007 dollars.

TABLE VI-3—ANNUAL PSD REGULATORY RELIEF FOR SOURCES AND PERMITTING AUTHORITIES[1, 2]

Activity	Cost per permit (2007$)	*Step one anyway*		*Step two 100,000 tpy threshold, 75,000 significance level*	
		Number of permits	Avoided costs (millions 2007$)	Number of permits	Avoided costs (millions 2007$)
Sources:					
New Industrial	$84,530	26,089	$2,205	25,174	$2,128
New Commercial/Residential	59,152	55,509	3,283	55,505	3,283
Source Total		81,598	5,489	80,679	5,411
Permitting Authority:					
New Industrial	23,243	26,089	606	25,174	585
New Commercial/Residential	16,216	55,509	900	55,505	900
Permitting Authority Total		81,598	1,506	80,679	1,485
Total Title V Regulatory Relief			6,995		6,896

Notes: Sums may not add due to rounding.

[1] All estimates are based upon PTE. Regulatory relief shown represents annual estimates of PSD permitting costs avoided under Steps 1 and 2 of the phase-in period.

[2] More details on these estimated regulatory relief benefits are available in the appendices to the "Regulatory Impact Analysis for the Final Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule."

C. What are the economic impacts of this rulemaking?

This final rulemaking does not impose economic burdens or costs on any sources or permitting authorities, but should be viewed as regulatory relief for smaller GHG emission sources and for permitting authorities. Although sources above the thresholds set in this rule will become subject to permitting on January 2, 2011, those impacts are not attributable to the present rulemaking. Rather they are mandated by the CAA and existing regulations and automatically take effect independent of this action.

In addition to considering the regulatory relief expected for affected entities as a result of this final rule, the EPA considered the impact of this rulemaking to small entities (small businesses, governments and non-profit organizations) as required by the Regulatory Flexibility Act (RFA) and the Small Business Regulatory Enforcement Fairness Act (SBREFA). For informational purposes, the RIA includes the SBA definition of small entities by industry categories for stationary sources of GHG and potential regulatory relief from title V and NSR permitting programs for small sources of GHG. Since this rule does not impose regulatory requirements but rather lessens the regulatory burden of the CAA requirements to smaller sources of GHG, no economic costs are imposed upon small sources of GHG as a result of this final rule. Rather this action provides regulatory relief for small sources. These avoided costs or benefits accrue because small sources of GHG are not required to obtain a title V permit and new or modifying small sources of GHG are not required to meet PSD requirements. Some of the small sources benefitting from this action are small entities, and these entities will benefit from the regulatory relief finalized by this rule. For discussion of comments received and EPA responses regarding small entities impacts, see section VII of this preamble.

D. What are the costs of the final rule for society?

EPA examined the social costs of this final rule. These social costs represent the foregone environmental benefits that will occur as a result of the regulatory relief offered to sources of GHG emissions. This action is one of regulatory relief since it increases the emissions thresholds for the title V and PSD programs, as they apply to sources of GHG emissions, to levels above those in the CAA. In this preamble section, the benefits or avoided regulatory costs of such relief are discussed, but there is also a social cost imposed by such relief, because this rule may forego some of the possible benefits associated with title V and PSD programs for sources of GHG emissions below the permitting thresholds established. These benefits are those attributed to title V and PSD permitting programs in general. These benefits are based upon the relevance of these programs to policy-making, transparency issues, and market efficiency, and therefore are very difficult to quantify and monetize. For title V, they include the benefits of improved compliance with CAA requirements that stem from (1) Improved clarity regarding applicability of requirements, (2) discovery and required correction of noncompliance prior to receiving a permit, (3) improving monitoring, recordkeeping, and reporting concerning compliance status, (4) self-certification of compliance with applicable requirements initially and annually, and prompt reporting of deviations from permit requirements, (5) enhanced opportunity for the public to understand and monitor sources' compliance obligations, and (6) improved ability of EPA, permitting authorities, and the public to enforce CAA requirements. However, it is important to remember that a title V permit generally does not add new requirements for pollution control itself, but rather collects all of a facility's applicable requirements under the CAA in one permitting mechanism. Therefore, the compliance benefits above are less when title V permits contains few or no CAA applicable requirements. During the initial steps of the phase-in plan established under this action, we expect that the vast majority of sources excluded from title V would be sources that have no CAA applicable requirements for GHG emissions and few or no requirements for other pollutants because their emissions of those pollutants are so small. For this reason, while it is extremely difficult to measure the degree of improved compliance, if any, that would be foregone, or to quantify the social costs that would be imposed, we expect that they would be small. We will be evaluating this issue further during subsequent phases.

For PSD, the primary social cost imposed by the Tailoring Rule stems from the foregone benefit of applying BACT to the tens of thousands of small new sources and modifications that will be below our final thresholds during the first steps of the phase-in. This social cost potentially weighs against the cost savings described previously that stem (in part) from avoiding the administrative and control costs of applying BACT to these sources. The BACT requirement assures that new and modified sources, when they increase their emissions are using state-of-the-art emission controls and affords the public an opportunity to comment on the control decision. It does not prohibit increases but it assures that such controls are applied. Delaying the BACT requirement for numerous small sources during the first steps of the phase-in for this final rule could allow increases from these smaller sources that are greater than they would be if BACT were applied. A detailed analysis of this difference is beyond the scope of this rule, because we do not have detailed information on the universe of these tens of thousands of small PSD actions, the candidate BACT technologies for each of them, how permitting authorities would make the BACT decisions, and how the BACT limit would compare to what would otherwise be installed absent BACT.

It is not possible at this time to quantify the social costs of avoided BACT. However, we note that the universe of possible emissions that would be regulated by sources excluded under the Tailoring Rule is small compared to those that would remain subject to PSD. The sources excluded in these first two steps of the phase-in plan of this action comprise only 11 percent of total stationary source GHG emissions, while 67 percent remain subject to regulation. Furthermore, we expect the emissions differences due to BACT controls for such sources to be relatively small due to the lack of available capture and control technologies for GHG at such sources that are akin to those that exist for conventional pollutants and sources, as well as the likelihood that even in the absence of BACT such sources would already be installing relatively efficient GHG technologies to save on fuel costs. Thus, while potential benefits would be foregone by excluding smaller sources from the permitting programs, these benefits are likely to be small. Under the Tailoring Rule, we will be working during the 6-year period to greatly improve our understanding of both the administrative costs of regulating and the social costs of not regulating smaller sources under PSD and title V, and we will be relying on that information to support our future threshold analyses called for under the action.

In reaching the decisions for this Tailoring Rule, the EPA recognizes that GHG emissions can remain in the atmosphere for decades to centuries, meaning that their concentrations become well-mixed throughout the global atmosphere regardless of emission origin, and their effects on climate are long lasting and significant. A detailed explanation of climate change and its impact on health, society, and the environment is included in EPA's TSD for the endangerment finding action (Docket ID No. EPA-HQ-OAR-2009-0171). The EPA recognizes the importance of reducing climate change emissions for all sources of GHG emissions including those sources afforded regulatory relief in this rule and plans to address potential emission reductions from these small sources using voluntary and energy efficiency approaches. Elsewhere, we have discussed EPA's interest in continuing to use regulatory and/or non-regulatory tools for reducing emissions from smaller GHG sources because we believe that these tools will likely result in more efficient and cost-effective regulation than would case-by-case permitting.

E. What are the net benefits of this final rule?

The net benefits of this GHG tailoring rule represent the difference between the benefits and costs of this rule to society. As discussed in this preamble, this rule is one of regulatory relief and the benefits to society are estimates the regulatory relief (avoided permit burden costs) to sources and permitting authorities for Steps 1 and 2 of the phase-in period. The social costs of the rule are the foregone environmental benefits in the form of potential GHG emission reductions that could occur during the phase-in period and are discussed qualitatively.

This rulemaking provides regulatory relief for a phase-in period to smaller sources of GHG by phasing in the statutory permitting threshold at levels above statutory requirements. This final rule establishes thresholds and PSD significance levels for Steps 1 and 2 of the phase-in period (the 2.5 year period between January 2, 2011 and July 1, 2013), commits to considering a further Step 3, and indicates floor title V and PSD threshold levels from July 1, 2013 through April 30, 2016. The net benefits of the final rule for Steps 1 and 2 are $193,598+*B*-*C* million for the 2 and one-half year period where *B* denotes the unquantified benefits and *C* the quantified costs of this final rule. These unquantified benefits of this rule include the avoided PSD BACT costs for new and modifying sources. The unquantified costs previously discussed relate to the foregone environment benefits or GHG emission reductions that might be possible during the 2.5 year Step 1 and 2 phase-in period. These estimates are subject to significant uncertainties that are discussed at length in the Regulatory Impact Analysis for the Prevention of Significant Deterioration and Title V GHG Tailoring Rule contained in the docket to this final rule. All dollar estimates shown are based upon 2007$.

TABLE VI–4—NET BENEFITS OF THE RULE FOR STEPS 1 AND 2 OF THE PHASE-IN PERIOD

	Final rule amounts (millions of 2007$)
Benefits—Regulatory Relief:	
Sources	
Title V[1]	$123,624
PSD[2]	$13,567
Total Source Regulatory Relief	$137,190
Permitting Authority:	
Title V[1]	$52,684
PSD[2]	$3,724
Total Permitting Authority	$56,407
Total Regulatory Relief	$193,598+*B*
Costs—Foregone GHG Emission Reductions	
Title V & PSD	*C*
Net Benefits[3]	$193,598+*B*–C

Benefits represent regulatory relief for sources with the annual potential to emit below the thresholds shown.

B—Unquantified benefits of the rule include regulatory relief from BACT requirements for PSD sources.

C—Unquantified social costs of tailoring rule represents economic value of foregone environmental benefits (potential GHG emission reductions) during Step 1 and 2 of the phase-in period. Foregone GHG emission reductions are not known at this time.

[1] Reflects estimates of regulatory relief of avoided permit burden costs for title V GHG sources and permitting authorities.

[2] Shows estimates of regulatory relief or avoided permit burden costs for GHG PSD sources and permitting authorities.

[3] Includes one-half year of Step 1 (anyway threshold), 2 years of Step 2 (100,000 threshold).

A. *Comments on Executive Order 12866—Regulatory Planning and Review*

At proposal, EPA prepared an analysis of the potential costs and benefits associated with EPA's Tailoring Rule proposal in an RIA. Several commenters state that EPA's failure to estimate the full costs of the effects of its interpretation of PSD applicability in the proposed Tailoring Rule violates Executive Order 12866. Some of these commenters maintain that Executive Order 12866 directs EPA to submit to the Office of Management and Budget (OMB) new significant regulations under consideration by the EPA. These commenters assert that, in the section 202 rule, EPA failed to analyze the effect on stationary sources in the cost benefit analysis and there is no indication that EPA included these impacts in its submission to OMB. According to the commenters, in EPA's proposal for this rulemaking, EPA has similarly failed to analyze the costs and benefits of triggering PSD for stationary sources. The commenters assert that without this key information, OMB could not fully review the impacts of the proposed rule. The commenters believe that EPA's failure to account for known costs that will occur as a direct result of the promulgation of the proposed rule in conjunction with the section 202 rule violates several applicable requirements of Executive Order 12866, including sections 6(B)(ii) and 6(C)(iii), which require assessments of the potential costs and benefits of the regulatory action and "reasonably feasible alternatives to the planned regulation, identified by the Agencies or the public * * *" thereby violating both the APA and CAA section 307(d) because they deprive businesses and permitting authorities alike of a meaningful opportunity to comment on the rule.

The EPA has prepared a revised RIA assessing the benefits and costs of the final Tailoring Rule to support this rulemaking in accordance with Executive Order 12866, as was done with the proposal for this rulemaking. Similarly, the RIA completed for this action is subject to review by an Inter-agency review panel that includes OMB, as was the case with the proposal RIA. Further, the RIA completed for this final rule fully assesses the known benefits and costs associated with the Tailoring Rule. This final rule is one of regulatory relief from statutory requirements in which a large number of sources of GHGs will be relieved of the burden of title V and PSD permitting for a period of at least 6 years. This final rule will provide relief from title V permitting to over 6 million sources of GHG in this country. Likewise tens of thousands of sources potentially subject to PSD permitting requirements for GHGs will have regulation postponed for a period of at least 6 years. While larger sources of GHG may still be required to obtain title V permits or modify existing permits and to comply with PSD requirements, these burdens result from existing statutory requirements, not from this final Tailoring Rule.

B. Comments on the Paperwork Reduction Act

At proposal, we stated in the preamble that we did not believe that the proposal would impose any new information collection burden. We concluded that the proposed action would reduce costs incurred by sources and permitting authorities relative to the costs that would be incurred if EPA did not revise the rule and provided estimates of those reduced costs. Further, we stated that, despite our estimated burden reductions, it was unnecessary for us to submit a new ICR to the OMB because the ICR contained in the existing regulations for PSD (*see*, *e.g.*, 40 CFR 52.21) and title V (*see* 40 CFR parts 70 and 71) had already been approved under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq*. and was assigned OMB control number 2060-0003 and OMB control number 2060-0336, respectively.

However, several commenters disagree that it was unnecessary for us to submit a new ICR for the proposed action. These commenters believe that (1) prior approval of an ICR for the PSD and title V programs ignores the fact that there would be an increase in the paperwork burden as a result of applying PSD and title V permitting requirements; and (2) unless EPA resubmits the information collection approval request to OMB with a proper and fully-inclusive analysis, EPA will lack authority to collect information from stationary sources for PSD and title V GHG emissions permitting.

As we stated in the proposal, this is a burden relief rule and as such it does not impose any new requirements for the NSR or title V programs that are not currently required. For that reason, we concluded that for purposes of this rule it was unnecessary for us to submit a new ICR to the OMB and that the ICR contained in the existing regulations for PSD (*see*, *e.g.*, 40 CFR 52.21) and title V (*see* 40 CFR parts 70 and 71) that had already been approved under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq*. and was assigned OMB control number 2060-0003 and OMB control number 2060-0336, respectively, still applies.

Nevertheless, we understand that once GHGs are regulated under the PSD and title V programs, there might be an increase in the overall paperwork burden for these programs. EPA will have to assess this possible burden during the normal course of 3-year renewal ICR process.

C. Comments on the RFA

At proposal, EPA certified that the proposed rule would not have a significant impact on a substantial number of small entities and therefore we are not obligated to convene a formal Small Business Advocacy Review (SBAR) panel. This certification was based upon the fact that the proposed action would relieve the regulatory burden associated with the major PSD and title V operating permits programs for new or modified major sources that emit GHGs, including small businesses. Nevertheless, EPA was aware at proposal that many small entities would be interested in the various GHG rulemakings currently under development and might have concerns about the potential impacts of the statutory imposition of PSD requirements that may occur as a result of the group of EPA actions, notwithstanding the relief provided to small businesses by the Tailoring Rule. For these reasons, and in collaboration with the SBA, EPA conducted an outreach meeting designed to exchange information with small entities that may be interested in these regulations. The outreach effort was organized and led by representatives from EPA's Office of Air Quality Planning and Standards within the Office of Air and Radiation, EPA's Office of Policy Economics and Innovation, the Office of Information and Regulatory Affairs within OMB, and the Office of Advocacy of the SBA. This meeting was conducted on November 17, 2009 in Arlington, VA, and documentation of this meeting, which includes a summary of the advice and recommendations received from the small entity representatives identified for the purposes of this process, can be obtained in the docket for this rulemaking. (*See* Docket No. EPA-HQ-OAR-2009-0517-19130.)

During the comment period, several commenters alleged that EPA inappropriately limited its RIA and RFA/SBREFA analysis, and that had we done a comprehensive analysis, we would not have been able to certify that any of the proposed rules will not have a significant economic impact on a "substantial number of small entities." Thus they conclude that EPA failed to prepare and publicize an initial regulatory flexibility analysis (IRFA). Additional commenters stated that EPA's failure to conduct an IRFA to assess the full costs of the effects of its interpretation of PSD applicability in the proposed Tailoring Rule violates a host of statutes and Executive Orders requiring analysis and public review of regulatory burdens. These commenters conclude that EPA should have convened one or more SBAR Panels.

We are not persuaded that we should have taken into account effects beyond those caused by the Tailoring Rule when we made our certification of no significant economic impact on a substantial number of small entities for this rule. No permitting requirements are imposed by this final Tailoring Rule. Instead, this final Tailoring Rule offers regulatory relief to over an estimated six million sources of GHG emissions that would otherwise be required to obtain a title V permit and tens of thousands of sources of GHG emissions subject to PSD permitting requirements that would otherwise be required statutorily to obtain permit. The RFA does not require that an agency complete a regulatory flexibility analysis or conduct an SBAR panel where the rule does not have any negative impact on small entities. For more discussion of RFA issues, please see the RTC document.

D. Comments on the Unfunded Mandates Reform Act

At proposal, EPA asserted that the Tailoring Rule does not impose unfunded mandates on any entities including sources and permitting authorities. Since the proposed Tailoring Rule is one of regulatory relief, it alleviates the burden of adhering to statutorily required permitting thresholds and does not impose regulatory requirements.

Some commenters on the proposed rule assert that EPA has failed to comply with the requirements of the Unfunded Mandates Reform Act (UMRA), pursuant to which EPA must assess the effects of the proposed rule on state, local, and tribal governments and the private sector. Specifically, these commenters state that section 202 of the UMRA requires EPA to prepare a written statement, including a cost-benefit analysis, for proposed rules with "federal mandates" that may result in expenditures to state, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. According to the commenters, in concluding that "the revisions would ultimately reduce the PSD and title V program administrative burden that would otherwise occur in the absence of this rulemaking," EPA did not account for the billions of dollars that permitting authorities and stationary sources will soon be required to spend once PSD is triggered for GHGs. Additionally, a few commenters contend that the EPA underestimated the impacts to public utilities which are owned/operated by local governments and also to state regulatory agencies.

The EPA has carefully considered the comments on unfunded mandates expressed by commenters to the proposed rule. The EPA did complete a RIA for the final rule assessing the benefits and costs of the Tailoring Rule, including any unfunded mandates. As previously discussed, the Tailoring Rule is one of regulatory relief because it increases the GHG emissions threshold for NSR and title V permitting substantially above otherwise statutory requirements. As such, the EPA has determined that this Tailoring Rule does not impose unfunded mandates on any entities. This RIA of the final rule incorporates the extensive changes made in this final rule, including increased threshold levels for title V and PSD above those contained in the proposed rule. While we also incorporated improved estimates of the costs for sources to obtain permits and for permitting authorities to process permits, they do not change our conclusion that this final rule does not impose unfunded mandates on any entities.

E. Comments on Executive Order 13132—Federalism

Some comments received on the proposed rule assert that federalism concerns were ignored, in violation of Executive Order 13132. According to the commenters, EPA cannot maintain that the Tailoring Rule "will not have a substantial direct effect on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities between various levels of government," such that Executive Order 13132 does not apply. Some of these commenters assert that the proposed rulemaking would require radical changes in state laws, interjects GHGs into permit programs never once conceived for that purpose (any more than was EPA's), requires massive staff hiring at state agencies, and rewrites SIPs in place for years or even decades.

As we stated previously, this is a burden relief rule and as such it does not impose any requirements for the NSR or title V programs that are not currently required. In addition, this action does not interject GHGs into the permit programs, nor does it change state laws or SIPs to impose any new permitting requirements. Instead, this *31603 action will significantly reduce the burden and costs incurred by sources and permitting authorities relative to the burden and costs that would be incurred if EPA did not revise the permitting provisions to account for higher applicability thresholds for GHG emissions.

However, since this rule finalizes burden reducing thresholds that will not otherwise apply to the PSD and title V programs, we are aware that a few states may have to amend their SIPs to incorporate these new thresholds if they do not incorporate federal rules by reference and cannot adopt our approach through interpretation. Executive Order 13132 is still not implicated by this rule because it finalizes burden reducing thresholds that would not otherwise apply to the PSD and title V programs.

F. Comments on Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

The National Tribal Air Association (NTAA) supports EPA's proposed rule but requests that tribal air grant funding be increased to reflect the air quality-related needs of tribes across the nation, and to allow these tribes the opportunity to implement the CAA's PSD and title V programs. The NTAA states that, not only are tribes eligible for section 103 grant funding to conduct air quality monitoring, emissions inventories, and other studies and assessments, but they may also obtain section 105 grant funding to implement CAA regulatory programs. According to the NTAA, tribes are facing many of the same air-related issues that neighboring state and local jurisdictions are facing, but are significantly underfunded to address such issues.

The Agency is aware and concerned about the resource needs for the tribal air program and we are working to see how grant funding might be increased in the future. Nevertheless and for the purpose of the permitting programs, we want to clarify that tribes that develop Tribal Implementation Plans (TIPs) can charge for permits and tribes with delegation or authorization would develop permit fee programs under their authority (*e.g.*, Navajo's permit fee program for their delegated title V permit program) to fund both the NSR and title V programs. For these reasons, there are a number of ways we would like to work with tribes to address the funding concern, including encouraging delegation or authorization of permitting programs and having model codes available for tribes that want to do TIPs for NSR and title V permitting.

G. Comments on Executive Order 13211—Actions That Significantly Affect Energy Supply, Distribution, or Use

Other commenters assert that EPA's analysis under Executive Order 13211 is insufficient because it addresses only smaller sources. These commenters contend that EPA has not meaningfully examined the energy implications of its proposed actions and interpretations of the CAA. The commenters disagree with EPA's conclusion that the imposition of costly PSD obligations on power plants would have no impact on power supply, distribution, or use, when those plants will have had no time to prepare for compliance and no idea what BACT may be for GHG emissions. Other commenters opine that the adoption of BACT for some industries newly-subject to PSD permitting requirements for GHGs could involve fuel-switching, and increased energy costs (due to the need for a source to convert from coal to natural gas to meet BACT).

Again, this action is a burden relief rule and as such it does not create any new requirements for sources in the energy supply, distribution, or use sectors. For the purpose of the BACT determinations for GHGs, the long-standing top-down BACT selection process still applies. Under the CAA and EPA's implementing regulations, BACT is still an emission limitation based on the maximum degree of emission reduction achievable through application of production processes and available methods, systems, and techniques that considers energy, environmental, and economic impacts. In other words, BACT determinations for GHGs will still have to consider energy, environmental and economic feasibility for the various control technologies under consideration before selecting a particular technology as BACT for a specific source. For that reason, what BACT may be for GHG emissions will vary by source, and the technology that is ultimately selected has to be one that is feasible based on the current energy, environmental and economic impacts that the planned technology might have. Thus, we do not believe that this action is likely to have a significant adverse effect on the supply, distribution, or use of energy.

VIII. Statutory and Executive Order Reviews

A. *Executive Order 12866—Regulatory Planning and Review*

Under section 3(f)(1) of Executive Order 12866 (58 FR 51735, October 4, 1993), this action is an "economically significant regulatory action" because it is likely to have an annual effect on the economy of $100 million or more. Accordingly, EPA submitted this action to the OMB for review under Executive Order 12866 and any changes made in response to OMB recommendations have been documented in the docket for this action.

In addition, EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in the RIA for this final rule. A copy of the analysis is available in the docket for this action and the analysis is briefly summarized in section VII of this preamble.

This rule uses a phased-in approach for requiring larger sources of GHG emissions to comply with title V operating permit and PSD statutory requirements, essentially lifting this burden for a period of at least 6 years for a large number of sources of GHG. Thus, this rule provides regulatory relief rather than regulatory requirements for these GHG sources. For sources of GHG that will be required to obtain title V permits and/or comply with PSD requirements, there are no direct economic burdens or costs as a result of this final rule, because these requirements are not imposed as a result of this rulemaking. Statutory requirements to obtain a title V operating permit or to adhere to PSD requirements are already mandated by the CAA and by existing rules, not by this rule. As a result, this Tailoring Rule annual effect on the economy will be positive because it will result in billions of dollars of regulatory relief during the phase-in period.

B. Paperwork Reduction Act

This action does not impose any new information collection burden. Instead, this action will significantly reduce costs incurred by sources and permitting authorities relative to the costs that would be incurred if EPA did not revise the rule. Based on our revised GHG threshold data analysis, we estimate that over 80,000 new and modified facilities per year would be subject to PSD review based on applying a GHG emissions threshold of 100/250 tpy using a CO_2e metric. This is compared to 280 PSD permits currently issued per year, which is an increase of more than 280-fold. Similarly, for title V, we estimate that over six million new sources would be affected at the 100-tpy threshold for GHGs using the CO_2e metric. By increasing the volume of permits by over 400 times, the administrative burden would be unmanageable without this rule.

However, OMB has previously approved the information collection requirements contained in the existing regulations for PSD (*see, e.g.*, 40 CFR 52.21) and title V (*see* 40 CFR parts 70 and 71) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* and has assigned OMB control number 2060-0003 and OMB control number 2060-0336. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the APA or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this final action on small entities, small entity is defined as: (1) A small business that is a small industrial entity as defined in the U.S. SBA size standards (*see* 13 CFR 121.201); (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this final rule on small entities, I certify that this final action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant adverse economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives "which minimize any significant economic impact of the rule on small entities." 5 U.S.C. 603 and 604. Thus, an agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect on all of the small entities subject to the rule.

We have therefore concluded that this final rule will relieve the regulatory burden for most affected small entities associated with the major PSD and title V operating permits programs for new or modified major sources that emit GHGs, including small businesses. This is because this rule raises the major source applicability thresholds for these programs for the sources that emit GHGs. As a result, the program changes provided in this rule are not expected to result in a significant economic impact on a substantial number of small entities.

D. Unfunded Mandates Reform Act

This rule does not contain a federal mandate that may result in expenditures of $100 million or more for state, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Only those few states whose permitting authorities do not implement the federal PSD and title V rules by reference in their SIPs will have a small increase in burden. These states will have to amend their corresponding SIPs to incorporate the new applicability thresholds, since the burden reducing thresholds that we are finalizing with this rule will not otherwise apply to the PSD and title V programs. Thus, this rule is not subject to the requirements of sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. As discussed earlier, this rule is expected to result in cost savings and an administrative burden reduction for all permitting authorities and permittees, including small governments.

E. Executive Order 13132—Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. These final amendments will ultimately simplify and reduce the burden on state and local agencies associated with implementing the PSD and title V operating permits programs, by providing that a source whose GHG emissions are below the proposed levels will not have to obtain a PSD permit or title V permit. Thus, Executive Order 13132 does not apply to this action.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and state and local governments, EPA specifically solicited comment on the proposed rule from state and local officials.

F. Executive Order 13175—Consultation and Coordination With Indian Tribal Governments

Subject to the Executive Order 13175 (65 FR 67249, November 9, 2000) EPA may not issue a regulation that has tribal implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by tribal governments, or EPA consults with tribal officials early in the process of developing the proposed regulation and develops a tribal summary impact statement.

EPA has concluded that this action may have tribal implications. However, it will neither impose substantial direct compliance costs on tribal governments, nor preempt tribal law. There are no tribal authorities, currently issuing major NSR permits; however, this may change in the future.

EPA consulted with tribal officials early in the process of developing this regulation to allow them to have meaningful and timely input into its development by publishing an ANPR that included GHG tailoring options for regulating GHGs under the CAA. (73 FR 44354, July 30, 2008) As a result of the ANPR, EPA received several comments from tribal officials on differing GHG tailoring options presented in the ANPR which were considered in the proposal and this final rule. Additionally, we also specifically solicited comment from tribal officials on the proposed rule (74 FR 55292, October 27, 2009).

G. Executive Order 13045—Protection of Children From Environmental Health and Safety Risks

EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211—Actions That Significantly Affect Energy Supply, Distribution, or Use

This action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that this rule is not likely to have any adverse energy effects because this action would not create any new requirements for sources in the energy supply, distribution, or use sectors.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 ("NTTAA"), Public Law No. 104-113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This action does not involve technical standards. Therefore, EPA did not consider the use of any voluntary consensus standards.

J. Executive Order 12898—Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has concluded that it is not practicable to determine whether there would be disproportionately high and adverse human health or environmental effects on minority and/or low income populations from this rule. This rule is necessary in order to allow for the continued implementation of permitting requirements established in the statute. Specifically, without this rule, the CAA permitting programs (PSD and title V) would become overwhelmed and unmanageable by the millions of GHG sources that would become newly subject to them. This would result in severe impairment of the functioning of these programs with potentially adverse human health and environmental effects nationwide. Under this rule and the legal doctrines of "absurd results," administrative necessity, and one-step-at-a-time, EPA is ensuring that the CAA permitting programs continue to operate by limiting their applicability to the maximum number of sources the programs can possibly handle. This approach is consistent with congressional intent as it allows PSD applicability to at least the largest sources initially, at least to as many more sources as possible, and as promptly as possible over time. By doing so, this rule allows for the maximum degree of environmental protection possible while providing regulatory relief for the unmanageable burden that would otherwise exist. Therefore, we believe it is not practicable to identify and address disproportionately high and adverse human health or environmental effects on minority populations and low income populations in the United States under this final rule.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by SBREFA, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is a "major rule" as defined by 5 U.S.C. 804(2). This rule will be effective August 2, 2010.

L. Judicial Review

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit by August 2, 2010. Any such judicial review is limited to only those objections that are raised with reasonable specificity in timely comments. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. Under section 307(b)(2) of the Act, the requirements of this final action may not be challenged later in civil or criminal proceedings brought by us to enforce these requirements. Pursuant to section 307(d)(1)(V) of the Act, the Administrator determines that this action is subject to the provisions of section 307(d). Section 307(d)(1)(V) provides that the provisions of section 307(d) apply to "such other actions as the Administrator may determine." This action finalizes some, but not all, elements of a previous proposed action—the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule Proposed Rule (74 FR 55292, October 27, 2009).

IX. Statutory Authority

The statutory authority for this action is provided by sections 307(d)(7)(B), 101, 111, 114, 116, and 301 of the CAA as amended (42 U.S.C. 7401, 7411, 7414, 7416, and 7601). This action is also subject to section 307(d) of the CAA (42 U.S.C. 7407(d)).

List of Subjects

40 CFR Part 51

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 52

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 70

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Intergovernmental relations, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

40 CFR Part 71

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon dioxide, Carbon dioxide equivalents, Greenhouse gases, Hydrofluorocarbons, Methane, Nitrous oxide, Perfluorocarbons, Reporting and recordkeeping requirements, Sulfur hexafluoride.

Dated: May 13, 2010.

Lisa P. Jackson,
Administrator.

■ For reasons stated in the preamble, title 40, chapter I of the Code of Federal Regulations is amended as set forth below.

PART 51—[AMENDED]

1. The authority citation for part 51 continues to read as follows:

Authority: 23 U.S.C. 101; 42 U.S.C. 7401-7671q.

■ Subpart I—[Amended]

■ 2. Section 51.166 is amended:

■ a. By adding paragraph (b)(48);

■ b. By revising paragraph (b)(49)(iv); and

■ c. By adding paragraph (b)(49)(v).

The revisions and additions read as follows:

§ 51.166 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(48) *Subject to regulation* means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable

regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(i) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in paragraphs (b)(48)(iv) through (v) of this section.

(ii) For purposes of paragraphs (b)(48)(iii) through (v) of this section, the term tpy *CO_2 equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed as follows:

(a) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials.

(b) Sum the resultant value from paragraph (b)(48)(ii)(a) of this section for each gas to compute a tpy CO_2e.

(iii) The term emissions increase as used in paragraphs (b)(48)(iv) through (v) of this section shall mean that both a significant *emissions* increase (as calculated using the procedures in (a)(7)(iv) of this section) and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section) occur. For the pollutant GHGs, an emissions increase shall be based on tpy CO_2e, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and "significant" is defined as 75,000 tpy CO_2e instead of applying the value in paragraph (b)(23)(ii) of this section.

(iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:

(*a*) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO_2e or more; or

(*b*) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO_2e or more; and,

(v) Beginning July 1, 2011, in addition to the provisions in paragraph (b)(48)(iv) of this section, the pollutant GHGs shall also be subject to regulation:

(*a*) At a new stationary source that will emit or have the potential to emit 100,000 tpy CO_2e; or

(*b*) At an existing stationary source that emits or has the potential to emit 100,000 tpy CO_2e, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO_2e or more.

(49) * * *

(iv) Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(48) of this section.

(v) Notwithstanding paragraphs (b)(49)(i) through (iv) of this section, the term *regulated NSR pollutant* shall not include any or all hazardous air pollutants either listed in section 112 of the Act, or added to the list pursuant to section 112(b)(2) of the Act, and which have not been delisted pursuant to section 112(b)(3) of the Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

* * * * *

PART 52—[AMENDED]

■ 3. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq.*

Subpart A—[Amended]

■ 4. Section 52.21 is amended:

■ a. By adding paragraph (b)(49);

■ b. By revising paragraph (b)(50)(iv); and

■ c. By adding paragraph (b)(50)(v).

The revisions and additions read as follows:

§ 52.21 Prevention of significant deterioration of air quality.

* * * * *

(b) * * *

(49) *Subject to regulation means*, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect

and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(i) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in paragraphs (b)(49)(iv) through (v) of this section.

(ii) For purposes of paragraphs (b)(49)(iii) through (v) of this section, the term tpy *CO_2equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed as follows:

(*a*) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials.

(*b*) Sum the resultant value from paragraph (b)(49)(ii)(a) of this section for each gas to compute a tpy CO_2e.

(iii) The term *emissions increase* as used in paragraphs (b)(49)(iv) through (v) of this section shall mean that both a significant emissions increase (as calculated using the procedures in paragraph (a)(2)(iv) of this section) and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section) occur. For the pollutant GHGs, an emissions increase shall be based on tpy CO_2e, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and "significant" is defined as 75,000 tpy CO_2e instead of applying the value in paragraph (b)(23)(ii) of this section.

(iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:

(*a*) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO_2e or more; or

(*b*) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO_2e or more; and,

(v) Beginning July 1, 2011, in addition to the provisions in paragraph (b)(49)(iv) of this section, the pollutant GHGs shall also be subject to regulation

(*a*) At a new stationary source that will emit or have the potential to emit 100,000 tpy CO_2e; or

(*b*) At an existing stationary source that emits or has the potential to emit 100,000 tpy CO_2e, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO_2e or more.

(50) * * *

(iv) Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(49) of this section.

(v) Notwithstanding paragraphs (b)(50)(i) through (iv) of this section, the term regulated NSR pollutant shall not include any or all hazardous air pollutants either listed in section 112 of the Act, or added to the list pursuant to section 112(b)(2) of the

Act, and which have not been delisted pursuant to section 112(b)(3) of the Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

* * * * *

■ 5. A new § 52.22 is added to read as follows:

§ 52.22 Enforceable commitments for further actions addressing the pollutant greenhouse gases (GHGs).

(a) Definitions.

(1) *Greenhouse Gases (GHGs)* means the air pollutant as defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(2) All other terms used in this section shall have the meaning given in § 52.21.

(b) *Further action to regulate GHGs under the PSD program.*

(1) *Near term action on GHGs.* The Administrator shall solicit comment, under section 307(b) of the Act, on promulgating lower GHGs thresholds for PSD applicability. Such action shall be finalized by July 1, 2012 and become effective July 1, 2013.

(2) *Further study and action on GHGs.*

(i) No later than April 30, 2015 the Administrator shall complete a study projecting the administrative burdens that remain with respect to stationary sources for which GHGs do not constitute a regulated NSR pollutant. Such study shall account, among other things, for permitting authorities ability to secure resources, hire and train staff; experiences associated with GHG permitting for new types of sources and technologies; and, the success of streamlining measures developed by EPA (and adopted by the states) for reducing the permitting burden associated with such stationary sources.

(ii) Based on the results of the study described in paragraph (b)(2)(i) of this section, the Administrator shall propose a rule addressing the permitting obligations of such stationary sources under § 52.21 and § 51.166 of this chapter. The Administrator shall take final action on such a rule no later than April 30, 2016.

(iii) Before completing the rule described in paragraph (b)(2)(ii) of this section, the Administrator shall take no action to make the pollutant GHGs subject to regulation at stationary sources that emit or have the potential to emit less than 50,000 tpy CO_2e, or for physical changes or changes in the method of operations at stationary sources that result in an emissions increase of less than 50,000 tpy CO_2e (as determined using the methodology described in § 52.21(b)(49)(ii).)

PART 70—[AMENDED]

■ 6. The authority citation for part 70 continues to read as follows:

Authority: 42 U.S.C. 7401, *et seq*.

■ 7. Section 70.2 is amended:

■ a. By revising the introductory text of paragraph (2) of the definition for "major source"; and

■ b. By adding a definition for "Subject to regulation" in alphabetical order.

The revision and addition read as follows:

§ 70.2 Definitions.

* * * * *

Major source * * *

(2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

* * * * *

Subject to regulation means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(1) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting

or having the potential to emit 100,000 tpy CO_2 equivalent emissions.

(2) The term tpy *CO_2 equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials, and summing the resultant value for each to compute a tpy CO_2e.

* * * * *

■ 8. A new § 70.12 is added to read as follows:

§ 70.12 Enforceable commitments for further actions addressing greenhouse gases (GHGs).

(a) *Definitions*.

(1) *Greenhouse Gases (GHGs)* means the air pollutant as defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(2) All other terms used in this section shall have the meaning given in § 70.2.

(b) *Further action to regulate GHGs under the title V program*.

(1) Near term action on GHGs. The Administrator shall solicit comment, under section 307(b) of the Act, on promulgating lower GHGs thresholds for applicability under § 70.2. Such action shall be finalized by July 1, 2012 and become effective July 1, 2013.

(2) *Further study and action on GHGs*.

(i) No later than April 30, 2015 the Administrator shall complete a study projecting the administrative burdens that remain with respect to stationary sources for which GHGs do not constitute a pollutant subject to regulation. Such study shall account, among other things, for permitting authorities ability to secure resources, hire and train staff; experiences associated with GHG permitting for new types of sources and technologies; and, the success of streamlining measures developed by EPA (and adopted by the states) for reducing the permitting burden associated with such stationary sources.

(ii) Based on the results of the study described in paragraph (b)(2)(i) of this section, the Administrator shall propose a rule addressing the permitting obligations of such stationary sources under § 70.2. The Administrator shall take final action on such a rule no later than April 30, 2016.

(iii) Before completing the rule described in paragraph (b)(2)(ii) of this section, the Administrator shall take no action to make the pollutant GHGs subject to regulation at stationary sources that emit or have the potential to emit less than 50,000 tpy CO_2e (as determined using the methodology described in § 70.2.)

PART 71—[AMENDED]

■ 9. The authority citation for part 71 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

Subpart A—[AMENDED]

■ 10. Section 71.2 is amended:

■ a. By revising the introductory text of paragraph (2) of the definition for "major source"; and

■ b. By adding a definition for "Subject to regulation" in alphabetical order.

The revision and addition read as follows:

§ 71.2 Definitions.

* * * * *

Major source * * *

(2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

* * * * *

Subject to regulation means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(1) *Greenhouse gases (GHGs)*, the air pollutant defined in § 86.1818-12(a) of this chapter as the

aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO_2 equivalent emissions.

(2) The *term tpy CO_2 equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials, and summing the resultant value for each to compute a tpy CO_2e.

■ 11. A new § 71.13 is added to subpart A to read as follows:

§ 71.13 Enforceable commitments for further actions addressing Greenhouse Gases (GHGs)

(a) *Definitions*.

(1) Greenhouse Gases (GHGs) means the air pollutant as defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(2) All other terms used in this section shall have the meaning given in § 71.2.

(b) *Further action to regulate GHGs under the title V program*.

(1) *Near term action on GHGs*. The Administrator shall solicit comment, under section 307(b) of the Act, on promulgating lower GHGs thresholds for

applicability under § 71.2. Such action shall be finalized by July 1, 2012 and become effective July 1, 2013.

(2) *Further study and action on GHGs.*

(i) No later than April 30, 2015, the Administrator shall complete a study projecting the administrative burdens that remain with respect to stationary sources for which GHGs do not constitute a pollutant subject to regulation. Such study shall account, among other things, for permitting authorities ability to secure resources, hire and train staff; experiences associated with GHG permitting for new types of sources and technologies; and, the success of streamlining measures developed by EPA (and adopted by the states) for reducing the permitting burden associated with such stationary sources.

(ii) Based on the results of the study described in paragraph (b)(2)(i) of this section, the Administrator shall propose a rule addressing the permitting obligations of such stationary sources under § 71.2. The Administrator shall take final action on such a rule no later than April 30, 2016.

(iii) Before completing the rule described in paragraph (b)(2)(ii) of this section, the Administrator shall take no action to make the pollutant GHGs subject to regulation at stationary sources that emit or have the potential to emit less than 50,000 tpy CO_2e, (as determined using the methodology described in § 71.2.)

Nos. 12-1146, 12-1248, 12-1254, 12-1268,
12-1269, 12-1272

RECORD
AND
BRIEFS

IN THE

Supreme Court of the United States

Supreme Court, U.S.
FILED
DEC - 9 2013
OFFICE OF THE CLERK

UTILITY AIR REGULATORY GROUP,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, *et al.*,

Respondents.

**On Writ of Certiorari to the
United States Court of Appeals for the
District of Columbia Circuit**

JOINT APPENDIX: VOLUME III OF V

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**PETITION FOR CERTIORARI FILED MARCH 20, 2013
CERTIORARI GRANTED OCTOBER 15, 2013**

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 85, 86, and 600

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Parts 531, 533, 536, 537 and 538

[EPA-HQ-OAR-2009-0472; FRL-9134-6; NHTSA-2009-0059]

RIN 2060-AP58; RIN 2127-AK50

Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule

Friday, May 7, 2010

AGENCY: Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHTSA).

ACTION: Final rule.

SUMMARY: EPA and NHTSA are issuing this joint Final Rule to establish a National Program consisting of new standards for light-duty vehicles that will reduce greenhouse gas emissions and improve fuel economy. This joint Final Rule is consistent with the National Fuel Efficiency Policy announced by President Obama on May 19, 2009, responding to the country's critical need to address global climate change and to reduce oil consumption. EPA is finalizing greenhouse gas emissions standards under the Clean Air Act, and NHTSA is finalizing Corporate Average Fuel Economy standards under the Energy Policy and Conservation Act, as amended. These

standards apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016, and represent a harmonized and consistent National Program. Under the National Program, automobile manufacturers will be able to build a single light-duty national fleet that satisfies all requirements under both programs while ensuring that consumers still have a full range of vehicle choices. NHTSA's final rule also constitutes the agency's Record of Decision for purposes of its National Environmental Policy Act (NEPA) analysis.

DATES: This final rule is effective on July 6, 2010, sixty days after date of publication in the Federal Register. The incorporation by reference of certain publications listed in this regulation is approved by the Director of the Federal Register as of July 6, 2010.

ADDRESSES: EPA and NHTSA have established dockets for this action under Docket ID No. EPA-HQ-OAR-2009-0472 and NHTSA-2009-0059, respectively. All documents in the docket are listed on the http://www.regulations.gov Web site. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through http://www.regulations.gov or in hard copy at the following locations: EPA: EPA Docket Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-

1744. NHTSA: Docket Management Facility, M-30, U.S. Department of Transportation, West Building, Ground Floor, Rm. W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590. The Docket Management Facility is open between 9 a.m. and 5 p.m. Eastern Time, Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT:

EPA: Tad Wysor, Office of Transportation and Air Quality, Assessment and Standards Division, Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor MI 48105; telephone number: 734-214-4332; fax number: 734-214-4816; e-mail address: wysor.tad@epa.gov, or Assessment and Standards Division Hotline; telephone number (734) 214-4636; e-mail address asdinfo@epa.gov. NHTSA: Rebecca Yoon, Office of Chief Counsel, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590. Telephone: (202) 366-2992.

SUPPLEMENTARY INFORMATION:

Does this action apply to me?

This action affects companies that manufacture or sell new light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles, as defined under EPA's CAA regulations,[1] and passenger automobiles

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[1] "Light-duty vehicle," "light-duty truck," and "medium-duty passenger vehicle" are defined in 40 CFR 86.1803-01. Generally, the term "light-duty vehicle" means a passenger car, the term "light-duty truck" means a pick-up truck, sport-utility vehicle, or minivan of up to 8,500 lbs gross vehicle weight rating, and "medium-duty passenger vehicle" means a sport-utility vehicle or passenger van from 8,500 to 10,000 lbs gross vehicle weight rating. Medium-duty passenger vehicles do not include pick-up trucks.

(passenger cars) and non-passenger automobiles (light trucks) as defined under NHTSA's CAFE regulations.[2] Regulated categories and entities include:

Category	NAICS codes[A]	Examples of potentially regulated
Industry	336111, 336112	Motor vehicle manufacturers
Industry	811112, 811198, 541514	Commercial Importers of Vehicles and Vehicle Components

This list is not intended to be exhaustive, but rather provides a guide regarding entities likely to be regulated by this action. To determine whether particular activities may be regulated by this action, you should carefully examine the regulations. You may direct questions regarding the applicability of this action to the person listed in FOR FURTHER INFORMATION CONTACT.

* * * *

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[2] "Passenger car" and "light truck" are defined in 49 CFR part 523.

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II. Joint Technical Work Completed for This Final Rule

* * * *

advanced materials and component smart designs are developed and commercialized, and as manufacturers implement them in more vehicles, it will be useful for the agencies to learn more about them and to try to track these vehicles in the fleet to understand the relationship between vehicle design and injury/fatality data. Specifically, the agencies intend to follow up with study and research of the following:

First, NHTSA is in the process of contracting with an independent institution to review the statistical methods that NHTSA and DRI have used to analyze historical data related to mass, size and safety, and to provide recommendation on whether the existing methods or other methods should be used for future statistical analysis of historical data. This study will include a consideration of potential near multicollinearity in the historical data and how best to address it in a regression analysis. This study is being initiated because, in response to the NPRM, NHTSA received a number of comments related to the methodology NHTSA used for the NPRM to determine the relationship between mass and safety, as discussed in detail above.

Second, NHTSA and EPA, in consultation with DOE, intend to begin updating the MYs 1991-1999 database on which the safety analyses in the NPRM and final rule are based with newer vehicle data in the next several months. This task will take at least a year to complete. This study is being initiated in response to the NPRM comments related to the use of data from MYs 1991-1999 in the NHTSA analysis, as discussed in detail above.

Third, in order to assess if the design of recent model year vehicles that incorporate various mass reduction methods affect the relationships among vehicle mass, size and safety, NHTSA and EPA intend to conduct collaborative statistical analysis, beginning in the next several months. The agencies intend to work with DOE to identify vehicles that are using material substitution and smart design. After these vehicles are identified, the agencies intend to assess if there are sufficient data for statistical analysis. If there are sufficient data, statistical analysis would be conducted to compare the relationship among mass, size and safety of these smart design vehicles to vehicles of similar size and mass with more traditional designs. This study is being initiated because, in response to the NPRM, NHTSA received comments related to the use of data from MYs 1991-1999 in the NHTSA analysis that did not include new designs that might change the relationship among mass, size and safety, as discussed in detail above.

NHTSA may initiate a two-year study of the safety of the fleet through an analysis of the trends in structural stiffness and whether any trends identified impact occupant injury response in crashes. Vehicle manufacturers may employ stiffer light weight materials to limit occupant compartment intrusion while controlling for mass that may expose the occupants to higher accelerations resulting in a greater chance of injury in real-world crashes. This study would provide information that would increase the understanding of the effects on safety of newer vehicle designs.

In addition, NHTSA and EPA, possibly in collaboration with DOE, may conduct a longer-term computer modeling-based design and analysis study to help determine the maximum potential for mass reduction in the MYs 2017-2021 timeframe, through direct material substitution and smart design while meeting safety regulations and guidelines, and maintaining vehicle size and functionality. This study may build upon prior research completed on vehicle mass reduction. This study would further explore the comprehensive vehicle effects, including dissimilar material joining technologies, manufacturer feasibility of both supplier and OEM, tooling costs, and crash simulation and perhaps eventual crash testing.

III. EPA Greenhouse Gas Vehicle Standards

A. Executive Overview of EPA Rule

1. Introduction

The Environmental Protection Agency (EPA) is establishing GHG emissions standards for the largest sources of transportation GHGs^light-duty vehicles, light-duty trucks, and medium-duty passenger vehicles (hereafter light vehicles). These vehicle categories, which include cars, sport utility vehicles, minivans, and pickup trucks used for personal transportation, are responsible for almost 60% of all U.S. transportation related emissions of the six gases discussed above (Section I.A). This action represents the first-ever EPA rule to regulate vehicle GHG emissions under the Clean Air Act (CAA) and will establish standards for model years 2012-2016 and later light vehicles sold in the United States.

EPA is adopting three separate standards. The first and most important is a set of fleet-wide average carbon dioxide (CO_2) emission standards for cars and trucks. These standards are CO_2 emissions-footprint curves, where each vehicle has a different CO_2 emissions compliance target depending on its footprint value. Vehicle CO_2 emissions will be measured over the EPA city and highway tests. The rule allows for credits based on demonstrated improvements in vehicle air conditioner systems, including both efficiency and refrigerant leakage improvement, which are not captured by the EPA tests. The EPA projects that the average light vehicle tailpipe CO_2 level in model year 2011 will be 325 grams per mile while the average vehicle fleetwide average CO_2 emissions compliance level for the model year 2016 standard will be 250 grams per mile, an average reduction of 23 percent from today's CO_2 levels.

EPA is also finalizing standards that will cap tailpipe nitrous oxide (N_2O) and methane (CH_4) emissions at 0.010 and 0.030 grams per mile, respectively. Even after adjusting for the higher relative global warming potencies of these two compounds, nitrous oxide and methane emissions represent less than one percent of overall vehicle greenhouse gas emissions from new vehicles. Accordingly, the goal of these two standards is to limit any potential increases of tailpipe emissions of these compounds in the future but not to force reductions relative to today's low levels.

This final rule responds to the Supreme Court's 2007 decision in *Massachusetts v. EPA*[147] which found that greenhouse gases fit within the definition of air pollutant in the Clean Air Act. The Court held that the Administrator must determine whether or not emissions from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. The Court further ruled that, in making these decisions, the EPA Administrator is required to follow the language of section 202(a) of the CAA. The case was remanded back to the Agency for reconsideration in light of the court's decision.

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[147] 549 U.S.C. 497 (2007). For further information on *Massachusetts v. EPA see* the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) the Clean Air Act, published in the Federal Register on December 15, 2009 (74 FR 66496). There is a comprehensive discussion of the litigation's history, the Supreme Court's findings, and subsequent actions undertaken by the Bush Administration and the EPA from 2007-2008 in response to the Supreme Court remand. This information is also available at: http://www.epa.gov/climatechange/endangerment.html.

The Administrator has responded to the remand by issuing two findings under section 202(a) of the Clean Air Act.[148] First, the Administrator found that the science supports a positive endangerment finding that the mix of six greenhouse gases (carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)) in the atmosphere endangers the public health and welfare of current and future generations. This is referred to as the endangerment finding. Second, the Administrator found that the combined emissions of the same six gases from new motor vehicles and new motor vehicle engines contribute to the atmospheric concentrations of these key greenhouse gases and hence to the threat of climate change. This is referred to as the cause and contribute finding. Motor vehicles and new motor vehicle engines emit carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. EPA provides more details below on the legal and scientific bases for this final rule.

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[148] *See* 74 FR 66496 (Dec. 15, 2009), "Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act".

As discussed in Section I, this GHG rule is part of a joint National Program such that a large majority of the projected benefits are achieved jointly with NHTSA's CAFE rule which is described in detail in Section IV of this preamble. EPA projects total CO2 equivalent emissions savings of approximately 960 million metric tons as a result of the rule, and oil savings of 1.8 billion barrels over the lifetimes of the MY 2012-2016 vehicles subject to the rule. EPA projects that over the lifetimes of the MY 2012-2016 vehicles, the rule will cost $52 billion but will result in benefits of $240 billion at a 3 percent discount rate, or $192 billion at a 7 percent discount rate (both values assume the average SCC value at 3%, i.e., the $21/ton SCC value in 2010). Accordingly, these light vehicle greenhouse gas emissions standards represent an important contribution under the Clean Air Act toward meeting long-term greenhouse gas emissions and import oil reduction goals, while providing important economic benefits as well. The results of our analysis of 2012-2016 MY vehicles, which we refer to as our "model year analysis," are summarized in Tables III.H.10-4 to III.H.10-7.

We have also looked beyond the lifetimes of 2012-2016 MY vehicles at annual costs and benefits of the program for the 2012 through 2050 timeframe. We refer to this as our "calendar year" analysis (as opposed to the costs and benefits mentioned above which we refer to as our "model year analysis"). In our calendar year analysis, the new 2016 MY standards are assumed to apply to all vehicles sold in model years 2017 and later. The net present values of annual costs for the 2012 through 2050 timeframe are $346 billion for new vehicle technology which will provide $1.5 billion in fuel savings, both values at a 3 percent discount rate. At a 7 percent discount rate over the same period, the technology costs are estimated at $192 billion which will provide $673 billion in fuel savings. The social benefits during the 2012 through 2050 timeframe are estimated at $454 billion and $305 billion at a 3 and 7 percent discount rate, respectively. Both of these benefit estimates assume the average SCC value at 3% (i.e., the $21/ton SCC value in 2010). The net benefits during this time period are then $1.7 billion and $785 million at a 3 and 7 percent discount rate, respectively. The results of our "calendar year" analysis are summarized in Tables III.H 10-1 to III.H.10-3.

2. Why is EPA establishing this Rule?

This rule addresses only light vehicles. EPA is addressing light vehicles as a first step in control of greenhouse gas emissions under the Clean Air Act for four reasons. First, light vehicles are responsible for almost 60% of all mobile source GHG emissions, a share three times larger than any other mobile source subsector, and represent about one-sixth of all U.S. greenhouse gas emissions. Second, technology exists that can be readily and cost-effectively applied to these vehicles to reduce their greenhouse gas emissions in the near term. Third, EPA already has an existing testing and compliance program for these vehicles, refined since the mid-1970s for emissions compliance and fuel economy determinations, which would require only minor modifications to accommodate greenhouse gas emissions regulations. Finally, this rule is an important step in responding to the Supreme Court's ruling in ***Massachusetts v. EPA***, which applies to other emissions sources in addition to light-duty vehicles. In fact, EPA is currently evaluating controls for motor vehicles other than those covered by this rule, and is also reviewing seven motor vehicle related petitions submitted by various states and organizations requesting that EPA use its Clean Air Act authorities to take action to reduce greenhouse gas emissions from aircraft (under § 231(a)(2)), ocean-going vessels (under § 213(a)(4)), and other nonroad engines and vehicle sources (also under § 213(a)(4)).

a. Light Vehicle Emissions Contribute to Greenhouse Gases and the Threat of Climate Change

Greenhouse gases are gases in the atmosphere that effectively trap some of the Earth's heat that would otherwise escape to space. Greenhouse gases are both naturally occurring and anthropogenic. The primary greenhouse gases of concern that are directly emitted by human activities include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

These gases, once emitted, remain in the atmosphere for decades to centuries. Thus, they become well mixed globally in the atmosphere and their concentrations accumulate when emissions exceed the rate at which natural processes remove greenhouse gases from the atmosphere. The heating effect caused by the human-induced buildup of greenhouse gases in the atmosphere is very likely the cause of most of the observed global warming over the last 50 years.[149] The key effects of climate change observed to date and projected to occur in the future include, but are not limited to, more frequent and intense heat waves, more severe wildfires, degraded air quality, heavier and more frequent downpours and flooding, increased drought, greater sea level rise, more intense storms, harm to water resources, continued ocean acidification, harm to agriculture, and harm to wildlife and ecosystems. A detailed explanation of observed and projected changes in greenhouse gases and climate change and its impact on health, society, and the environment is included in EPA's technical support document for the recently promulgated Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act.[150]

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[149] "Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act" Docket: EPA-HQ-OAR-2009-0472-11292.

Mobile sources represent a large and growing share of United States greenhouse gases and include light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, heavy duty trucks, airplanes, railroads, marine vessels and a variety of other sources. In 2007, all mobile sources emitted 31% of all U.S. GHGs, and were the fastest-growing source of U.S. GHGs in the U.S. since 1990. Transportation sources, which do not include certain off-highway sources such as farm and construction equipment, account for 28% of U.S. GHG emissions, and Section 202(a) sources, which include light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, heavy-duty trucks, buses, and motorcycles account for 23% of total U.S. GHGs.[151]

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[150] 74 FR 66496 (Dec. 15, 2009). Both the Federal Register Notice and the Technical Support Document for Endangerment and Cause or Contribute Findings are found in the public docket No. EPA-OAR-2009-0171, in the public docket established for this rulemaking, and at http://epa.gov/climatechange/endangerment.html.

Light vehicles emit carbon dioxide, methane, nitrous oxide and hydrofluorocarbons. Carbon dioxide (CO_2) is the end product of fossil fuel combustion. During combustion, the carbon stored in the fuels is oxidized and emitted as CO_2 and smaller amounts of other carbon compounds.[152] Methane (CH_4) emissions are a function of the methane content of the motor fuel, the amount of hydrocarbons passing uncombusted through the engine, and any post-combustion control of hydrocarbon emissions (such as catalytic converters).[153] Nitrous oxide (N_2O) (and nitrogen oxide (NO_X)) emissions from vehicles and their engines are closely related to air-fuel ratios, combustion temperatures, and the use of pollution control equipment. For example, some types of catalytic converters installed to reduce motor vehicle NO_X, carbon monoxide (CO) and hydrocarbon emissions can promote the formation of N_2O.[154] Hydrofluorocarbons (HFC) emissions are progressively replacing chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HCFC) in these vehicles' cooling and refrigeration systems as CFCs and HCFCs are being phased out under the Montreal Protocol and Title VI of the CAA. There are multiple emissions pathways for HFCs with emissions occurring during charging of cooling and refrigeration systems, during operations, and during decommissioning and disposal.[155]

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[151] Inventory of U.S. Greenhouse Gases and Sinks: 1990-2007.

[152] Mobile source carbon dioxide emissions in 2006 equaled 26 percent of total U.S. CO_2 emissions.

[153] In 2006, methane emissions equaled 0.32 percent of total U.S. methane emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion.

[154] In 2006, nitrous oxide emissions for these sources accounted for 8 percent of total U.S. nitrous oxide emissions.

b. Basis for Action Under the Clean Air Act

Section 202(a)(1) of the Clean Air Act (CAA) states that "the Administrator shall by regulation prescribe (and from time to time revise) * * * standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles * * *, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." As noted above, the Administrator has found that the elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger public health and welfare.[156] The Administrator defined the "air pollution" referred to in CAA section 202(a) to be the combined mix of six long-lived and directly emitted GHGs: Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The Administrator has further found under CAA section 202(a) that emissions of the single air pollutant defined as the aggregate group of these same six greenhouse gases from new motor vehicles and new motor vehicle engines contribute to air pollution. As a result of these findings, section 202(a) requires EPA to issue standards applicable to emissions of that air pollutant. New motor vehicles and engines emit CO_2, methane, N_2O and HFC. This preamble describes the provisions that control emissions of CO2, HFCs, nitrous oxide, and methane. For further discussion of EPA's authority under section 202(a), *see* Section I.C.2 of the preamble to the proposed rule (74 FR at 49464-66).

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[155] In 2006, HFC from these source categories equaled 56 percent of total U.S. HFC emissions, making it the single largest source category of U.S. HFC emissions.

[156] 74 FR 66496 (Dec. 15, 2009).

There are a variety of other CAA Title II provisions that are relevant to standards established under section 202(a). The standards are applicable to motor vehicles for their useful life. EPA has the discretion in determining what standard applies over the vehicles' useful life and has exercised that discretion in this rule. *See* Section III.E.4 below.

The standards established under CAA section 202(a) are implemented and enforced through various mechanisms. Manufacturers are required to obtain an EPA certificate of conformity before they may sell or introduce their new motor vehicle into commerce, according to CAA section 206(a). The introduction into commerce of vehicles without a certificate of conformity is a prohibited act under CAA section 203 that may subject a manufacturer to civil penalties and injunctive actions (*see* CAA sections 204 and 205). Under CAA section 206(b), EPA may conduct testing of new production vehicles to determine compliance with the standards. For in-use vehicles, if EPA determines that a substantial number of vehicles do not conform to the applicable regulations then the manufacturer must submit and implement a remedial plan to address the problem (*see* CAA section 207(c)). There are also emissions-based warranties that the manufacturer must implement under CAA section 207(a). Section III.E describes the rule's certification, compliance, and enforcement mechanisms.

c. EPA's Endangerment and Cause or Contribute Findings for Greenhouse

Gases Under Section 202(a) of the Clean Air Act

On December 7, 2009 EPA's Administrator signed an action with two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act. On December 15, 2009, the final findings were published in the Federal Register. This action is called the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act (Endangerment Finding).[157] Below are the two distinct findings:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Specifically, the Administrator found, after a thorough examination of the scientific evidence on the causes and impact of current and future climate change, and careful review of public comments, that the science compellingly supports a positive finding that atmospheric concentrations of these greenhouse gases result in air pollution which may reasonably be anticipated to endanger both public health and welfare. In her finding, the Administrator relied heavily upon the major findings and conclusions from the recent assessments of the U.S. Climate Change Science Program and the U.N. Intergovernmental Panel on Climate Change.[158] The Administrator made a positive endangerment finding after considering both observed and projected future effects of climate change, key uncertainties, and the full range of risks and impacts to public health and welfare occurring within the United States. In addition, the finding focused on impacts within the U.S. but noted that the evidence concerning risks and impacts occurring outside the U.S. provided further support for the finding.

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[157] 74 FR 66496 (Dec. 15, 2009)

The key scientific findings supporting the endangerment finding are that:

^ Concentrations of greenhouse gases are at unprecedented levels compared to recent and distant past. These high concentrations are the unambiguous result of anthropogenic emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes.

^ The effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, more severe wildfires, degraded air quality, heavier downpours and flooding, increasing drought, greater sea level rise, more intense storms, harm to water resources, harm to agriculture, and harm to wildlife and ecosystems.

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[158] The U.S. Climate Change Science Program (CCSP) is now called the U.S. Global Change Research Program (GCRP).

These impacts are effects on public health and welfare within the meaning of the Clean Air Act.

The Administrator found that emissions of the single air pollutant defined as the aggregate group of these same six greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the air pollution and hence to the threat of climate change. Key facts supporting this cause and contribute finding for on-highway vehicles regulated under section 202(a) of the Clean Air Act are that these sources are responsible for 24% of total U.S. greenhouse gas emissions, and more than 4% of total global greenhouse gas emissions.[159] As noted above, these findings require EPA to issue standards under section 202(a) "applicable to emission" of the air pollutant that EPA found causes or contributes to the air pollution that endangers public health and welfare. The final emissions standards satisfy this requirement for greenhouse gases from light-duty vehicles. Under section 202(a) the Administrator has significant discretion in how to structure the standards that apply to the emission of the air pollutant at issue here, the aggregate group of six greenhouse gases. EPA has the discretion under section 202(a) to adopt separate standards for each gas, a single composite standard covering various gases, or any combination of these. In this rulemaking EPA is finalizing separate standards for nitrous oxide and methane, and a CO_2 standard that provides for credits based on reductions of HFCs, as the appropriate way to issue standards applicable to emission of the single air pollutant, the aggregate group of six greenhouse gases. EPA is not setting any standards for perfluorocarbons (PFCs) or sulfur hexafluoride (SF_6) as they are not emitted by motor vehicles.

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[159] This figure includes the greenhouse gas contributions of light vehicles, heavy duty vehicles, and remaining on-highway mobile sources. Light-duty vehicles are responsible for over 70 percent of Section 202(a) mobile source GHGs, or about 17% of total U.S. greenhouse gas emissions. U.S. EPA.2009 Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Washington, DC. pp. 180-194. Available at http://epa.gov/climatechange/endangerment/downloads/EndangermentTSD.pdf.

3. What is EPA adopting?

a. Light-Duty Vehicle, Light-Duty Truck, and Medium-Duty Passenger Vehicle Greenhouse Gas Emission Standards and Projected Compliance Levels

The following section provides an overview of EPA's final rule. The key public comments are not discussed here, but are discussed in the sections that follow which provide the details of the program. Comments are also discussed in the Response to Comments document.

The CO_2 emissions standards are by far the most important of the three standards and are the primary focus of this summary. As proposed, EPA is adopting an attribute-based approach for the CO_2 fleet-wide standard (one for cars and one for trucks), using vehicle footprint as the attribute. These curves establish different CO_2 emissions targets for each unique car and truck footprint. Generally, the larger the vehicle footprint, the higher the corresponding vehicle CO_2 emissions target. Table III.A.3-1 shows the greenhouse gas standards for light vehicles that EPA is finalizing for model years (MY) 2012 and later:

Table III.A.3-1-Industry-Wide Greenhouse Gas Emissions Standards

Standard/ covered compounds	Form of standard	Level of Standard	Credits	Test Cycles
CO_2 Standard:[160] Tailpipe CO_2	Fleetwide average footprint CO_2-curves for cars and trucks	Projected Fleetwide CO_2 level of 250 g/mi (see footprint curves in Sec. III.B.2)	CO_2-e credits 161	EPA 2-cycle (FTP and HFET test cycles).162
N_2O Standard: Tailpipe N_2O	Cap per vehicle	0.010 g/mi	None*	EPA FTP test.
CH_4 Standard: Tailpipe CH_4	Cap per vehicle	0.030 g/mi	None*	EPA FTP test.

[160], [161] [162]

* For NO_2 and CH_4, manufacturers may optionally demonstrate compliance with a CO_2, equivalent standard equal to its footprint-based CO_2 target level, using one important flexibility associated with the CO_2 standard is the option for the FTP and HFET tests.

One important flexibility associated with the CO_2 standard is the option for

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[160] While over 99 percent of the carbon in automotive fuels is converted to CO_2 in a properly functioning engine, compliance with the CO_2 standard will also account for the very small levels of carbon associated with vehicle tailpipe hydrocarbon (HC) and carbon monoxide (CO) emissions, converted to CO_2 on a mass basis, as discussed further in Section III.B.

[161] CO_2-e refers to CO_2-equivalent, and is a metric that allows non-CO_2 greenhouse gases (such as hydro-fluorocarbons used as automotive air conditioning refrigerants) to be expressed as an equivalent mass (i.e., corrected for relative global warming potency) of CO_2 emissions.

[162] FTP is the Federal Test Procedure which uses what is commonly referred to as the "city" driving schedule, and HFET is the Highway Fuel Economy Test which uses the "highway" driving schedule. Compliance with the CO_2 standard will be based on the same 2-cycle values that are currently used for CAFE standards compliance; EPA projects that fleet-wide in-use or real world CO_2 emissions are approximately 25 percent higher, on average, than 2-cycle CO_2 values. Separate mechanisms apply for A/C credits.

RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 50, 51, 70, and 71

[EPA-HQ-OAR-2009-0597; FRL-9133-6]

RIN 2060-AP87

Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs

Friday, April 2, 2010

AGENCY: Environmental Protection Agency.

ACTION: Final Action on Reconsideration of Interpretation.

SUMMARY: EPA has made a final decision to continue applying the Agency's existing interpretation of a regulation that determines the scope of pollutants subject to the Federal Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA or Act). In a December 18, 2008 memorandum, EPA established an interpretation clarifying the scope of the phrase "subject to regulation" found within the definition of the term "regulated NSR pollutant." After considering comments on alternate interpretations of this term, EPA has decided to continue to interpret it to include each pollutant subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant. Thus, this action explains that EPA will continue following the interpretation in the December 18, 2008 memorandum with one exception. EPA is refining its interpretation to establish that the PSD permitting requirements will not apply to a newly regulated pollutant until a regulatory requirement to

control emissions of that pollutant "takes effect." In addition, this notice addresses several questions regarding the applicability of the PSD and Title V permitting programs to greenhouse gases (GHGs) upon the anticipated promulgation of EPA regulations establishing limitations on emissions of GHGs from vehicles under Title II of the CAA. Collectively, these conclusions result in an EPA determination that PSD and Title V permitting requirements will not apply to GHGs until at least January 2, 2011.

DATES: This final action is applicable as of March 29, 2010.

FOR FURTHER INFORMATION CONTACT: Mr. David Svendsgaard, Air Quality Policy Division (C504-03), U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, telephone number: (919) 541-2380; fax number: (919) 541-5509, e-mail address: svendsgaard.dave@epa.gov.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

Entities potentially affected by this action include sources in various industry groups and State, local, and tribal governments.

B. How is this document organized?

This document is organized as follows:

- I. General Information
- II. Background
- III. This Action
  - A. Overview
  - B. Analysis of Proposed and Alternative Interpretations for Subject to Regulation
    - 1. Actual Control Interpretation
    - 2. Monitoring and Reporting Interpretation
    - 3. State Implementation Plan (SIP) Interpretation
    - 4. Endangerment Finding Interpretation
    - 5. Section 209 Waiver Interpretation
  - C. Other Issues on Which EPA Solicited Comment
    - 1. Prospective Codification of Interpretation

2. Section 821 of the Clean Air Act Amendments of 1990
3. Timing of When a Pollutant becomes Subject to Regulation

IV. Application of PSD Interpretive Memo to Permitting for GHGs

A. Date by Which GHGs Will Be "Subject to Regulation"

B. Implementation Concerns

C. Interim EPA Policy To Mitigate Concerns Regarding GHG Emissions from Construction or Modification of Large Stationary Sources

D. Transition for Pending Permit Applications

V. PSD Program Implementation by EPA and States

VI. Application of the Title V Program to Sources of GHGs

VII. Statutory Authority

VIII. Judicial Review

II. Background

On December 18, 2008, then-EPA Administrator Stephen Johnson issued a memorandum setting forth EPA's interpretation regarding which pollutants were "subject to regulation" for the purposes of the Federal PSD permitting program. *See* Memorandum from Stephen Johnson, EPA Administrator, to EPA Regional Administrators, RE: EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration (PSD) Permit Program (Dec. 18, 2008) ("PSD Interpretive Memo" or "Memo"); *see also* 73 FR 80300 (Dec. 31, 2008) (public notice of Dec. 18, 2008 memo). The Memo interprets the phrase "subject to regulation" to include pollutants "subject to either a provision in the CAA or regulation adopted by EPA under the CAA that requires actual control of emissions of that pollutant," while excluding pollutants "for which EPA regulations only require monitoring or reporting." *See* Memo at 1. The Memo was necessary after issues were raised regarding the scope of pollutants that should be addressed in PSD permitting actions following the Supreme Court's April 2, 2007 decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007).

In *Massachusetts v. EPA*, the Supreme Court held that GHGs, including carbon dioxide (CO2), fit within the definition of air pollutant in the CAA. The case arose from EPA's denial of a petition for rulemaking filed by more than a dozen environmental, renewable energy, and other organizations requesting that EPA control emissions of GHGs from new motor vehicles under section 202(a) of the CAA. The Court found that, in accordance with CAA section 202(a), EPA was required to determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.[1]

On November 13, 2008, the Environmental Appeals Board (EAB) issued a decision in a challenge to a PSD permit to construct a new electric generating unit in Bonanza, Utah. In re Deseret Power Electric Cooperative, PSD Appeal No. 07-03 (EAB Nov. 13, 2008) ("Deseret"). The permit was issued by EPA Region 8 in August 2007 and did not include best available control technology (BACT) limits for CO2 . At the time, the Region acknowledged Massachusetts but found that decision alone did not require PSD permits to include limits on CO2 emissions. In briefs filed in the EAB case, EPA maintained the position that the Agency had a binding, historic interpretation of the phrase "subject to regulation" in the Federal PSD regulations that required PSD permit limits to apply only to those pollutants already subject to actual control of emissions under other provisions of the CAA. Response of EPA Office of Air and Radiation and Region 8 to Briefs of Petitioner and Supporting Amici (filed March 21, 2008). Accordingly, EPA argued that the regulations contained in 40 CFR part 75, which require monitoring of CO2 at some sources, did not make CO2 subject to PSD regulation. The order and opinion issued by the EAB remanded the permit after finding that prior EPA actions were insufficient to establish a historic, binding interpretation that "subject to regulation" for PSD purposes included only those pollutants subject to regulations that require actual control of emissions. However, the EAB also rejected arguments that the CAA compelled only one interpretation of the phrase "subject to regulation" and found "no evidence of a Congressional intent to compel EPA to apply BACT to pollutants that are subject only to monitoring and reporting requirements." Thus, the Board remanded the permit to the Region to "reconsider whether or not to impose a CO2 BACT limit in light of the 'subject to regulation' definition under the CAA." The Board encouraged EPA to consider "addressing the interpretation of the phrase 'subject to regulation under this Act' in the context of an action of nationwide scope, rather than through this specific permitting proceeding." *See Deseret* at 63-64.

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[1] On December 15, 2009, EPA published the final endangerment and cause or contribute findings for GHGs under section 202(a) of the CAA. *See* 74 FR 66495.

EPA issued the PSD Interpretive Memo shortly after the Deseret decision with the stated purpose to "establish[ ] an interpretation clarifying the scope of the EPA regulation that determines the pollutants subject to the Federal Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA or Act)" by providing EPA's "definitive interpretation" of the definition of the term "regulated NSR pollutants" found at 40 CFR 52.21(b)(50) and resolving "any ambiguity in subpart ([iv]) of that paragraph, which includes 'any pollutant that otherwise is subject to regulation under the Act.' " *See* Memo at 1. As the Memo explains, the statute and regulation use similar language-the regulation defines a regulated NSR pollutant to include "[a]ny pollutant that otherwise is subject to regulation under the Act" and requires BACT for "each regulated NSR pollutant," per 40 CFR 52.21(b)(50) and (j), while the Act requires BACT for "each pollutant subject to regulation under this [Act]," per CAA sections 165(a)(4) and 169. The EAB had determined that "the meaning of the term 'subject to regulation under this

Act' as used in [CAA] sections 165 and 169 is not so clear and unequivocal as to preclude the Agency from exercising discretion in interpreting the statutory phrase" in implementing the PSD program. *See Deseret* at 63.

The PSD Interpretive Memo seeks to resolve the ambiguity in implementation of the PSD program by stating that "EPA will interpret this definition of 'regulated NSR pollutant' to exclude pollutants for which EPA regulations only require monitoring or reporting but to include each pollutant subject to either a provision in the Clean Air Act or regulation adopted by EPA under the Clean Air Act that requires actual control of emissions of that pollutant." The Memo states that "EPA has not previously issued a definitive interpretation of the definition of 'regulated NSR pollutant' in section 52.21(b)(50) or an interpretation of the phrase 'subject to regulation under the Act' that addressed whether monitoring and reporting requirements constitute 'regulation' within the meaning of this phrase." The Memo, however, explains that the interpretation reflects the "considered judgment" of then-Administrator Johnson regarding the PSD regulatory requirements and is consistent with both historic Agency practice and prior statements by Agency officials. *See* Memo at 1-2.

The PSD Interpretive Memo is not a substantive rule promulgated under section 307(d) of the CAA, but rather an interpretation of the terms of a regulation at 40 CFR 52.21(b)(50).[2] An interpretive document is one that explains or clarifies, and is consistent with, existing statutes or regulation. *See National Family Planning and Reproductive Health Ass'n v. Sullivan*, 979 F.2d 227, 236-37 (D.C. Cir. 1992). The PSD Interpretive Memo explains and clarifies the meaning of the definition of "regulated NSR pollutant" in section 52.21(b)(50) of the existing NSR regulations, and does not alter the meaning of the definition in any way that is inconsistent with the terms of the regulation. As a result, EPA concluded that the PSD Interpretive Memo was an interpretive rule that could be issued without a notice and comment rulemaking process.

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[2] The PSD Interpretive Memo also reflects EPA's interpretation of sections 165(a)(4) and 169(3) of the CAA, which use language similar to the EPA regulations that are based on these provisions of the statute. The Memo discusses the Agency's interpretation of the CAA and concludes that the Agency's

However, the PSD Interpretive Memo observed that the adoption of an interpretation of a rule without a notice and comment process does not preclude subsequent action by the Agency to solicit public input on the interpretation. Indeed, given the significant public interest in the issue addressed in the December 18, 2008 memorandum, EPA subsequently elected to seek public input on the memorandum and alternative readings of the regulations.

On December 31, 2008, EPA received a petition for reconsideration of the position taken in the PSD Interpretive Memo from Sierra Club and 14 other environmental, renewable energy, and citizen organizations. *See Petition for Reconsideration, In the Matter of: EPA Final Action Published* at 73 FR 80300 (Dec. 31, 2008), entitled "Clean Air Act Prevention of Significant Deterioration (PSD) Construction Permit Program; Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD

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interpretation of its regulations is not precluded by the terms of the CAA.

Permit Program." Petitioners argued that the PSD Interpretive Memo "was impermissible as a matter of law, because it was issued in violation of the procedural requirements of the Administrative Procedures [sic] Act * * * and the Clean Air Act * * *, it directly conflicts with prior agency actions and interpretations, and it purports to establish an interpretation of the Act that conflicts with the plain language of the statute." *See* Petition at 2. Accordingly, Petitioners requested that EPA reconsider and retract the PSD Interpretive Memo. Petitioners later amended their Petition for Reconsideration to include a request to stay the effect of the Memo pending the outcome of the reconsideration request. Amended Petition for Reconsideration (filed Jan. 6, 2009).[3]

On February 17, 2009, EPA granted the Petition for Reconsideration, on the basis of the authority conferred by section 553(e) of the Administrative Procedure Act (APA), and announced its intent to conduct a rulemaking to allow for public comment on the issues raised in the Memo and on any issues raised by the EAB's Deseret opinion, to the extent they do not overlap with the issues raised in the Memo.[4] Because the Memo was not a substantive rule promulgated under section 307(d) of the APA, the reconsideration action was not a reconsideration under the authority of section 307(d)(7)(B) of the CAA. *See* Letter from Lisa P. Jackson, EPA Administrator, to David Bookbinder, Chief Climate Counsel at Sierra Club (Feb. 17, 2009). EPA did not stay the effectiveness of the PSD Interpretive Memo pending reconsideration, but the Agency did reiterate that the Memo "does not bind States issuing [PSD] permits under their own State Implementation Plans." Id. at 1.

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[3] On January 15, 2009, a number of environmental organizations that filed this Petition for Reconsideration also filed a petition challenging the *PSD Interpretive Memo in U.S. Court of Appeals for the District of Columbia Circuit. Sierra Club v. E.P.A.*, No. 09-1018 (D.C. Cir., filed Jan. 15, 2009). Thereafter, various parties moved to intervene in that action or filed similar petitions challenging the Memo. The consolidated D.C. Circuit cases have been held in abeyance pending this reconsideration process. Id., Order (filed March 9, 2009).

[4] Because the grant of reconsideration directed the Agency to conduct this reconsideration using a notice and comment process,

On October 7, 2009 (74 FR 51535), EPA proposed a reconsideration of the PSD Interpretive Memo that solicited comment on five possible interpretations of the regulatory phrase "subject to regulation"-the "actual control" interpretation (adopted by the Memo); the "monitoring and reporting" interpretation (advocated by Petitioners); the inclusion of regulatory requirements for specific pollutants in SIPs (discussed in both the Memo and the Petition for Reconsideration); an EPA finding of endangerment (discussed in the Memo); and the grant of a section 209 waiver interpretation (raised by commenters in another EPA action). EPA also addressed, and requested public comment on, other issues raised in the PSD Interpretive Memo and related actions that may influence this reconsideration.

Of the five interpretations described in the proposed reconsideration notice, EPA expressly favored the actual control interpretation, which has remained in effect since issuing the memorandum, notwithstanding the EPA's grant of reconsideration.

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the proposal did not address the procedural challenge presented in the Petition for Reconsideration.

The proposal explained that the actual control interpretation best reflects EPA's past policy and practice, is in keeping with the structure and language of the statute and regulations, and best allows for the necessary coordination of approaches to controlling emissions of newly identified pollutants. While the other interpretations may represent reasoned approaches for interpreting "subject to regulation," no particular one is compelled by the statute, nor did the EAB determine that any one of them was so compelled. Because EPA had overarching concerns over the policy and practical application of each of the alternative interpretations, the Agency proposed to retain the actual control interpretation. Nevertheless, EPA requested comment on all five of the interpretations.

III. This Action

A. Overview

EPA has made a final decision to continue applying (with one limited refinement) the Agency's existing interpretation of 40 CFR 52.21(b)(50) that is articulated in the PSD Interpretive Memo. For reasons explained below, and addressed in further detail in the document "Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs: EPA's Response to Public Comments", after reviewing the comments, EPA has concluded that the "actual control interpretation" is a permissible interpretation of the CAA and is the most appropriate interpretation to apply given the policy implications. However, EPA is refining its interpretation in one respect to establish that PSD permitting requirements apply to a newly regulated pollutant at the time a regulatory requirement to control emissions of that pollutant "takes effect" (rather than upon promulgation or the legal effective date of the regulation containing such a requirement). In addition, this notice addresses several outstanding questions regarding the applicability of the PSD and Title V permitting programs to GHGs upon the anticipated promulgation of EPA regulations establishing limitations on emissions of GHGs from vehicles under Title II of the CAA.[5]

EPA received 71 comments on the proposed reconsideration notice published on October 7, 2009 (74 FR 51535).[6] Commenters represented a range of interests, including State regulatory agencies, corporations that may need to obtain PSD permits, trade associations representing various industrial sectors, and environmental and public interest groups. Commenters representing States and regulated entities generally expressed support for the actual control interpretation, while environmental and public interest groups generally favored the alternative interpretations. States and regulated entities also supported EPA's proposed action to apply PSD requirements at the point in time when an actual control requirement becomes effective, with many entities specifically requesting that EPA interpret

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[5] On September 28, 2009, EPA proposed a rule establishing emissions standards for new motor vehicles, starting with Model Year 2012, that would reduce GHGs and improve fuel economy from motor vehicles. This proposal was a joint proposal by EPA and the U.S. Department of Transportation (DOT), with DOT proposing to adopt corporate average fuel economy (CAFE) standards for model years 2012 and after. *See* 74 FR 49453.

[6] In some cases, a commenter on the proposed reconsideration of the PSD Interpretive Memo addressed an issue or topic that is under consideration in the forthcoming PSD and Title V GHG Tailoring Rule. Accordingly, EPA refers the reader to that rulemaking for EPA responses to those comments.

"effective" to mean the compliance date of a rule. Environmental stakeholders supported retaining the position in the existing PSD Interpretive Memo that PSD requirements apply to a pollutant upon the promulgation of the relevant requirement for that pollutant.

EPA has not been persuaded that the Agency is compelled by the CAA, the terms of EPA regulations, or prior EPA action to apply any of the four alternatives to its preferred interpretation described in the October 7, 2009 notice-monitoring and reporting requirement, EPA-approved SIP, endangerment finding, or CAA section 209 waiver. EPA has likewise not been persuaded that all of the alternative interpretations are precluded by the CAA. However, since Congress has not precisely spoken to this issue, EPA has the discretion to choose among the range of permissible interpretations of the statutory language. Since EPA's interpretation of the regulations is not precluded by the statutory language, EPA is electing to maintain that interpretation on policy grounds. EPA has concluded that the "actual control" interpretation is not only consistent with decades of past practice, but provides the most reasonable and workable approach to developing an appropriate regulatory scheme to address newly identified pollutants of concern. Thus, except as to the one element that EPA proposed to modify, EPA is reaffirming the PSD Interpretive Memo and its establishment of the actual control interpretation as EPA's definitive interpretation of the phrase "subject to regulation" under the PSD provisions in the CAA and EPA regulations.

EPA has been persuaded by public comments on the proposed reconsideration to modify the portion of its interpretation regarding the timing of when a pollutant becomes subject to regulation under the CAA and thus covered by the requirements of the PSD permitting program. Specifically, EPA is modifying its interpretation of 40 CFR 52.21(b)(50) of its regulations, and the parallel provision in 40 CFR 51.166(b)(49), to establish that the PSD requirements will not apply to a newly regulated pollutant until a regulatory requirement to control emissions of that pollutant "takes effect." EPA has concluded that this approach is consistent with the CAA and a reasonable reading of the regulatory text.

Based on these final determinations, EPA will continue to apply the interpretation reflected in the PSD Interpretive Memo with one refinement. For the reasons discussed in more detail below, EPA has not generally found cause to change the discussion or reasoning reflected in the Memo. As a result, EPA does not see a need to either withdraw or re-issue the Memo. However, this notice refines one paragraph of that memorandum to reflect EPA's current view that a pollutant becomes subject to regulation at the time the first control requirements applicable to a pollutant take effect. Public comments raised several questions regarding the application of the PSD program and Title V permits to GHGs that EPA did not specifically raise in the October 7, 2009 proposed notice of reconsideration. Some of these comments raised significant issues that the Agency recognizes the need to address at this time to ensure the orderly transition to the regulation of GHGs under these permitting programs. Thus, this notice reflects additional interpretations and EPA statements of policy on topics not discussed in the October 7, 2009 notice. These interpretations and polices have been developed after careful consideration of the public comments submitted to EPA on this action and related matters. In subsequent actions, EPA may address additional topics raised in public comments on this action that the Agency did not consider necessary to address at this time.

Regarding GHGs, EPA has concluded that PSD program requirements will apply to GHGs upon the date that the anticipated tailpipe standards for light-duty vehicles (known as the "LDV Rule") take effect. Based on the proposed LDV Rule, those standards will take effect when the 2012 model year begins, which is no earlier than January 2, 2011. While the LDV Rule will become "effective" for the purposes of planning for the upcoming model years as of 60 days following publication of the rule, the emissions control requirements in the rule do not "take effect"- i.e., requiring compliance through vehicular certification before introducing any Model Year 2012 into commerce-until Jan. 2, 2011, or approximately 9 months after the planned promulgation of the LDV Rule. Furthermore, as EPA intends to explain soon in detail in the final action on the PSD and Title V GHG Tailoring Rule (known as the "Tailoring Rule"),[7] in light of the significant administrative challenges presented by the application of the PSD and Title V requirements for GHGs (and considering the legislative intent of the PSD and Title V statutory provisions), it is necessary to defer applying the PSD and Title V provisions for sources that are major based only on emissions of GHGs until a date that extends beyond January 2, 2011.

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[7] The proposed "Tailoring Rule" can be found at 74 FR 55291 (Oct. 27, 2009).

B. Analysis of Proposed and Alternative Interpretations for Subject to Regulation

1. Actual Control Interpretation

EPA has concluded that the "actual control" interpretation (as articulated in the PSD Interpretive Memo) is permissible under the CAA and is preferred on policy grounds. Thus, EPA will continue to interpret the definition of "regulated NSR pollutant" in 40 CFR 52.21(b)(50) to exclude pollutants for which EPA regulations only require monitoring or reporting but to include each pollutant subject to either a provision in the CAA or regulation promulgated by EPA under the CAA that requires actual control of emissions of that pollutant. As discussed further below, EPA will also interpret section 51.166(b)(49) of its regulations in this manner. This interpretation is supported by the language and structure of the regulations and is consistent with past practice in the PSD program and prior EPA statements regarding pollutants subject to the PSD program. The CAA is most effectively implemented by making PSD emissions limitations applicable to pollutants after a considered judgment by EPA (or Congress) that particular pollutants should be subject to control or limitation. The actual control interpretation promotes the orderly administration of the permitting program by allowing the Agency to first assess whether there is a justification for controlling emissions of a particular pollutant under relevant criteria in the Act before applying the requirements of the PSD permitting program to a pollutant.

Because the term "regulation" is susceptible to more than one meaning, there is ambiguity in the phrase "each pollutant subject to regulation under the Act"[8] that is used in both sections 165(a)(4) and 169(3) of the CAA. As discussed in the Memo, the term "regulation" can be used to describe a rule contained in a legal code, such as the Code of Federal Regulations, or the act or process of controlling or restricting an activity. The primary meaning of the term "regulation" in Black's Law Dictionary (8th Ed.) is "the act or process of controlling by rule or restriction." However, an alternative meaning in this same dictionary defines the term as "a rule or order, having legal force, usu. issued by an administrative agency or local government." The primary meaning in Webster's dictionary for the term "regulation" is "the act of regulating: The state of being regulated." Merriam-Webster's Collegiate Dictionary 983 (10th Ed. 2001). Webster's secondary meaning is "an authoritative rule dealing with details of procedure" or "a rule or order issued by an executive authority or regulatory agency of a government and having the force of law." Webster's also defines the term "regulate" and the inflected forms "regulated" and "regulating" (both of which are used in Webster's definition of "regulation") as meaning "to govern or direct according to rule" or to "to bring under the control of law or constituted authority." Id.

The PSD Interpretive Memo reasonably applies a common meaning of the term "regulation" to support a permissible interpretation that the phrase "pollutant subject to regulation" means a pollutant subject to a provision in the CAA or a regulation issued by EPA under the Act that requires actual control of emissions of that pollutant. Public comments have not demonstrated the dictionary meanings of the term "regulation" described in the Memo are no longer accepted meanings of this term. In light of the different meanings of the term "regulation," EPA has not been persuaded by public comments that the CAA plainly and unambiguously requires that EPA apply any of the other interpretations described in the October 7, 2009 notice. Moreover, the Memo carefully explains how the actual control interpretation is consistent with the overall context of the CAA in which sections 165(a)(4) and 169(3) are found. After consideration of public comment, EPA continues to find this discussion persuasive. The "subject to regulation" language appears in the BACT provisions of the Act, which themselves require actual controls on emissions. The BACT provisions reference the New Source Performance Standards (NSPS) and other control requirements under the Act, which establish a floor for the BACT requirement. *See* 42 U.S.C. 7479(3). Other provisions in the CAA that authorize EPA to establish emissions limitations or controls on emissions provide criteria for the exercise of EPA's judgment to determine which pollutants or source categories to regulate. Thus, it follows that Congress expected that pollutants would only be regulated for purposes of the PSD program after: (1) The EPA promulgated regulations requiring control of a particular pollutant on the basis of considered judgment, taking into account the applicable criteria in the CAA, or (2) EPA promulgates regulations on the basis of Congressional mandate that EPA establish controls on emissions of a particular pollutant, or (3) Congress itself directly imposes actual controls on emissions of a particular pollutant. In addition, considering other sections in the Act that require reasoned decision-making and authorize the collection of emissions data prior to establishing controls on emissions, it is also consistent with the Congressional design to require BACT limitations for pollutants after a period of data collection and study that leads to a reasoned decision to establish control requirements. Public commenters did not demonstrate that it was erroneous for EPA to interpret the PSD provisions in this manner, based on the context of the Act.

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[8] The CAA requires BACT for "each pollutant subject to regulation under this Act." *See* CAA 165(a)(4), 169(3). The United States Code refers to "each pollutant regulated under this chapter," which is a reference to Chapter 85 of Title 42 of the Code, where the CAA is codified. *See* 42 U.S.C. 7475(a)(4), 7479(3). For simplicity, this notice generally uses "the Act" and the CAA section numbers rather than the U.S. Code citation.

Furthermore, the actual control interpretation is consistent with the terms of the regulations EPA promulgated in 2002.[9] EPA continues to find the reasoning of the PSD Interpretive Memo to be persuasive. The structure and language of EPA's definition of "regulated NSR pollutant" at 40 CFR 52.21(b)(50) supports the actual control interpretation. The first three parts of the definition describe pollutants that are subject to regulatory requirements that mandate control or limitation of the emissions of those pollutants, which suggests that the use of "otherwise subject to regulation" in the fourth prong of the definition also intended some prerequisite act or process of control. The definition's use of "subject to regulation" should be read in light of the primary meanings of "regulation" described above, which each use or incorporate the concept of control.

One commenter stated that EPA's suggestion that its proposed interpretation will allow for a more practical approach to determining whether emissions of air pollutants endanger health and human welfare amounts only to a policy preference. The commenter argued that EPA's policy preference should be subordinate to statutory language and Congressional intent. Another commenter made similar comments and stated that EPA cannot avail itself of additional, non-statutory de facto extensions of time to fulfill its statutory obligations.

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[9] *See* 67 FR 80186-80289.

Where the governing statutory authority is susceptible to more than one interpretation, it is not impermissible for EPA to apply policy preferences when determining which interpretation to apply, so long as the interpretation EPA elects to follow is a permissible one. The PSD Interpretive Memo provides a persuasive explanation for why the interpretation reflected in that memorandum is consistent with the terms of the CAA and Congressional intent. In this instance, EPA's policy preferences are fully consistent with that intent. As explained above, Congress intended for EPA to gather data before establishing controls on emissions and to make reasoned decisions.

EPA continues to prefer the actual control interpretation because it ensures an orderly and manageable process for incorporating new pollutants into the PSD program after an opportunity for public participation in the decision making process. Several commenters who supported EPA's proposal to continue applying the "actual control" interpretation identified these considerations as important reasons that EPA should continue doing so. EPA agrees with these comments. As discussed persuasively in the PSD Interpretive Memo, under this interpretation, EPA may first assess whether there is a justification for controlling emissions of a particular pollutant under relevant criteria in the Act before imposing controls on a pollutant under the PSD program. In addition, this interpretation permits the Agency to provide notice to the public and an opportunity to comment when a new pollutant is proposed to be regulated under one or more programs in the Act. It also promotes the orderly administration of the permitting program by providing an opportunity for EPA to develop regulations to manage the incorporation of a new pollutant into the PSD program, for example, by promulgating a significant emissions rate (or de minimis level) for the pollutant when it becomes regulated. *See* 40 CFR 52.21(b)(23). Furthermore, this interpretation preserves the Agency's ability to gather data on pollutant emissions to inform their judgment regarding the need to establish controls on emissions without automatically triggering such controls. This interpretation preserves EPA's authority to require control of particular pollutants through emissions limitations or other restrictions under various provisions of the Act, which would then trigger the requirements of the PSD program for any pollutant addressed in such an action.

Some commenters who opposed the actual control interpretation argued that this deliberate approach leads to "analysis paralysis" and is subject to political manipulation. The commenter further noted that the case-by-case BACT requirement does not contemplate waiting years for EPA to conduct analyses and "develop" control options; rather, BACT must be based on control options that are available. Then, permitting agencies are to make "case-by-case" determinations "taking into account energy, environmental, and economic impacts and other costs," thereby ensuring that the decision is informed by the available solutions, their efficacy and costs.

While this analysis may sometimes take more time than the commenter would prefer, a deliberative and orderly approach to regulation is in the public interest and consistent with Congressional intent. It would be premature to impose the BACT requirement on a particular pollutant if neither EPA nor Congress has made a considered judgment that a particular pollutant is harmful to public health and welfare and merits control.

Once the Agency has made a determination that a pollutant should be controlled using one or more of the regulatory tools provided in the CAA and those controls take effect, EPA agrees that a BACT analysis must then be completed based on available information. As the commenter points out, the BACT process is designed to determine the most effective control strategies achievable in each instance, considering energy, environmental, and economic impacts. Thus, EPA agrees that the onset of the BACT requirement should not be delayed in order for technology or control strategies to be developed. Furthermore, EPA agrees with the commenter that delaying the application of BACT to enable development of guidance on control strategies is not necessarily consistent with the BACT requirement. The BACT provisions clearly contemplate that the permitting authority will develop control strategies on a case-by-case basis. Thus, EPA is not in this final action relying on the need to develop guidance for BACT as a justification for choosing to continue applying the actual control interpretation. However, in the absence of guidance on control strategies from EPA and other regulatory agencies, the BACT process may be more time and resource intensive when applied to a new pollutant. Under a mature PSD permitting program, successive BACT analyses establish guidelines and precedents for subsequent BACT determinations. However, when a new pollutant is regulated, the first permit applicants and permitting authorities that are faced with determining BACT for a new pollutant must invest more time and resources in making an assessment of BACT under the statutory criteria. Given the potentially large number of sources that could be subject to the BACT requirement when EPA regulates GHGs, the absence of guidance on BACT determinations for GHGs presents a unique challenge for permit applicants and permitting authorities. EPA intends to address this challenge in part by deferring, under the Tailoring Rule, the applicability of the PSD permitting program for sources that would become major based solely on GHG emissions. EPA is also developing guidance on BACT for GHGs.

Several commenters expressed concern with EPA's explanation that the actual control interpretation best reflects EPA's past practice. One commenter argued that the Deseret decision rejects the idea that "past policy and practice" is a sufficient justification for EPA's preferred interpretation. In addition, several commenters argued that the memorandum was in fact not consistent with past EPA practice, based on their interpretation of a statement made in the preamble to a rule which promulgated PSD regulations in 1978.

While the record continues to show that the actual control interpretation is consistent with EPA's historic practice, EPA agrees that continuity with past practice alone does not justify maintaining a position when there is good cause to change it. In this case, however, EPA has not found cause to change an interpretation that is consistent with Congressional intent and supported by the policy considerations described earlier. Thus, EPA is not retaining the actual control interpretation simply to maintain continuity with historic practice. The record reflects that EPA's past practice was grounded in a permissible interpretation of the law and supported by rational policy considerations. Commenters have not otherwise persuaded EPA to change its historic practice in this area.

A review of numerous Federal PSD permits shows that EPA has been applying the actual control interpretation in practice-issuing permits that only contained emissions limitations for pollutants subject to regulations requiring actual control of emissions under other portions of the Act. Furthermore, in 1998, well after promulgation of the initial CO2 monitoring regulations in 1993, EPA's General Counsel concluded that CO2 would qualify as an "air pollutant" that EPA had the authority to regulate under the CAA, but the General Counsel also observed that "the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act."[10] The 1978 Federal Register notice promulgating the initial PSD regulations stated that pollutants "subject to regulation" in the PSD program included "any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations." Commenters argue this statement illustrates that EPA has in fact applied the PSD BACT requirement to any pollutant subject to only a monitoring requirement codified in this portion of the Code of Federal Regulations. However, this comment overlooked the discussion in the PSD Interpretive Memo regarding the differing meanings of the term "regulation" and "regulate." The 1978 preamble did not amplify the meaning of the term "regulated in." Thus, commenters have not demonstrated that EPA had concluded in 1978 that monitoring requirements equaled "regulation" within the meaning of sections 165(a)(4) and 169(3) of the CAA, nor have commenters provided any examples of permits issued by EPA after 1978 that demonstrate EPA's interpretation was inconsistent with the practice described in the PSD Interpretive Memo.

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[10] Memorandum from Jonathan Z. Cannon, General Counsel to Carol M. Browner, Administrator, entitled EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources (April 10, 1998).

Therefore, EPA affirms that the actual control interpretation expressed in the PSD Interpretive Memo continues be the operative statement for the EPA interpretation of the meaning of the regulatory phrase "subject to regulation" within the Federal PSD rules.

2. Monitoring and Reporting Interpretation

EPA is not persuaded that the monitoring and reporting interpretation is compelled by the CAA, and the Agency remains concerned that application of this approach would lead to odd results and make the PSD program difficult to administer. EPA continues to find the reasoning of the PSD Interpretive Memo persuasive.

The monitoring and reporting interpretation would make the substantive requirements of the PSD program applicable to particular pollutants based solely on monitoring and reporting requirements (contained in regulations established under section 114 or other authority in the Act). This approach would lead to the perverse result of requiring emissions limitations under the PSD program while the Agency is still gathering the information necessary to conduct research or evaluate whether to establish controls on the pollutant under other parts of the Act. Such a result would frustrate the Agency's ability to gather information using section 114 and other authority and make informed and reasoned judgments about the need to establish controls or limitations for particular pollutants. If EPA interpreted the requirement to establish emissions limitations based on BACT to apply solely on the basis of a regulation that requires collecting and reporting emissions data, the mere act of gathering information would essentially dictate the result of the decision that the information is being gathered to inform (whether or not to require control of a pollutant). Many commenters representing State permitting agencies and industry groups agree with the policy arguments advanced by EPA and others that EPA's critical information gathering activities will be constrained, with likely adverse environmental and public health consequences, if monitoring requirements are necessarily associated with the potentially significant implementation and compliance costs and resource constraints of the PSD program. Commenters expressed concern that without the ability to gather data or investigate unregulated pollutants, for fear of triggering automatic regulation under the CAA, EPA will not have the flexibility to review the validity of controlling new pollutants.

EPA agrees that a monitoring and reporting interpretation would hamper the Agency's ability to conduct monitoring or reporting for investigative purposes to inform future rulemakings involving actual emissions control or limits. In addition, it is not always possible to predict when a new pollutant will emerge as a candidate for regulation. In such cases, the Memo's reasoning is correct in that EPA would be unable to promulgate any monitoring or reporting rule for such a pollutant without triggering PSD under this interpretation.

An environmental organization disagreed with the proposed notice of reconsideration, and commented that EPA has issued monitoring and reporting regulations for CO2 in 40 CFR part 75, promulgated pursuant to section 821 of the 1990 CAA Amendments. The commenter felt that these monitoring and reporting rules are "regulation" in that they are contained in a legal code, have the force of law, and bring the subject matter under the control of law and the EPA. Furthermore, the commenter says that EPA itself has characterized these monitoring and reporting requirements as "regulations." In contrast, another commenter argued that an agency's interpretation of a statute should focus first on the ordinary dictionary meaning of the terms used and that monitoring emissions does not fit within any of the types of activities understood to constitute "regulation" of those emissions in the ordinary meaning of that term. Each of these commenters focuses on only one of the two potential meanings of the term "regulation" described above.

The commenter that favors the "monitoring and reporting" interpretation appears to focus only on the dictionary meanings that describe a rule contained in a legal code. The commenter has not demonstrated that it is impermissible for EPA to construe the CAA on the basis of another common meaning of the term "regulation." In the context of construing the Act, the EAB observed in the Deseret case that a plain meaning could not be ascertained from looking solely at the word "regulation." The Board reached this conclusion after considering the dictionary definitions of the term "regulation" cited above. *See Deseret* slip op. at 28-29. EPA continues to find the reasoning of the EAB and the PSD Interpretive Memo to be persuasive. The EAB found "no evidence of Congressional intent to compel EPA to apply BACT to pollutants that are subject only monitoring and reporting requirements." *See Deseret* at 63.

Comments have not convincingly shown that Congress clearly intended to use the term "regulation" in section 165(a)(4) and 169(3) to describe any type of rule in a legal code. Some commenters presented alternative theories of Congressional intent regarding the BACT provisions, but they have not persuasively demonstrated that the interpretation of Congressional intent based on the context of the CAA described in the PSD Interpretive Memo is erroneous.

For example, one commenter opposed to EPA's proposed action commented that the PSD Interpretive Memo ignores the Congressionally-established purpose of PSD to protect public health and welfare from actual and potential adverse effects. *See* CAA section 160(1). Specifically, this commenter stated that to limit application of BACT until after control requirements are in place following an endangerment finding ignores the broad, protective purpose of the PSD program. The commenter said that the emphasis on "potential adverse effect[s]" distinguishes PSD the requirement from the National Ambient Air Quality Standards (NAAQS) and NSPS programs, which require that EPA make an endangerment finding before establishing generally applicable standards such as the NSPS or motor vehicle emissions standards. According to this commenter, BACT's case-by-case approach provides the dynamic flexibility necessary to implement an emission limitation appropriate to each particular source. This commenter feels that the PSD program's ability to address potential adverse effects is hindered by the position that an endangerment determination and actual control limits must be first established.

EPA does not agree that the terms of section 160 cited by the commenter compel EPA to read sections 165(a)(4) and 169(3) to apply to a pollutant before the Agency has established control requirements for the pollutant. Section 160(1) describes PSD's purpose to "protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipated to occur from air pollution." Thus, this goal contemplates an exercise of judgment by EPA to determine that an actual or potential adverse effect may reasonably be anticipated from air pollution. In that sense, this goal is consistent with NAAQS and NSPS programs, which contemplate that regulation of a pollutant will not occur until a considered judgment by EPA that a substance or source category merits control or restriction. The commenter has not persuasively established that the "potential adverse effect" language in section 160(1) makes this provision markedly different than the language used in sections 108(a)(1)(A) and 111(b)(1)(A). All three sections use the phrase "may reasonably be anticipated." Furthermore, section 160 contains general goals and purposes and does not contain explicit regulatory requirements. The controlling language in the PSD provisions is the "subject to regulation" language in sections 165(a)(4) and 169(3). As discussed earlier, the "actual control" interpretation is based on a common and accepted meaning of the term "regulation." To the extent the goals and purpose in section 160 are instructive as to the meaning of other provisions in Part C of the Act, section 160(1) is just one of several purposes of the PSD program that Congress specified. The Act also instructs EPA to ensure that economic growth occurs consistent with the preservation of existing clean air resources. *See* CAA section 160(3). EPA's interpretation is consistent with this goal because it allows EPA to look at the larger picture by coordinating control of an air pollutant under the PSD program with control under other CAA provisions.

EPA finds the logic of the PSD Interpretive Memo more persuasive. The Memo considers the full context of the CAA, including the health and welfare criteria that generally must be satisfied to establish control requirements under other parts of the Act, information gathering provisions that contemplate data collection and study before pollutants are controlled, and requirements for reasoned decision making. While some commenters presented arguments for why it might be possible or beneficial to apply the BACT requirement before a control requirement is established for a pollutant elsewhere under the Act, these arguments do not demonstrate that the contextual reading of the CAA described in the Memo is erroneous. Thus, the comments have at most provided another permissible reading of the Act, but they do not demonstrate that EPA must require BACT limitations for pollutants that are not yet controlled but only subject to data collection and study.

EPA continues to believe that the monitoring and reporting interpretation is inconsistent with past agency practice because, as the Memo notes, "EPA has not issued PSD permits containing emissions limitations for pollutants that are only subject to monitoring and reporting requirements," including CO2 emissions. Further, the Memo determines that the monitoring and reporting interpretation is not required under the 1978 preamble language, explaining that the preamble language could be interpreted in a variety of ways and "did not specifically address the issue of whether a monitoring or reporting requirement makes a pollutant 'regulated in' [Subpart C of Title 40] of the Code of Federal Regulations." *See* Memo at 11-12. Commenters have not demonstrated that the Agency specifically intended, through this statement, to apply the PSD requirements to pollutants that were covered by only a monitoring and reporting requirement codified in this part of the CFR.

One commenter questioned EPA's basis for rejecting the monitoring and reporting interpretation because they believe EPA has not identified a pollutant other than CO2 that would be affected by the monitoring and reporting interpretation. However, EPA's GHG Reporting Rule covers six GHGs, not just CO2 . Further, EPA has promulgated regulations that require monitoring of oxygen (O2) in the stack of a boiler under certain circumstances. *See* 40 CFR 60.49Da(d). These examples help demonstrate why monitoring and reporting requirements alone should not be interpreted to trigger PSD and BACT requirements.

For the reasons discussed above, EPA affirms the Memo's rejection of the monitoring and reporting interpretation for triggering PSD requirements for a new pollutant.

3. State Implementation Plan (SIP) Interpretation

In discussing the application of the actual control interpretation to specific actions under the CAA, the PSD Interpretive Memo rejects an interpretation of "subject to regulation" in which regulatory requirements for a particular pollutant in the EPA-Approved State Implementation Plan (SIP) for a single State would "require regulation of that pollutant under the PSD program nationally." (Hereinafter, referred to as the "SIP interpretation.") In this action, EPA affirms and supplements the rationale for rejecting the SIP interpretation provided in the PSD Interpretive Memo and the reconsideration proposal. Since the meaning of the term "subject to regulation" is ambiguous and susceptible to multiple interpretations, the SIP interpretation is not compelled by the structure and language of the Act. Furthermore, there would be negative policy implications if EPA adopted this interpretation.

The Memo reasons that application of the SIP interpretation would convert EPA's approval of regulations applicable only in one State into a decision to regulate a pollutant on a nationwide scale for purposes of the PSD program. The Memo explains that the establishment of SIPs is better read in light of the "cooperative federalism" underlying the Act, whereby Congress allowed individual States to create and apply some regulations more stringently than Federal regulations within its borders, without allowing individual States to set national regulations that would impose those requirements on all States. *See Ellis v. Gallatin Steel Co.*, 390 F.3d 461, 467 (6th Cir. 2004). In rejecting the SIP interpretation, the Memo also explains that EPA adopted a similar position in promulgating the NSR regulations for fine particulate matter (or "PM2.5 "), without any public comments opposing that position. *See* Memo at 15-16.

EPA continues to believe that the CAA and EPA's implementing regulations are intended to provide States flexibility to develop and implement SIPs to meet the air quality goals of their individual State. Each State's implementation plan is a reflection of the air quality concerns in that State, allowing a State significant latitude in the treatment of specific pollutants of concern (or their precursors) within its borders based on air quality, economic, and other environmental concerns of that State. As such, pollutant emissions in one State may not present the same problem for a State a thousand miles away. As expressed in the PSD Interpretive Memo, EPA continues to have concerns that the SIP interpretation would improperly limit the flexibility of States to develop and implement their own air quality plans, because the act of one State to establish regulatory requirements for a particular pollutant would drive national policy. If EPA determined that a new pollutant becomes "subject to regulation" nationally within the meaning of section 165 based solely on the provisions of an EPA-approved SIP, then all States would be required to subject the new pollutant to PSD permitting whether or not control of the air pollutant was relevant for improving that State's air quality. Whether one State, five States, or 45 States make the decision that their air quality concerns are best addressed by imposing regulations on a new pollutant, EPA does not think those actions should trump the cooperative federalism inherent in the CAA. While several States may face similar air quality issues and may choose regulation as the preferred approach to dealing with a particular pollutant, EPA is concerned that allowing the regulatory choices of some number of States to impose PSD regulation on all other States would do just that.

Some commenters support the SIP interpretation, and fault the Agency's rejection of the interpretation by stating that neither the Act, nor the Memo, provides a basis for a position that regulation by a single State is not enough to constitute "regulation under the Act" on a nationwide basis for purpose of section 165. Petitioners and another commenter also assert that CO2 is already "subject to regulation under the Act" and take the position that any requirement EPA adopts and approves in an implementation plan makes the covered pollutant "subject to regulation under the Act" because it is approved by the EPA "under the Act," and because it becomes enforceable by the State, by EPA and by citizens "under the Act" upon approval.

EPA disagrees with the Petitioner and with this commenter that this reasoning necessarily means that a pollutant regulated in one SIP approved by EPA must automatically be regulated through the PSD program nationally. In fact, Congress demonstrated intent, in the language and structure of the Act, for SIP requirements to have only a local or regional effect.

In section 102(a) of the CAA, Congress directs EPA to encourage cooperative activities among States, and the adoption of uniform State and local laws for the control of air pollution "as practicable in light of the varying conditions and needs." This language informs the issue of whether SIP requirements have nationwide applicability in two ways. First, there would be no need for EPA to facilitate uniform adoption of standards in different air quality control regions, if the regulation of an air pollutant by one region would automatically cause that pollutant to be regulated in another region. Second, Congress bounded its desire to promote uniformity by recognizing that addressing local air quality concerns may preempt national uniformity of regulation.

Indeed, section 116 of the CAA grants States the right to adopt more stringent standards than the uniform, minimum requirements set forth by EPA. *See* 42 U.S.C. 7416. The legislative history of the 1977 CAA Amendments shows that Congress understood that States may adopt different and more stringent standards then the Federal minimum requirements. *See, e.g.*, 122 Cong. Rec. S12456 (daily ed. July 26, 1976) (statement of Sen. Randolph) ("[T]he States are given latitude in devising their own approaches to air pollution control within the framework of broad goals. * * * The State of West Virginia has established more stringent requirements than those which, through the Environmental Protection Agency, are considered as adequate * * *"); 122 Cong. Rec. S12458 (daily ed. July 26, 1976) (statement of Sen. Scott) ("The States have the right, however, to require higher standards, and they should have under the police powers.") Congress could not have intended States to have latitude to implement their own approaches to air pollution control, and simultaneously, require that air pollutants regulated by one State automatically apply in all other States.

Importantly, the legislative history also shows that Congress intended to limit the EPA's ability to disapprove a State's decision to adopt more stringent requirements in setting forth the criteria for approving State submissions under section 110. This intent is supported by the following passage:

> State implementation plans usually contain a unified set of requirements and frequently do not make distinctions between the controls needed to achieve one kind of ambient standard or another. To try to separate such emission limitations and make judgments as to which are necessary to achieving the national ambient air quality standards assumes a greater technical capability in relating emissions to ambient air quality than actually exists.
>
> A federal effort to inject a judgment of this kind would be an unreasonable intrusion into protected State authority. EPA's role is to determine whether or not a State's limitations are adequate and that State implementation plans are consistent with the statute. Even if a State adopts limits which may be stricter than EPA would require, EPA cannot second guess the State judgment and must enforce the approved State emission limit.[11]

123 Cong. Rec. S9167 (daily ed. June 8, 1977) (statement of Sen. Muskie).

This Congressional intent is reflected within the statutory language. Under section 110(k)(3), the EPA Administrator "shall approve" a State's submittal if it meets the requirements of the Act, and under section 110(l) "shall not" approve a plan revision "if the revision would interfere with any other applicable requirement of this Act." Courts have similarly interpreted this language to limit EPA's discretion to approve or disapprove SIP requirements. *See, e.g., State of Connecticut v. EPA*, 656 F.2d 902, 906 (2d. Cir. 1981) ("As is illustrated by Congress's use of the word

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[11] Notably, the legislative record refers to "State" emission limit, and makes no note of this State emission limitation having broader applicability.

'shall,' approval of an SIP revision by the EPA Administrator is mandatory if the revision has been the subject of a proper hearing and the plan as a whole continues to adhere to the requirements of section 110(a)(2)") (referencing *Union Electric Co. v. EPA*, 427 U.S. 246, 257 (1976); and *Mission Indus., Inc. v. EPA*, 547 F.2d 123 (1st Cir. 1976)). These provisions of the statute do not establish any authority or criteria for EPA to judge the approvability of a State's submission based on the implications such approval would have nationally. The absence of such authority or criteria in the applicable standard argues against nationwide applicability of SIP requirements and the SIP interpretation.

Moreover, under section 307(b) of the CAA, Congress assigns review of specific regulations promulgated by EPA and "any other nationally applicable regulations promulgated or final action taken, by the Administrator under this Act" only to the U.S. Court of Appeals for the District of Columbia Circuit ("D.C. Circuit"). In contrast, "the Administrator's action in approving and promulgating any implementation plan under Section 110 * * * or any other final action of the Administrator under this Act * * * which is local or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit." 42 U.S.C. 7607(b) (emphasis added). Thus, Congress set forth its intended applicability of these regulations in assigning judicial venue and clearly articulated that requirements in a SIP are generally "local or regionally applicable."

Even if the Act could be read to support EPA review of the national implications of State SIP submissions, such an approach would be undesirable for policy reasons. As highlighted in the reconsideration proposal, one practical effect of allowing State-specific concerns to create national regulation is that EPA's review of SIPs would likely be much more time-consuming, because EPA would have to consider each nuance of the SIP as a potential statement of national policy. Thus, EPA would have heightened oversight of air quality actions in all States-even those regarding local and State issues that are best decided by local agencies. EPA approval of SIPs would be delayed, which would in turn, delay State's progress toward improving air quality. And, EPA would be required to defend challenges to the approval of a SIP with national implications in the D.C. Circuit Court of Appeals rather than the local Circuit Court of Appeals. The potential increased burden of reviewing and approving SIPs to analyze the national implications of each SIP, and the associated delay in improving air quality, creates a compelling policy argument against adoption of the SIP interpretation.

Petitioners also fault EPA's reliance on *Connecticut v. EPA*, 656 F.2d 902 (2d Cir. 1981) and assert that this case has nothing to do with the issue of whether a pollutant is "subject to regulation under the Act." In the PSD Interpretive Memo, EPA cited Connecticut to support the notion that while a State is free to adopt air quality standards more stringent than required by the NAAQS or other Federal law provisions, Congress precludes those stricter requirements from applying to other States. The Agency agrees with commenter that the circumstances involved in that case are not directly analogous, but, nevertheless, the case supports the inference that EPA has drawn from it. The Court concluded that "[n]othing in the Act, however, indicates that a State must respect its neighbor's air quality standards (or design its SIP to avoid interference therewith) if those standards are more stringent than the requirements of Federal law." If a State is not required to respect the more stringent requirements of a neighboring State in developing its own implementation plan, then by inference, the State would also not be compelled to follow the more stringent standards.

In sum, after reconsidering the legal and policy issues, EPA declines to adopt the SIP interpretation.

4. Endangerment Finding Interpretation

The PSD Interpretive Memo states that the fourth part of the regulated NSR pollutant definition ("[a]ny pollutant that otherwise is subject to regulation") should not be interpreted "to apply at the time of an endangerment finding." *See* Memo at 14 (hereinafter, referred to as the "endangerment finding interpretation."). After considering public comments, EPA is affirming the position expressed in the PSD Interpretative Memo that an endangerment finding alone does not make the requirements of the PSD program applicable to a pollutant. EPA maintains its view that the terms of EPA's regulations and the relevant provisions of the CAA do not compel EPA to conclude that an air pollutant becomes "subject to regulation" when EPA finds that it endangers public health or welfare without contemporaneously promulgating control requirements for that pollutant.

As explained in EPA's Endangerment and Cause or Contribute Findings for GHGs under section 202(a) of the CAA, there are actually two separate findings involved in what is often referred to as an endangerment finding. 74 FR 66496 (Dec. 15, 2009). The first finding addresses whether air pollution may reasonably be anticipated to endanger public health or welfare. The second finding involves an assessment of whether emissions of an air pollutant from the relevant source category cause or contribute to this air pollution. In this notice, EPA uses the phrase "endangerment finding" to refer to EPA findings on both of these questions. The EPA interpretation described here applies to both findings regardless of whether they occur together or separately.

As explained in the proposed reconsideration, an interpretation of "subject to regulation" that does not include endangerment findings is consistent with the first three parts of the definition of "regulated NSR pollutant" in section 52.21(b)(50) of EPA's regulations. Unlike the first three parts of the definition, an endangerment finding does not itself contain any restrictions (e.g., regarding the level of air pollution or emissions or use). Moreover, two parts of the definition involve actions that can occur only after an endangerment finding of some sort has taken place. In other words, other parts of the definition already bypass an endangerment finding and apply the PSD trigger to a later step in the regulatory process.

Specifically, under the first part of that definition, PSD regulation is triggered by promulgation of a NAAQS under CAA section 109. However, in order to promulgate NAAQS standards under section 109, EPA must first list, and issue air quality criteria for a pollutant under section 108, which in turn can only happen after EPA makes an endangerment finding and a version of a cause or contribute finding, in addition to meeting other requirements. *See* CAA sections 108(a)(1) and 109(a)(2). Thus, if EPA were to conclude that an endangerment finding, cause or contribute finding, or both would make a pollutant "subject to regulation" within the meaning of the PSD provisions, this would read all meaning out of the first part of the "regulated NSR pollutant" definition because a pollutant would become subject to PSD permitting requirements well before the promulgation of the NAAQS under section 109. *See* 40 CFR 52.21(b)(50)(i).

Similarly, the second part of the definition of "regulated NSR pollutant" includes any pollutant that is subject to a standard promulgated under section 111 of the CAA. Section 111 requires the EPA Administrator to list a source category, if in his or her judgment, "it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." *See* CAA section 111(b)(1)(A). After EPA lists a source category, it promulgates NSPS for that source category. For a source category not already listed, if EPA were to list it on the basis of its emissions of a pollutant that was not previously regulated, and such a listing made that pollutant "subject to regulation" within the meaning of the PSD provisions, this chain of events would result in triggering PSD permitting requirements for that pollutant well in advance of the point contemplated by the second prong of the regulated NSR pollutant definition. *See* 40 CFR 52.21(b)(50)(ii).

Furthermore, as discussed in the Memo, waiting to apply PSD requirements at least until the actual promulgation of control requirements that follow an endangerment finding is sensible. The Memo explains that when promulgating the final regulations establishing the control requirements for a pollutant, EPA often makes decisions that are also relevant to decisions that must be made in implementing the PSD program for that pollutant. *See* Memo at 14. For example, EPA often does not make a final decision regarding how to identify the specific pollutant subject to an NSPS standard until the NSPS is issued, which occurs after both the endangerment finding and the source category listing.

Public comments echoed these concerns. One commenter said that subjecting the pollutant to PSD requirements, including imposition of BACT emission limits, before the Agency has taken regulatory action to establish emission controls would turn the CAA process on its head. Another commenter indicated that triggering PSD review upon completion of an endangerment finding, but potentially before the specific control requirement that flows directly from the endangerment finding, clearly undermines the orderly process created by Congress for regulation of new air pollutants. A third commenter added that establishing controls without having a standard to be achieved leads to uncertainty in the permitting program.

In further support of EPA's interpretation that an endangerment finding does not make an air pollutant "subject to regulation" is the fact that an endangerment finding is not a codified regulation; it does not contain any regulatory text. The PSD Interpretive Memo explains, and numerous commenters agree, that an endangerment finding should not be construed as "regulating" the air pollutant(s) at issue because there is no actual regulatory language applicable to the air pollutant at this time in the Code of Federal Regulations. Rather, the finding is a prerequisite to issuing regulatory language that imposes control requirements. This is true even if the endangerment finding is a "rule" for purposes of administrative processes; that does not alter the fact that there is no regulation or regulatory text attached to the endangerment finding itself. Since an endangerment finding does not establish "regulation" within the common meaning of the term applied by EPA, EPA does not believe the CAA compels EPA to apply PSD requirements to a pollutant on the basis of an endangerment finding alone.

EPA's interpretation is also consistent with the Supreme Court's decision in Massachusetts. In its decision, the Court acknowledged that EPA "has significant latitude as to the manner, timing, content and coordination" of the regulations that would result from a positive endangerment finding under section 202(a). *See* 549 U.S. at 532. Just as EPA has discretion regarding the timing of the section 202(a) control regulations that would flow from an endangerment finding under that section, it also has some discretion regarding the timing of the triggering of PSD controls that the statute requires based on those section 202(a) regulations. EPA has reasonably determined that PSD controls should not precede any other control requirements. Some commenters cited Massachusetts in support of EPA's position.

For the foregoing reasons, EPA affirms that the prerequisite act of making an endangerment finding, a cause or contribute finding, or both, does not make a pollutant "subject to regulation" for the purposes of the PSD program. This interpretation applies to both steps of the endangerment finding-the finding that air pollution may reasonably be anticipated to endanger public health or welfare, and the finding that emissions of an air pollutant from a particular source category causes or contributes to this air pollution-regardless of whether the two findings occur together or separately. As explained above, EPA believes that there are strong legal and policy reasons for rejecting the endangerment finding interpretation.

5. Section 209 Waiver Interpretation

EPA is affirming its position that an Agency decision to grant a waiver to a State under section 209 of the CAA does not make the PSD program applicable to pollutants that may be regulated under State authority following a grant of such a waiver. For the reasons discussed below, the granting of a waiver does not make the pollutants that are regulated by a State after obtaining a section 209 waiver into pollutants regulated under the CAA. Furthermore, EPA is also affirming the position that PSD requirements are not applicable to a pollutant in all States when a handful of States besides the one obtaining the waiver adopt identical standards under section 177 of the CAA that are then approved into State SIPs by EPA.

As explained in the proposal, neither the PSD Interpretive Memo nor the Petition for Reconsideration raise the issue of whether a decision to grant a waiver under the section 209 of the CAA triggers PSD requirements for a pollutant regulated by a State after obtaining a waiver. EPA received comments in response to the notice of an application by California for a CAA section 209 waiver to the State of California to adopt and enforce GHG emission standards for new motor vehicles that suggested that arguments might be made that the grant of the waiver made GHGs subject to regulation across the country for the purposes of PSD. *See* 74 FR 32744, 32783 (July 8, 2009). Those commenters requested that EPA state clearly that granting the California Waiver did not render GHGs subject to regulation under the CAA, while others commented that the question of when and how GHGs should be addressed in the PSD program or otherwise regulated under the Act should instead be addressed in separate proceedings. At that time, EPA stated that these interpretation issues were not a part of the waiver decision and would be more appropriately addressed in another forum.

In the proposed reconsideration notice, EPA proposed to affirm the following position that EPA previously explained to Congress: "a decision to grant a waiver under section 209 of the Act removes the preemption of State law otherwise imposed by the Act. Such a decision is fundamentally different from the decisions to establish requirements under the CAA that the Agency and the [EAB] have considered in interpreting the provisions governing the applicability of the PSD program." Letter from Lisa P. Jackson, EPA Administrator, to Senator James M. Inhofe (March 17, 2009). Specifically, EPA proposed to find that neither the CAA nor the Agency's PSD regulations make the PSD program applicable to pollutants that may be regulated by States after EPA has granted a waiver of preemption under section 209 of the CAA. Accordingly, EPA said that the Agency's decision to grant a section 209 waiver to the State of California to establish its own GHG emission standards for new motor vehicles does not trigger PSD requirements for GHGs.

Several commenters disagreed with EPA's proposed position on the section 209 waiver provisions, and assert that EPA's granting of the waiver results in "actual control." According to these commenters, even under EPA's interpretation of "subject to regulation," CO2 is now subject to BACT. One of these commenters argues that EPA's granting of a waiver is an EPA regulatory action that "controls" CO2 by allowing California and 10 other States to "regulate" CO2 under the Act. Another one of these commenters states that 10 States used section 177 of the CAA to adopt the California Standards into their SIPs, thus making these provisions enforceable by both EPA and citizens under the CAA. *See*, *e.g.*, 42 U.S.C. 7413; 42 U.S.C. 7604(a)(1), (f)(3). EPA has not been persuaded to change its proposed position based on these comments.

EPA does not disagree that the regulations promulgated by the State pursuant to the waiver will require control of emissions and thus constitute "regulation" of GHGs under the meaning applied by EPA. However, the principal issue here is whether this regulation occurs under the authority of the Clean Air Act (i.e., "under the Act.").

In the proposed reconsideration notice, EPA explained that a waiver granted under CAA section 209(b)(1) simply removes the prohibition found in section 209(a) that forbids States from adopting or enforcing their own standards relating to control of emissions from new motor vehicles or new motor vehicle engines. Thus, the grant of the waiver does not lead to regulation "under the Act" because it simply allows California to exercise the same authority to adopt and enforce State emissions standards for new motor vehicles that California could have exercised without the initial prohibition in section 209(a). Several other commenters agreed with EPA's position and reasoning. They explained that a waiver constitutes a withdrawal of Federal preemption that allows a State to develop its own State standards to regulate vehicle emissions; the waiver does not transform these State standards into Federal standards. Other supporting commenters also assert that there is nothing in the legislative history that supports a conclusion that Congress intended section

209 waivers to result in application of PSD requirements. The opposing comments have not convincingly articulated a mechanism through which EPA's action granting the waiver in fact requires control of emissions (as opposed to the States action under State law). If EPA granted the waiver alone and the State ultimately decided not to implement its regulation, there would be no control requirement in effect under the CAA.

As explained in the proposed reconsideration notice, EPA also finds it instructive that enforcement of any emission standard by the State after EPA grants a section 209 waiver would occur pursuant to State enforcement authority, not Federal authority. EPA would continue to enforce the Federal emission standards EPA promulgates under section 202. EPA does not enforce the State standard. EPA only conducts testing to determine compliance with the Federal standard promulgated by EPA and any enforcement would be for violation of EPA standards, not the State standards. As one commenter noted, CAA section 209(b)(3) provides that where a State has adopted standards that have been granted a waiver "compliance with such State standards shall be treated as compliance with applicable Federal standards for purposes of this subchapter," but does not say that such State standards actually become the Federal standards. Accordingly, EPA finds the absence of legislative history supporting the contrary position, and the language in section 209(b)(3) instructive as Congress clearly recognized the co-existence of the Federal and State standards. This shows Congress did not intend that State regulations replace, or transform State standards into Federal regulations "under the Act." EPA agrees with supporting commenters' conclusions summarized here, and is not persuaded to change the proposed position.

EPA has also concluded that the adoption of identical standards by several States under section 177 does not make a pollutant covered by those standards "subject to regulation under the Act" in all States. Like section 209, section 177 only grants States authority to regulate under State authority by removing Federal preemption. Adoption of California standards by other States does not change the fact that those standards are still State standards enforced under State law and Federal law is approved in a SIP. However, EPA agrees that when a State adopts alternate vehicle standards into its SIP pursuant to section 177, and EPA approves the SIP, these standards become enforceable by EPA and citizens under the CAA. Nonetheless, EPA does not agree that this compels an interpretation that any pollutant included in an individual State SIP requirement becomes "subject to regulation" in all States under the CAA. As discussed earlier, EPA rejects the theory that a regulation of a pollutant in one or more States in an EPA-approved implementation plan necessarily makes that pollutant subject to regulation in all States. Such an approach is inconsistent with the fundamental principle of cooperative federalism embodied in the CAA.

In summary, EPA concludes that neither the act of granting a section 209 waiver of preemption for State emission standards nor the EPA-approval of standards adopted into a SIP pursuant to section 177 makes a pollutant "subject to regulation under the Act" in all States for the purposes of the PSD program.

C. Other Issues on Which EPA Solicited Comment

1. Prospective Codification of Interpretation

Through the proposed reconsideration notice, EPA requested comment on whether the Agency should codify its final interpretation of the "subject to regulation" in the statute and regulation by amending the Federal PSD rules at 40 CFR 52.21. EPA received a number of comments both in support of and opposing codification.

EPA does not believe it is necessary to codify its interpretation in the regulatory text. EPA feels it is important to promptly communicate and apply these final decisions regarding the applicability of the PSD program in light of recent and upcoming actions related to GHGs. More specifically, EPA recently finalized the "Mandatory Reporting of Greenhouse Gases" rule (known as the "Reporting Rule"),[12] which added monitoring requirements for additional GHGs not covered in the Part 75 regulations. Further, EPA is poised to finalize by the end of March 2010 the LDV Rule that will establish controls on GHGs that take effect in Model Year 2012, which starts as early as January 2, 2011. Thus, these actions make it important that EPA immediately apply its final interpretation of the PSD regulations on this issue (as refined in this action). Furthermore, even if EPA modified the text of the Federal rules, many States may continue to proceed under an interpretation of their rules. EPA thus believes overall implementation of PSD permitting programs is facilitated by this notice that describes how existing requirements in Federal regulations at 40 CFR 52.21 are interpreted by EPA and how similar State provisions may be interpreted by States.

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[12] *See* 74 FR 56259 (Oct. 30, 2009).

Likewise, EPA does not believe it is necessary to re-issue the PSD Interpretive Memorandum. The Agency has not identified any legal requirement for the Agency to re-issue an interpretive rule after a process of reconsideration. No comparable procedure is required after the reconsideration of substantive rule. In the latter situation, a notice of final action is sufficient to conclude the reconsideration process and an Agency may simply decline to revise an existing regulation that remains in effect. EPA has therefore concluded that this notice of final action is sufficient to conclude the reconsideration process initiated on February 17, 2009 and that there is no need to re-issue the entire memorandum in order for EPA to continue applying the interpretation reflected therein, as refined in this notice.

2. Section 821 of the Clean Air Act Amendments of 1990

In the October 7, 2009 notice, EPA also solicited comment on the question of whether section 821 of the Clean Air Act Amendments of 1990 is part of the Clean Air Act. EPA indicated that the Agency was inclined against continuing to argue that section 821 was not a part of the CAA, as the Office of Air and Radiation and Region 8 had done in briefs submitted to the EAB in the Deseret matter. This question bears on the determination of whether the CO2 monitoring requirements in EPA's Part 75 regulations are requirements "under the Act." In the proposed reconsideration notice, EPA explained that it would be necessary to resolve whether or not the CO2 monitoring and reporting regulations in Part 75 were promulgated "under the Act" if EPA adopted the monitoring and reporting interpretation. EPA received public comments on both sides of this issue, with one environmental organization pressing EPA to drop the position that section 821 is not a part of the CAA and several industry parties requesting that EPA affirm it.

EPA has not yet made a final decision on this question, and it is not necessary for the Agency to do so at this time. Since EPA is not adopting the monitoring and reporting interpretation, the status of section 821 is not material to the question of whether and when CO2 is "subject to regulation under the Act." Because there are currently no controls on CO2 emissions, the pollutant is not "subject to regulation." Given that the provisions in Part 75 do not "regulate" emissions of CO2, it is unnecessary determine whether such provisions are "under the Act" or not to determine PSD applicability. Furthermore, the promulgation of EPA's Reporting Rule makes this issue even less material. In that rule, which became effective in December 2009 and required monitoring to begin in January of this year, EPA established monitoring and reporting requirements for CO2 and other GHGs under sections 114 and 208 of the CAA. Thus, there can be no dispute that monitoring and reporting of CO2 (as well as other GHGs) is now occurring under the CAA, regardless of the status of section 821 of the 1990 amendments. At this point, the section 821 issue would only become relevant if a court were to find that the monitoring and reporting interpretation is compelled by the CAA and a party subsequently seeks to retroactively enforce such a finding against sources that had not obtained a PSD permit with any limit on CO2 emissions. If this situation were to arise, EPA will address the section 821 issue as necessary.

3. Timing of When a Pollutant Becomes Subject to Regulation

The October 7, 2009 notice also solicited comment on whether the interpretation of "subject to regulation" should also more clearly identify the specific date on which PSD regulatory requirements would apply. In the PSD Interpretive Memo, EPA states that the language in the definition of "regulated NSR pollutant" should be interpreted to mean that the fourth part of the definition should "apply to a pollutant upon promulgation of a regulation that requires actual control of emissions." *See* Memo at 14. After evaluating the underlying statutory requirement in the CAA and the language in all parts of the regulatory definition more closely, EPA proposed to modify its interpretation of the fourth part of the definition with respect to the timing of PSD applicability. The Agency proposed to interpret the term "subject to regulation" in the statute and regulation to mean that PSD requirements apply when the regulations addressing a particular pollutant become final and effective.

Based on public comments and other considerations raised in the proposal, EPA has determined that it is necessary to refine the portion of the PSD Interpretive Memo that addresses the precise point in time when a pollutant becomes subject to regulation for purposes of the PSD program. As a result, while the Memo is otherwise unchanged by the reconsideration proceeding, this final notice will adjust the first paragraph of section II.F of the Memo (bottom of page 14) to reflect EPA's conclusion that it is more appropriate and consistent with the reasoning of the Memo to construe EPA regulations and the CAA to make a pollutant subject to PSD program requirements when the first controls on a pollutant take effect. This refines the approach proposed in the October 7, 2009 notice.

Like the PSD Interpretive Memorandum itself, the refinement to EPA's interpretation described in this final notice is an interpretation of the regulation at 40 CFR 52.21 and the CAA provisions that provide the statutory foundation for EPA's regulations. The refinement reflected in this notice explains, clarifies, and is consistent with existing statutes and the text of regulatory provisions at 40 CFR 52.21(b)(50)(ii) through (iv). Some commenters argued that courts have limited an Agency's ability to fundamentally change a long-standing, definitive, and authoritative interpretation of a regulation[13] without engaging in a notice and comment rulemaking. *See, e.g., Alaska Professional Hunters Association v. FAA*, 177 F.3d 1030, 1033-34 (D.C. Cir. 1999); *Paralyzed Veterans of America v. D.C. Arena L.P.*, 117 F.3d 579, 586 (D.C. Cir. 1997). Since EPA's interpretation of the PSD program regulations is unchanged in most respects by this action, it is not clear that the particular refinement to that interpretation that EPA is making in this action would invoke the doctrine described in these cases. Even if this refinement is viewed as a fundamental change, EPA has completed the revision reflected in this action after a notice and comment process. Furthermore, since EPA initiated a process of reconsidering and soliciting comment on the PSD Interpretive Memo within three months of its issuance, the memorandum had not yet become particularly well-established or long-standing. *See MetWest Inc. v. Secretary of Labor*, 560 F.3d 506, 511 n.4 (D.C. Cir. 2009). Thus, the doctrines reflected in these cases do not preclude the action EPA has taken here to refine its interpretation of the regulations.

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[13] To EPA's knowledge, no court has required a rulemaking procedure when the Agency seeks to issue or change its interpretation of a statute. Nevertheless, EPA has completed this notice and comment proceeding before deciding to adopt the revised interpretation of the CAA described in this notice.

The regulatory language of 40 CFR 52.21(b)(50)(iv) does not specify the exact time at which the PSD requirements should apply to pollutants in the fourth category of the definition of "regulated NSR pollutant." In the PSD Interpretive Memo, EPA states that EPA interprets the language in this definition to mean that the fourth part of the definition should "apply to a pollutant upon promulgation of a regulation that requires actual control of emissions." *See* Memo at 14. However, after continuing to consider the underlying statutory requirement in the CAA and the language in all parts of the regulatory definition more closely, EPA proposed in the October 7, 2009 notice to modify its interpretation of the fourth part of the definition with respect to the timing of PSD applicability. In the proposed notice of reconsideration, EPA observed that the term "subject to regulation" in the statute and regulation is most naturally interpreted to mean that PSD requirements apply when the regulations addressing a particular pollutant become final and effective. In addition, EPA expressed a desire to harmonize the application of the PSD requirements with the limitation in the Congressional Review Act (CRA) that a major rule cannot take effect until 60 days after it is published in the Federal Register.

In this final notice on reconsideration, based on information provided in public comments, EPA is refining its interpretation of the time the PSD requirements will apply to a newly-regulated pollutant. Under the PSD program, EPA will henceforth interpret the date that a pollutant becomes subject to regulation under the Act to be the point in time when a control or restriction that functions to limit pollutant emissions takes effect or becomes operative to control or restrict the regulated activity. As discussed further below, this date may vary depending on the nature of the first regulatory requirement that applies to control or restrict emissions of a pollutant.

Several public comments observed that a date a control requirement becomes "final and effective" and the date it actually "takes effect" may differ. Some commenters supported these points with reference to Federal court decisions that suggest the date that the terms of a regulation become effective can take more than one form. In one case involving the Congressional Review Act, the United States Court of Appeals for the Federal Circuit observed that the date a regulation may "take effect" in accordance with the CRA is distinct from the "effective date" of the regulation. *See Liesegang v. Sec'y of Veterans Affairs*, 312 F.3d 1368, 1374-75 (Fed. Cir. 2002), amended on reh'g in part on other grounds, 65 Fed. Appx. 717 (Fed. Cir. 2003). In this opinion, the court observed that "[t]he ordinary meaning of 'take effect' is '[t]o be in force; go into operation' " Id. at 1375 (quoting Black's Law Dictionary at 1466 (7th ed. 1999). Based on this, the court reasoned that the CRA does not "change the date on which the regulation becomes effective" but rather "only affects the date when the rule becomes operative." Id. In another case, the Second Circuit Court of Appeals described a distinction between the date a rule may "take effect" under the CRA, the "effective date" for application of the rule to regulated manufacturers, and the "effective date" for purposes of modifying the Code of Federal Regulations. *See Natural Resources Defense Council v. Abraham*, 355 F.3d 179, 202 (2d Cir. 2004).

The Office of the Federal Register (OFR) uses the term "effective date" to describe the date that amendments in a rulemaking document affect the current Code of Federal Regulations. *See Federal Register Document Drafting Handbook*, at p. 2-10 (Oct. 10, 1998). However, OFR draws a contrast between such a date and the compliance or applicability date of a rule, which is described as "the date that the affected person must start following the rule." Id. at 2-11. Thus, the "effective date" of a regulation is commonly used to describe the date by which a provision in the Code of Federal Regulations is enacted as law, but it is not necessarily the same as the time when provision enacted in the Code of Federal Regulations is operative on the regulated activity or entity. The latter may be described as the "compliance," "applicability," or "takes effect" date.

The terms of the CAA also recognize a similar distinction in some instances. CAA section 112(i)(3)(A) provides that "after the effective date of any emissions standard, limitation or regulation promulgated under this section and applicable to a source, no person may operate such source in violation of such standard, limitation, or regulation except, in the case of an existing source, the Administrator shall establish a compliance date or dates for each category or subcategory of existing sources, which shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the effective date of such standard." Another example in section 202 of the Act is discussed in more detail below.

Another formulation may be found in Section 553(c) of the APA (5 U.S.C. 553(c)), which provides, with some exceptions, that "[t]he required publication or service of a substantive rule shall be made not less than 30 days before its effective date." The APA does not define the term "effective date" or make precisely clear whether it is referring to the date a regulation has the force of law or the date by which a regulatory requirement applies to a regulated entity or activity. The APA also separately recognizes the concept of finality of Agency action for purposes of judicial review. *See* 5 U.S.C. 704.

In the October 7, 2009 notice, EPA did not clearly distinguish between the various forms of the date when a regulatory requirement may become effective. One commenter observed that the EPA analysis in the proposed reconsideration notice appeared to blur the distinction between the "effective date" set by EPA and the date that Congress allows a regulation to become effective under the CRA. EPA in fact discussed all of these concepts in its notice, with part of the discussion focused on the date a regulation becomes "final" and "effective" and a part on when a regulation may "take effect" under the CRA. EPA viewed these forms of the date when a regulation becomes "effective" to be essentially the same, but the case law suggests that administrative agencies do not necessarily need to harmonize the date that regulatory requirements take effect with the "effective date" of a regulation, meaning the date a regulation has the force of law and amends the Code of Federal Regulations. Since these are distinct concepts, the effective date of a regulation for purposes of amending the CFR may precede the date when a regulatory requirement "takes effect" or when a regulated entity must comply with a regulatory requirement. A regulation may "take effect" subsequent to its stated "effective date" where it has been published in final form but does not require immediate implementation by the agency or compliance by regulated entities.

The key issue raised by EPA in the October 7, 2009 notice was determining which date should be determined by EPA to be the date when a pollutant becomes "subject to regulation" and, thus, the date when the requirements of the PSD permitting program apply to that pollutant. In recognition of the distinction between the "effective date" of the regulation for purposes of amending the CFR and the point at which a regulatory restriction may "take effect," EPA has considered whether it is permissible to construe sections 165(a)(4) and 169(3) of the CAA to mean that a pollutant becomes "subject to regulation" at the point that a regulatory restriction or control "takes effect." In the October notice, EPA observed that the use of "subject to" in the Act suggests that PSD requirements are intended to be triggered when those standards become effective for the pollutant. EPA also said that no party is required to comply with a regulation until it has become final and effective. Prior to that date, an activity covered by a rule is not in the ordinary sense "subject to" any regulation. Regardless of whether one interprets regulation to mean monitoring or actual control of emissions, prior to the effective date of a rule there is no regulatory requirement to monitor or control emissions.

The same reasoning applies to the date that a regulation "takes effect," as that term is used in the judicial decisions described above. Regulated entities are not required to comply with a regulatory requirement until it takes effect. Prior to the date a regulatory requirement takes effect, the activity covered by a rule is not in the ordinary sense subject to any regulation.

As discussed in the PSD Interpretive Memo, as used in the context of the PSD provisions in EPA regulations and the CAA, EPA interprets the term "regulation" in the context of sections 165(a)(4) and 169 of the CAA to mean the act or process of controlling or restricting an activity. This interpretation applies a common meaning of the term regulation reflected in dictionaries.

Thus, EPA agrees with commenters that the term "subject to regulation" used in both the CAA and EPA's regulations may be construed to mean the point at which a requirement to control a pollutant takes effect. The CAA does not necessarily preclude construing a pollutant to become subject to regulation upon the promulgation date or the date that a regulation becomes final and effective for purposes of amending the CFR or judicial review. However, EPA has been persuaded by public comments that the phrase "subject to regulation" may also be interpreted to mean the date by which a control requirement takes effect.

Indeed, EPA has concluded that the latter interpretation is more consistent with the actual control interpretation reflected in the PSD Interpretive Memo. As one commenter observed, a regulation would have to have become actually effective, in the sense that actual legal obligations created by the regulation have become currently applicable for regulated entities and are no longer merely prospective obligations, before that regulation could make a pollutant subject to actual control. Another commenter noted that a regulated entity has no immediate compliance obligations and cannot be held in violation of the regulation until a legal obligation becomes applicable to them on the "takes effect" date. Thus, based on this reasoning, EPA has decided that it will construe the point at which a pollutant becomes "subject to regulation" within the meaning of section 52.21(b)(50)(iv) of EPA's regulations to be when a control or restriction is operative on the activity regulated. EPA agrees with commenters that there is generally no legally enforceable obligation to control a pollutant when a regulation is promulgated or, in some instances, even when a regulation becomes effective for some purposes.

Thus, EPA currently interprets the time that a pollutant becomes a "regulated NSR pollutant" under section 52.21(b)(50)(iv) to be the time when a control or restriction on emissions of the pollutant takes effect or becomes operative on the regulated activity. Given EPA's conclusion that this is a permissible interpretation of the "subject to regulation" language in sections 165(a)(4) and 169(3) of the CAA, EPA will also interpret other parts of section 52.21(b)(50) to make a pollutant a regulated NSR pollutant on the date that a control requirement takes effect, provided such an interpretation is not inconsistent with the existing language of the regulations.

EPA does not agree with several commenters who suggested that EPA determine that a pollutant does not become subject to regulation until the time that an individual source engages in the regulated activity. EPA does not believe such a reading is consistent with the "subject to regulation" language in the CAA. Even if no source is actually engaged in the activity, once a standard or control requirement has taken effect, no source may engage in the regulated activity without complying with the standard. At this point, the regulated activity and the emissions from that activity are controlled or restricted, thus being subject to regulation within the common meaning of the term regulation used in EPA's regulations and section 165(a)(4) and 169(3) of the CAA.

Likewise, EPA does not agree with commenters who argued that a pollutant does not become subject to regulation until the date when a source must certify compliance with regulatory requirements or submit a compliance report. In some instances, a compliance report or certification of compliance may not be required until well after the point that a regulation operates to control or restrict the regulated activity. Thus, EPA does not feel that it would be appropriate as a general rule to establish the date when a source certifies compliance or submits its compliance report as the date that a pollutant becomes subject to regulation.

Since the fourth part of the definition of "regulated NSR pollutant" functions as a catch-all provision, it may cover a variety of different types of control requirements established by EPA under the CAA. These different types of regulations may contain a variety of different mechanisms for controlling emissions and have varying amounts of lead time before controls take effect under the particular regulatory framework. Thus, whenever the Agency adopts controls on a new pollutant under a portion of the CAA covered by the fourth part of the definition, EPA anticipates that it will be helpful to States and regulated sources for EPA to identify the date when a new pollutant becomes subject to regulation. In section IV.A of this notice, EPA provides such an analysis for the forthcoming LDV Rule that is anticipated to establish the first controls on GHGs.

EPA has also concluded that it is appropriate to extend the reasoning of this interpretation across all parts of the definition of the term "regulated NSR pollutant." The reasoning described above is equally applicable to the regulation of additional pollutants under the specific sections of the Act delineated in the first three parts of the definition of "regulated NSR pollutant." While the date a control requirement may take effect could vary across sections 109, section 111, and Title VI, EPA does not see any distinction in the applicability of the legal reasoning above to these provisions of the CAA. There should be less variability among rules promulgated under the same statutory section, so EPA does not expect that it will be necessary for EPA to identify the date that a new pollutant becomes subject to regulation each time EPA regulates a new pollutant in a NAAQS or NSPS. EPA can more readily identify the specific dates when controls under such rules take effect.

By way of example, the NSPS under section 111 of the Act preclude operation of a new source in violation of such a standard after the effective date of the standard. *See* 42 U.S.C. 7411(e). Thus, the control requirements in an NSPS take effect on the effective date of the rule. Once such a standard takes effect and operates to preclude operations in violation of the standards, then EPA interprets the statute and EPA's PSD regulations to also require that the BACT requirement apply to a pollutant that is subject to NSPS. Consistent with the October 7, 2009 proposal, EPA has determined that the existing language in section 52.21(b)(50)(ii) of its regulations may be construed to apply to a new pollutant upon the effective date of an NSPS. This part of the definition covers "[a]ny pollutant that is subject to any standard promulgated under section 111 of the Act." *See* 40 CFR 52.21(b)(50)(ii). While the word "promulgated" appears in this part of the definition, this term modifies the term "standard" and does not directly address the timing of PSD requirements. Under the language in this part of the definition, the PSD requirements apply when a pollutant becomes "subject to" the underlying standard, which is "promulgated under" section 111 of the Act. Thus, this language can be interpreted to make an NSPS pollutant a regulated NSR pollutant upon the effective date of an NSPS. EPA did not receive any public comments that opposed reading this portion of the definition to invoke PSD requirements upon the effective date of an NSPS. This can logically be extended to be consistent with the general view described above that the time a pollutant becomes subject to regulation is the time when a control requirement "takes effect." As discussed above, the effective date of an NSPS is also that date when the controls in an NSPS "take effect."

Likewise, under section 169(a)(3) of the Act, a source applying for a PSD permit must demonstrate that it will not cause or contribute to a violation of the NAAQS in order to obtain the permit. Once a NAAQS is effective with respect to a pollutant, the standard operates through section 169(a)(3) of the Act and section 52.21(k) of EPA's regulations to preclude construction of a new source that would cause or contribute to a violation of such standard.

Using the effective date of a NAAQS to determine when a pollutant covered by a NAAQS becomes a regulated NSR pollutant is more consistent with EPA's general approach for determining when a new

NAAQS applies to pending permit applications. EPA generally interprets a revised NAAQS that establishes either a lower level for the standard or a new averaging time for a pollutant already regulated to apply upon the effective date of the revised NAAQS. Thus, unless EPA promulgates a grandfathering provision that allows pending applications to apply standards in effect when the application is complete, a final permit decision issued after the effective date of a NAAQS must consider such a NAAQS. As described above, the effective date of the NAAQS is also the date a NAAQS takes effect through the PSD permitting program to regulate construction of a new or modified source.

Since a NAAQS covering a new pollutant would operate through the PSD permitting program to control emissions of that pollutant from the construction or modification of a major source upon the effective date of the NAAQS, a NAAQS covering a new pollutant takes effect on the effective date of the regulation promulgating the NAAQS. EPA does not agree with one commenter's suggestion that such a NAAQS would not take effect until the time a State first promulgates limitations for the pollutant in a SIP. Under section 165(a)(3) of the Act and the Federal PSD permitting regulations at 52.21(k), to obtain a PSD permit, a major source must demonstrate that the proposed construction will not cause or contribute to a violation of a NAAQS. Due to these requirements, the PSD program operates to incorporate the NAAQS as a governing standard for permitting construction of large sources. Thus, under the Federal PSD program regulations at least, a new pollutant covered by a NAAQS becomes subject to regulation at a much earlier date. These PSD provisions require emissions limitations for the NAAQS pollutant before construction at a major source may commence and thereby function to protect the NAAQS from new source construction and modifications of existing major sources in the SIP development period before a completion of the planning process necessary to determine whether additional standards for a new NAAQS pollutant need to be developed. The timing when the NAAQS operates in this manner under SIP-approved programs is potentially more nuanced and depends on whether State laws are sufficiently open-ended to call for application of a new NAAQS as a governing standard for PSD permits upon the effective date. EPA believes that State laws that use the same language as in EPA's PSD program regulations at 52.21(k) and 51.166(k) are sufficiently open-ended and allow such a NAAQS to "take effect" through the PSD program upon the effective date of the NAAQS. Notwithstanding this complexity in SIP-approved programs, the applicability of the Federal PSD program regulations to a new NAAQS pollutant upon the effective date of the NAAQS is sufficient to determine that a new pollutant is subject to regulation on this date.

In the October 7, 2009 notice, EPA observed that one portion of its existing regulations was not necessarily consistent with this reading of the CAA. For the first class of pollutants described in the definition of "regulated NSR pollutant," the PSD requirements apply once a "standard has been promulgated" for a pollutant or its precursors. *See* 40 CFR 52.21(b)(50)(i). The use of "has been" in the regulation indicates that a pollutant becomes a "regulated NSR pollutant," and hence PSD requirements for the pollutant are triggered, on the date a NAAQS is promulgated. Thus, EPA observed in the October 7, 2009 notice that it may not be possible for EPA to read the regulatory language in this provision to make PSD applicable to a NAAQS pollutant upon the effective date of the NAAQS. EPA did not propose to modify the language in 40 CFR 52.21(b)(50)(i) in the October 2009 notice because EPA had not yet reached a final decision to interpret the CAA to mean that a pollutant is subject to regulation on the date a regulatory requirement becomes effective. Since EPA was not proposing to establish a NAAQS for any additional pollutants, the timing of PSD applicability for a newly identified NAAQS pollutant did not appear to be of concern at the time. No public comments on the October 2009 notice addressed this issue. Since EPA is now adopting a variation of the proposed interpretation with respect to the timing of PSD applicability, EPA believes it will be appropriate to propose a revision of the regulatory language in section 52.21(b)(50)(i) at such time as EPA may consider promulgation of a NAAQS for an additional pollutant. Until that time, EPA will continue to apply the terms of section 52.21(b)(50)(i) of the regulation. This is permissible because, even though EPA believes the better reading of the Act is to apply PSD upon the date that a control requirement "takes effect," the Agency has not determined in this action that the CAA precludes applying PSD requirements upon the promulgation of a regulation that establishes a control requirement (as a NAAQS does through the PSD provisions).

IV. Application of PSD Interpretive Memo to PSD Permitting for GHGs

A. Date by Which GHGs Will Be "Subject to Regulation"

Although the PSD Interpretive Memo and this reconsideration reflect a broad consideration of the most appropriate legal interpretation and policy for all pollutants regulated under the CAA, the need to clarify this issue as a general matter has been driven by concerns over the effects of GHG emissions on global climate and the contention made by some parties in permit proceedings that EPA began regulating CO2 as early as the promulgation of monitoring and reporting requirements in EPA's Part 75 rules to implement section 821 of the CAA Amendments of 1990. The vast majority of public comments on the October 7, 2009 notice focused on the regulation of GHGs under the PSD program. As a result, EPA recognizes that it is critically important at this time for the Agency to make clear when the requirements of the PSD permitting program for stationary sources will apply to GHGs. For the reasons discussed below, GHGs will initially become "subject to regulation" under the CAA on January 2, 2011, assuming that EPA issues final GHG emissions standards under section 202(a) applicable to model year 2012 new motor vehicles as proposed. As a result, with that assumption, the PSD permitting program would apply to GHGs on that date. However, the Tailoring Rule, noted above, proposed various options for phasing in PSD requirements for sources emitting GHGs in various amounts above 100 or 250 tons per year. Since EPA has not yet completed that rulemaking, today's action concludes only that, under the approach envisioned for the vehicle standards, GHGs would not be considered "subject to regulation" (and no source would be subject to PSD permitting requirements for GHGs) earlier than January 2, 2011. The final Tailoring Rule will address the applicability of PSD requirements for GHG-emitting sources that are not presently subject to PSD permitting.

EPA's determination that PSD will begin to apply to GHGs on January 2, 2011 is based on the following considerations: (1) The overall interpretation reflected in the PSD Interpretive Memo; (2) EPA's conclusion in this notice that a pollutant becomes subject to regulation when controls "take effect," and (3) the assumption that the agency will establish emissions standards for model year 2012 vehicles when it completes the proposed LDV Rule.

As proposed, the LDV Rule consists of two kinds of standards-fleet average standards determined by the emissions performance of a manufacturer's fleet of various models, and separate vehicle standards that apply for the useful life of a vehicle to the various models that make up the manufacturer's fleet. CAA section 203(a)(1) prohibits manufacturers from introducing a new motor vehicle into commerce unless the vehicle is covered by an EPA-issued certificate of conformity for the appropriate model year. Section 206(a)(1) of the CAA describes the requirements for EPA issuance of a certificate of conformity, based on a demonstration of compliance with the emission standards established by EPA under section 202 of the Act. A certification demonstration requires emission testing, and must be done for each model year.

The certificate covers both fleet average and vehicle standards, and the manufacturer has to demonstrate compliance with both of these standards for purposes of receiving a certificate of conformity. The demonstration for the fleet average is based on a projection of sales for the model year, and the demonstration for the vehicle standard is based on emissions testing and other information.

Both the fleet average and vehicle standards in the LDV Rule will require that automakers control or limit GHG emissions from the tailpipes of these vehicles. As such, they clearly constitute "regulation" of GHGs under the interpretation in the PSD Interpretive Memo. This view is consistent with the position originally expressed by EPA in 1978 that a pollutant regulated in a Title II regulation is a pollutant subject to regulation. *See* 42 FR at 57481. However, the regulation of GHGs will not actually take effect upon promulgation of the LDV Rule or on the effective date of the LDV Rule when the provisions of the rule are incorporated into the Code of Federal Regulations.

Under the LDV Rule, the standards for GHG emissions are not operative until the 2012 model year, which may begin as early as January 2, 2011. In accordance with the requirements of Title II of the CAA and associated regulations, vehicle manufacturers may not introduce a model year 2012 vehicle into commerce without a model year 2012 certificate of conformity. *See* CAA section 203(a)(1). A model year 2012 certificate only applies to vehicles produced during that model year, and the model year production period may begin no earlier than January 2, 2011. *See* CAA section 202(b)(3)(A) and implementing regulations at 40 CFR 85.2302 through 85.2305. Thus, a vehicle manufacturer may not introduce a model year 2012 vehicle into commerce prior to January 2, 2011.

There will be no controls or limitations on GHG emissions from model year 2011 vehicles. The obligation on an automaker for a model year 2012 vehicle would be to have a certificate of conformity showing compliance with the emissions standards for GHGs when the vehicle is introduced into commerce, which can occur on or after January 2, 2011. Therefore, the controls on GHG emissions in the Light Duty Rule will not take effect until the first date when a 2012 model year vehicle may be introduced into commerce. In other words, the compliance obligation under the LDV Rule does not occur until a manufacturer may introduce into commerce vehicles that are required to comply with GHG standards, which will begin with MY 2012 and will not occur before January 2, 2011. Since CAA section 203(a)(1) prohibits manufacturers from introducing a new motor vehicle into commerce unless the vehicle is covered by an EPA-issued certificate of conformity for the appropriate model year, as of January 2, 2011, manufacturers will be precluded from introducing into commerce any model year 2012 vehicle that has not been certified to meet the applicable standards for GHGs.

This interpretation of when the GHG controls in the LDV Rule take effect, and therefore, make GHGs subject to regulation under the Act for PSD purposes, is consistent with the statutory language in section 202(a)(2) of the CAA. This section provides that "any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." *See* 42 U.S.C. 7521(a)(2) (emphasis added). The final LDV Rule will apply to model years 2012 through 2016. The time leading up to the introduction of model year 2012 is the time that EPA "finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period." Model year 2012 is therefore when the GHG standards in the rule "take effect."

EPA does not agree with several commenters who have suggested that the GHG standards in the proposed LDV Rule would not take effect until October 1, 2011. The latter date appears to be based on how the National Highway Traffic Safety Administration (NHTSA) determines the beginning of the 2012 model year under the Energy Policy and Conservation Act (EPCA). Under EPCA, a more stringent CAFE standard must be prescribed by NHTSA at least 18 months before the beginning of the model year. For purposes of this EPCA provision, NHTSA has historically construed the beginning of the model year to be October 1 of the preceding calendar year. *See* 49 U.S.C. 32902(g)(2); 74 FR 49454, 49644 n.447 (Sep. 28, 2009). Although EPA has endeavored to harmonize its section 202(a) standards with the NHTSA CAFE standards, EPA's standards are promulgated under distinct legal authority in the CAA. Thus, the section 202(a) standards promulgated in the LDV Rule are not subject to EPCA or NHTSA's interpretation of when a model year begins for purposes of EPCA. Under EPA's planned LDV Rule, model year 2012 vehicles may be introduced into commerce as early as January 2, 2011. Although as a practical matter, some U.S. automakers may not begin introducing model year 2012 vehicles into commerce until later in 2011, they may nevertheless do so as early as January 2, 2011 under EPA's regulations. Consistent with the discussion above, EPA construes the phrase "subject to regulation" in section 165(a)(4) and 169(3) of the Act to mean that the BACT requirement applies when controls on a pollutant first apply to a regulated activity, and not the point at which an entity first engages in the regulated activity. In this instance, the regulated activity is the introduction of model year 2012 vehicles into commerce. As of January 2, 2011, a manufacturer may not engage in this activity without complying with the applicable GHG standards.

Likewise, EPA does not agree with commenters who argued that EPA should not consider the GHG controls in the LDV Rule to take effect until automakers have to demonstrate compliance with the fleet average standards at the end of the model year, based on actual vehicle model production. As discussed above, the LDV Rule includes both fleet average standards and vehicle standards that apply to individual vehicles throughout their useful lives. As discussed above, both of these standards for GHG emissions are operative on model year 2012 vehicles introduced into commerce on or after January 2, 2011. Thus, controls on GHG emissions from automobiles will take effect prior to the date that a manufacturer must demonstrate compliance with the fleet average standards. The fact that the manufacturer demonstrates final compliance with the fleet average at a later date, based on production for the entire year, does not change the fact that their conduct was controlled by both the fleet average and the vehicle standards, and subject to regulation, prior to that date.

B. Implementation Concerns

A substantial number of commenters requested that EPA defer application of the PSD program requirements to GHGs based on various practical implementation considerations, and several of these comments argued that the CAA affords EPA the discretion to set an implementation date based on such concerns. EPA agrees that application of PSD program requirements to GHGs presents several significant implementation challenges for EPA, States and other entities that issue permits, and the sources that must obtain permits. Indeed, many of the public comments have illustrated the magnitude of the challenge beyond what is described in the proposed notice on reconsideration of the PSD Interpretive Memo and the proposed Tailoring Rule.

In recognition of the substantial challenges associated with incorporating GHGs into the PSD program, EPA's preference would be to establish a specific date when the PSD permitting requirements initially apply to GHGs based solely on these practical implementation considerations. However, EPA has not been persuaded that it has the authority to proceed in this manner. While EPA may have discretion as to the manner and time for regulating GHG emissions under the CAA, once EPA has determined to regulate a pollutant in some form under the Act and such regulation is operative on the regulated activity, the terms of the Act make clear that the PSD program is automatically applicable.

Nonetheless, given the substantial magnitude of the PSD implementation challenges presented by the regulation of GHGs, EPA proposed in the Tailoring Rule to at least temporarily limit the scope of GHG sources covered by the PSD program to ensure that permitting authorities can effectively implement it. EPA based the proposal primarily on two legal doctrines: The "absurd results" doctrine, which EPA proposed to apply on the basis that Congress did not envision that the PSD program would apply to the many small sources that emit GHGs; and the "administrative necessity" doctrine, which EPA proposed to apply because of the extremely large administrative burdens that permitting authorities would confront in permitting the GHG sources. In comment on that action, as well as in comments on the

PSD Interpretive Memo reconsideration proposal, EPA received numerous suggestions that it is necessary to limit the scope of sources covered at the time GHGs become subject to regulation. Commenters further stated that it is necessary to select a "trigger date" for GHG permitting that takes into account the time needed for permitting authorities to adopt any scope-limiting measures (including the need to amend State law), to secure the necessary additional financial and other resources, and to hire and train the staff needed to respond to the increase in permitting workload. These comments make clear that more time will be needed beyond January 2, 2011 before permitting of many GHG stationary sources can begin. Thus, EPA will be taking additional action in the near future in the context of the Tailoring Rule to address GHG-specific circumstances that will exist beyond January 2, 2011.

C. Interim EPA Policy To Mitigate Concerns Regarding GHG Emissions From Construction or Modification of Large Stationary Sources

While EPA has concluded that GHGs will not become subject to regulation (and hence the PSD BACT requirement will not apply to them) earlier than January 2, 2011, permitting authorities that issue permits before January 2, 2011 are already in a position to, and should, use the discretion currently available under the BACT provisions of the PSD program to promote technology choices for control of criteria pollutants that will also facilitate the reduction of GHG emissions. More specifically, the CAA BACT definition requires permitting authorities selecting BACT to consider the reductions available through application of not only control methods, systems, and techniques, but also through production processes, and requires them to take into account energy, environmental, and economic impacts. Thus, the statute expresses the need for a comprehensive review of available pollution control methods when evaluating BACT that clearly requires consideration of energy efficiency. The consideration of energy efficiency is important because it contributes to reduction of pollutants to which the PSD requirements currently apply and have historically been applied. Further, although BACT does not now apply to GHG, BACT for other pollutants can, through application of more efficient production processes, indirectly result in lower GHG emissions.

Neither the statute nor EPA regulations specify precisely how to address energy efficiency in BACT determinations, nor has EPA fully articulated how to take climate considerations into account under the "energy, environmental, and economic impacts" considerations of BACT. Further, while EPA's BACT guidance for currently regulated pollutants has addressed some facets of these issues, EPA believes that, given the potential importance of the indirect GHG benefits, it will be useful for EPA to summarize this guidance and further clarify it as necessary in order to further illustrate where PSD permitting authorities should be using existing BACT authority for pollutants that are presently regulated in ways that can indirectly address concerns about GHG emissions from large stationary sources. EPA is developing such guidance and plans to issue it in the near future.

D. Transition for Pending Permit Applications

Some commenters requested that EPA address the question of how the application of PSD requirements to GHGs will affect applications for PSD permits that are pending on the date GHGs initially become "subject to regulation." These commenters generally asked that EPA establish an exclusion for any PSD permit application that was submitted in complete form before the date on which PSD begins to apply to GHGs.

In light of EPA's conclusion that pollutants become subject to regulation for PSD purposes when control requirements on that pollutant take effect and that such requirements will not take effect for GHGs until January 2, 2011 if EPA finalizes the proposed LDV Rule as anticipated, EPA does not see any grounds to establish a transition period for permit applications that are pending before GHGs become subject to regulation. As a general matter, permitting and licensing decisions of regulatory agencies must reflect the law in effect at the time the agency makes a final determination on a pending application. *See Ziffrin v. United States*, 318 U.S. 73, 78 (1943); *State of Alabama v. EPA*, 557 F.2d 1101, 1110 (5th Cir. 1977); In re: Dominion Energy Brayton Point, LLC, 12 E.A.D. 490, 614-616 (EAB 2006); In re Phelps Dodge Corp., 10 E.A.D. 460, 478 n.10 (EAB 2002). Thus, in the absence of an explicit transition or grandfathering provision in the applicable regulations (and assuming EPA finalizes the LDV Rule as planned), each PSD permit issued on or after January 2, 2011 would need to contain provisions that satisfy the PSD requirements that will apply to GHGs as of that date.

Under certain circumstances, EPA has previously allowed proposed new major sources and major modifications that have submitted a complete PSD permit application before a new requirement becomes applicable under PSD regulations, but have not yet received a final and effective PSD permit, to continue relying on information already in the application rather than immediately having to amend applications to demonstrate compliance with the new PSD requirements. In such a way, these proposed sources and modifications were "grandfathered" or exempted from the new PSD requirements that would otherwise have applied to them.

For example, EPA adopted a grandfathering provision when it changed the indicator for the particulate matter NAAQS from total suspended particulate matter (TSP) to particulate matter less than 10 microns (PM10). The Federal PSD regulations at 40 CFR 52.21(i)(1)(x) provide that the owners or operators of proposed sources or modifications that submitted a complete permit application before July 31, 1987, but did not yet receive the PSD permit, are not required to meet the requirements for PM10, but could instead satisfy the requirements for TSP that were previously in effect.

In addition, EPA has allowed some grandfathering for permit applications submitted before the effective date of an amendment to the PSD regulations establishing new maximum allowable increases in pollutant concentrations (also known as PSD "increments"). The Federal PSD regulations at 40 CFR 52.21(i)(10) provide that proposed sources or modifications that submitted a complete permit application before the effective date of the increment in the applicable implementation plan are not required to meet the increment requirements for PM10, but could instead satisfy the increment requirements for TSP that were previously in effect. Also, 40 CFR 52.21(i)(9) provides that sources or modifications that submitted a complete permit application before the provisions embodying the maximum allowable increase for nitrogen oxides (NO_X)[14] took effect, but did not yet receive a final and effective PSD permit, are not required to demonstrate compliance with the new increment requirements to be eligible to receive the permit.

Under the particular circumstances presented by the forthcoming application of PSD requirements to GHGs, EPA does not see a justification for adopting an explicit grandfathering provision of the nature described above. Permit applications submitted prior to the publication of this notice should in most cases be issued prior to January 2, 2011 and, thus, effectively have a transition period of nine months to complete processing before PSD requirements become applicable. Additional time for completion of action on applications submitted prior to the onset of PSD requirements for GHGs therefore does not appear warranted to ensure a smooth transition and avoid delays for pending applications. To the extent any pending permit review cannot otherwise be completed within the next nine months based on the requirements for pollutants other than GHGs, it should be feasible for permitting authorities to begin incorporating GHG considerations into permit reviews in parallel with the completion of work on other pollutants without adding any additional delay to permit processing.

Furthermore, the circumstances surrounding the onset of requirements for GHGs are distinguishable from prior situations where EPA has allowed grandfathering of applications that were deemed complete prior to the applicability new PSD permitting requirements. First, this action and the PSD Interpretive Memo do not involve a revision of the PSD permitting regulations but rather involves clarifications of how EPA interprets the existing regulatory text. This action articulates what has, in most respects, been EPA's longstanding practice. It has been EPA's consistent position since 1978 that regulation of a pollutant under Title II triggers PSD requirements for such a pollutant. *See* 42 FR 57481. Thus, permitting authorities and permit applicants could reasonably anticipate that completion of the LDV Rule would trigger PSD and prepare for this action. Many commenters interpreted EPA's October 7, 2009 notice as proposing to trigger PSD requirements within 60 days of the promulgation of the LDV Rule rather than the January 2, 2011 date that EPA has determined to be the date the controls in that rule take effect. Second, there are presently no regulatory requirements in effect for GHGs. On the other hand, at the time EPA moved from using TSP to using PM10 as the indicator for the particulate matter NAAQS, grandfathered sources were still required to satisfy PSD requirements for particulate matter based on the TSP indicator. Likewise, when EPA later updated the PSD increment for particulate matter to use the PM10 indicator, the grandfathered sources were still required to demonstrate that they would not cause or contribute to a violation of the particulate matter increment based on TSP. In the case of the adoption of the NO2 increment, grandfathered sources were still required to demonstrate that they would not cause or contribute to a violation of the NO2 NAAQS. In contrast, for GHGs, there are no measures currently in effect that serve to limit emission of GHGs from stationary sources.

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[14] The increments for emissions of the various oxides of nitrogen are expressed as concentrations of nitrogen dioxide (NO_2).

For these reasons, EPA does not intend to promulgate a transition or grandfathering provision that exempts pending permit applications from the onset of GHG requirements in the PSD program. As discussed above, in the absence of such a provision, PSD permits that are issued on or after January 2, 2011 (in accordance with limitations promulgated in the upcoming Tailoring Rule) will be required to contain provisions that fulfill the applicable program requirements for GHGs.

V. PSD Program Implementation by EPA and States

Consistent with the PSD Interpretive Memo, the refined interpretation reflected in this notice (that a pollutant subject to actual control becomes subject to regulation at the time such controls take effect) is an interpretation of the language in 40 CFR 52.21(b)(50) of EPA's regulations. EPA will apply the PSD Interpretive Memo, with the refinement described above, when implementing the Federal permitting program under 40 CFR 52.21. Furthermore, EPA will expect that States that implement the Federal PSD permit program under delegation from an EPA Regional Office will do the same.

In addition, EPA will apply the interpretation reflected in this notice and the PSD Interpretive Memo in its oversight of existing State programs and review and approval of new program submissions. Many States implement the PSD program pursuant to State laws that have been approved by EPA as part of the SIP, pursuant to a determination by EPA that such laws meet the PSD program criteria set forth in 40 CFR 51.166. The EPA regulation setting forth PSD program requirements for SIPs also includes the same definition of the term "regulated NSR pollutant" as the Federal program regulation. *See* 40 CFR

51.166(b)(49). Because this regulation uses the same language as contained in 40 CFR 52.21 and the same considerations apply to implementation of the PSD program under State laws, EPA will interpret section 51.166(b)(49) in the same manner as section 52.21(b)(50). However, in doing so, EPA will be mindful that permitting authorities in SIP-approved States have some independent discretion to interpret State laws, provided those interpretations are consistent with minimum requirements under the Federal law.

To the extent approved SIPs contain the same language as used in 40 CFR 52.21(b)(50) or 40 CFR 51.166(b)(49), SIP-approved State permitting authorities may interpret that language in State regulations in the same manner reflected in the PSD Interpretive Memo and this notice. However, EPA will not seek to preclude actions to address GHGs in PSD permitting actions prior to January 2, 2011 where a State permitting authority feels it has the necessary legal foundation and resources to do so.

EPA has not called on any States to make a SIP submission that addresses the interpretive issues addressed in this notice and the PSD Interpretive Memo. As long as States are applying their approved program regulations consistent with the minimum program elements established in 40 CFR 51.166, EPA does not believe it will be necessary to issue a SIP call for all States to address this issue. However, permitting authorities in SIP-approved States do not have the discretion to apply State laws in a manner that does not meet the minimum Federal standards in 40 CFR 51.166, as interpreted and applied by EPA. Thus, if a State is not applying the PSD requirements to GHGs for the required sources after January 2, 2011, or lacks the legal authority to do so, EPA will exercise its oversight authority as appropriate to call for revisions to SIPs and to otherwise ensure sources do not commence construction without permits that satisfy the minimum requirements of the Federal PSD program.

To enable EPA to assess the consistency of a State's action with any PSD program requirements for GHGs, States should ensure that the record for each PSD-permitting decision addresses whether the State has elected to follow EPA's interpretation or believes it is appropriate to apply a different interpretation of State laws that is nonetheless consistent with the requirements of EPA's PSD program regulations. In light of additional actions to be taken by EPA in the Tailoring Rule, States that issue permits in the near term may want to preserve the discretion to modify their approach after other EPA actions are finalized. In light of this contingency, one option States may consider is to establish that the State will not interpret its laws to require PSD permits for sources that are not required to obtain PSD permits under EPA regulations.

VI. Application of the Title V Program to Sources of GHGs

Although the PSD Interpretive Memorandum and the October 7, 2009 proposed reconsideration notice addressed only PSD permitting issues, EPA received several comments on the proposed reconsideration that also addressed the application of Title V permitting requirements to GHGs. Most of these comments urged EPA to apply the same approach for determining major source applicability for Title V permitting that EPA applies to PSD. EPA has in fact been following the PSD approach in many respects. As with the PSD program, currently GHGs are not considered to be subject to regulation and have not been considered to trigger applicability under Title V. EPA discussed this in the preamble to the proposed Tailoring Rule as described below. *See* 74 FR at 55300 n.8.

Title V requires, among other things, that any "major source"-defined, as relevant here, under CAA sections 302(j) and 501(2)(b), as "any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant * * *"-apply for a Title V permit. EPA interprets this requirement to apply to sources of pollutants "subject to regulation" under the Act. EPA previously articulated its interpretation that this Title V permitting requirement applies to "pollutants subject to regulation" in a 1993 memorandum from EPA's air program. Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, U.S. EPA, "Definition of Regulated Air Pollutant for Purposes of Title V" (Apr. 26, 1993) ("Wegman Memo"). EPA continues to maintain this interpretation. The interpretation in this memorandum was based on: (1) EPA's reading of the definitional chain for "major source" under Title V, including the definition of "air pollutant" under section 302(g) and the definition of "major source" under 302(j); (2) the view that Congress did not intend to require a variety of sources to obtain Title V permits if they are not otherwise regulated under the Act (*see also* CAA section 504(a), providing that Title V permits are to include and assure compliance with applicable requirements under the Act); and (3) consistency with the approach under the PSD program. While the specific narrow interpretation in the Wegman Memo of the definition of "air pollutant" in CAA section 302(g) is in question in light of Massachusetts (finding this definition to be "sweeping"), EPA believes the core rationale for its interpretation of the applicability of Title V remains sound. EPA continues to maintain its interpretation, consistent with CAA sections 302(j), 501, 502 and 504(a), that the provisions governing Title V applicability for "a major stationary source" can only be triggered by emissions of pollutants subject to regulation. This interpretation is based primarily on the purpose of Title V to collect all regulatory requirements applicable to a source and to assure compliance with such requirements-*see*, *e.g.*, CAA section 504(a)-and on the desire to promote consistency with the approach under the PSD program.

In applying this interpretation under Title V, the Wegman Memo also explains that EPA does not consider CO2 to be a pollutant subject to regulation based on the monitoring and reporting requirements of section 821 of the Clean Air Act Amendments of 1990. As articulated in numerous orders issued by EPA in response to petitions to object to Title V permits, EPA views the Title V operating permits program as a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and that compliance with these requirements is assured. *See*, *e.g.*, In the Matter of Fort James Camas Mill, Petition No. X-1999-1 at 3-4 (Dec. 22, 2000); In the Matter of Cash Creek Generation, LLC, Petition Nos. IV-2008-1 & IV-2008-2 at 2 (Dec. 15, 2009). The Wegman Memo points out that section 821 involves reporting and study of emissions, but is not related to actual control of emissions. Since the reporting requirements of section 821 have no connection to existing air quality control requirements, it is appropriate not to treat them as making CO2 "subject to regulation" for purposes of Title V. Cf. Section 504(b) (providing EPA authority to specify requirements for "monitoring and analysis of pollutants regulated under this Act.").

EPA has not previously explicitly considered the question of when a pollutant becomes "subject to regulation" under this established interpretation of the Title V requirements.[15] EPA received comments in this reconsideration proceeding specifically on the question of when a pollutant becomes subject to regulation for purposes of Title V. In light of these comments, and the decision to adopt a "takes effect" approach for PSD, EPA believes it is appropriate to address this issue for Title V with respect to GHG.

EPA is mindful of the different purposes for the PSD and Title V programs under the statute. While PSD results in substantive control requirements as necessary to meet air quality goals, Title V is focused on identifying, collecting, and assuring compliance with other Act requirements (including PSD), and generally does not itself result in new control requirements. Nevertheless, as reflected in the Wegman Memo, the two programs have historically followed the same approach for determining when a pollutant is "subject to regulation."[16] EPA believes that a "takes effect" approach to the triggering of new pollutants is desirable and appropriate for Title V, for many of the reasons described above for PSD. EPA is therefore generally inclined to follow the approach adopted today for PSD, and concludes that GHGs are "subject to regulation," for purposes of determining whether a source of GHGs is a "major source" for Title V, no earlier than the date on which a control requirement for GHGs "takes effect." EPA currently anticipates that the LDV Rule will be the first control requirement for GHGs to take effect. Under this approach, as with PSD, if the LDV Rule takes effect as of January 2, 2011, a source that is not currently subject to Title V for its GHG emissions could become so no earlier than January 2, 2011.[17]

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[15] The preamble to the proposed Tailoring Rule implicitly assumed that a pollutant will become "subject to regulation" for PSD and Title V at the same time (and, in one case, suggests that time will be on promulgation of the LDV Rule). The latter statement was based on the interpretation in the current PSD Interpretive Memorandum, but failed to note that EPA had proposed to change that interpretation in the October 7, 2009 notice (signed the same day as the proposed Tailoring Rule). *See* 74 FR at 55300 and 55340-41.

Finally, as with PSD, EPA expects that, beyond January 2, 2011, there will remain significant administrative and programmatic considerations associated with permitting of GHGs under Title V. In light of this, as discussed above with regard to PSD permitting, EPA will be further addressing in the final Tailoring Rule (to be promulgated in the near future) the manner in which sources can become subject to Title V as a result of their GHG emissions.

VII. Statutory Authority

The statutory authority for this action is provided by section 553 of the Administrative Procedure Act (5 U.S.C. 553) and the Clean Air Act (CAA), as amended (42 U.S.C. 7401 et seq.). Relevant portions of the CAA include, but are not necessarily limited to, sections 101, 165, 169, 301, 302, 307, 501, 502, and 504 (42 U.S.C. 7401, 7475, 7479, 7601, 7602, 7607, 7661, 7661a, and 7661d).

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[16] Wegman Memo at 5.

[17] This date is also when EPA expects the first CAA control program addressing GHGs at stationary sources (i.e., the PSD program) to be in place.

VIII. Judicial Review

This action is a nationally applicable final action under section 307(b) of the Act. As a result, any legal challenges to this action must be brought to the United States Court of Appeals for the District of Columbia Circuit by June 1, 2010.

Dated: March 29, 2010.

Lisa P. Jackson,

Administrator.

[FR Doc. 2010-7536 Filed 4-1-10; 8:45 a.m.]

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RULES AND REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY

40 CFR Chapter I
[EPA-HQ-OAR-2009-0171; FRL-9091-8]
RIN 2060-ZA14

Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act

Tuesday, December 15, 2009

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Administrator finds that six greenhouse gases taken in combination endanger both the public health and the public welfare of current and future generations. The Administrator also finds that the combined emissions of these greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas air pollution that endangers public health and welfare under CAA section 202(a). These Findings are based on careful consideration of the full weight of scientific evidence and a thorough review of numerous public comments received on the Proposed Findings published April 24, 2009.

DATES: These Findings are effective on January 14, 2010.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2009-0171. All documents in the docket are listed on the www.regulations.gov Web site. Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at EPA's Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Jeremy Martinich, Climate Change Division, Office of Atmospheric Programs (MC-6207J), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 343-9927; fax number: (202) 343-2202; e-mail address: ghgendangerment@epa.gov. For additional information regarding these Findings, please go to the Web site http://www.epa.gov/climatechange/endangerment.html.

SUPPLEMENTARY INFORMATION:

Judicial Review

Under CAA section 307(b)(1), judicial review of this final action is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by February 16, 2010. Under CAA section 307(d)(7)(B), only an objection to this final action that was raised with reasonable specificity during the period for public comment can be raised during judicial review. This section also provides a mechanism for us to convene a proceeding for reconsideration, "'[i]f the person raising an objection can demonstrate to EPA that it was impracticable to raise such objection within [the period for public comment] or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of this rule.' " Any person seeking to make such a demonstration to us should submit a Petition for Reconsideration to the Office of the Administrator, Environmental Protection Agency, Room 3000, Ariel Rios Building, 1200 Pennsylvania Ave., NW., Washington, DC 20004, with a copy to the person listed in the preceding FOR FURTHER INFORMATION CONTACT section, and the Associate General Counsel for the Air and Radiation Law Office, Office of General Counsel (Mail Code 2344A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20004.

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

ACUS Administrative Conference of the United States

ANPR Advance Notice of Proposed Rulemaking

APA Administrative Procedure Act

CAA Clean Air Act

CAFE Corporate Average Fuel Economy

CAIT Climate Analysis Indicators Tool

CASAC Clean Air Scientific Advisory Committee

CBI Confidential Business Information

CCSP Climate Change Science Program

CFCs chlorofluorocarbons

CFR Code of Federal Regulations

CH4 methane

CO_2 carbon dioxide

CO_2-e CO_2-equivalent

CRU Climate Research Unit

DOT U.S. Department of Transportation

EO Executive Order

EPA U.S. Environmental Protection Agency

FR Federal Register

GHG greenhouse gas

GWP global warming potential

HadCRUT Hadley Centre/Climate Research Unit (CRU) temperature record

HCFCs hydrochlorofluorocarbons

HFCs hydrofluorocarbons

IA Interim Assessment report

IPCC Intergovernmental Panel on Climate Change

MPG miles per gallon

MWP Medieval Warm Period

N_2O nitrous oxide

NAAQS National Ambient Air Quality Standards

NAICS North American Industry Classification System

NASA National Aeronautics and Space Administration

NF_3 nitrogen trifluoride

NHTSA National Highway Traffic Safety Administration

NOAA National Oceanic and Atmospheric Administration

NOI Notice of Intent

NO_X nitrogen oxides

NRC National Research Council

NSPS new source performance standards

NTTAA National Technology Transfer and Advancement Act of 1995

OMB Office of Management and Budget

PFCs perfluorocarbons

PM particulate matter

PSD Prevention of Significant Deterioration

RFA Regulatory Flexibility Act

SF_6 sulfur hexafluoride

SIP State Implementation Plan

TSD technical support document

U.S. United States

UMRA Unfunded Mandates Reform Act of 1995

UNFCCC United Nations Framework Convention on Climate Change

USGCRP U.S. Global Climate Research Program

VOC volatile organic compound(s)

WCI Western Climate Initiative

WRI World Resources Institute

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I. Introduction

A. Overview

Pursuant to CAA section 202(a), the Administrator finds that greenhouse gases in the atmosphere may reasonably be anticipated both to endanger public health and to endanger public welfare. Specifically, the Administrator is defining the "air pollution" referred to in CAA section 202(a) to be the mix of six long-lived and directly-emitted greenhouse gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). In this document, these six greenhouse gases are referred to as "well-mixed greenhouse gases" in this document (with more precise meanings of "long lived" and "well mixed" provided in Section IV.A).

The Administrator has determined that the body of scientific evidence compellingly supports this finding. The major assessments by the U.S. Global Climate Research Program (USGCRP), the Intergovernmental Panel on Climate Change (IPCC), and the National Research Council (NRC) serve as the primary scientific basis supporting the Administrator's endangerment finding.[1] The Administrator reached her determination by considering both observed and projected effects of greenhouse gases in the atmosphere, their effect on climate, and the public health and welfare risks and impacts associated with such climate change. The Administrator's assessment focused on public health and public welfare impacts within the United States. She also examined the evidence with respect to impacts in other world regions, and she concluded that these impacts strengthen the case for endangerment to public health and welfare because impacts in other world regions can in turn adversely affect the United States.

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[1] Section III of these Findings discusses the science on which these Findings are based. In addition, the Technical Support Document (TSD) accompanying these Findings summarizes the major assessments from the USGCRP, IPCC, and NRC.

The Administrator recognizes that human-induced climate change has the potential to be far-reaching and multi-dimensional, and in light of existing knowledge, that not all risks and potential impacts can be quantified or characterized with uniform metrics. There is variety not only in the nature and potential magnitude of risks and impacts, but also in our ability to characterize, quantify and project such impacts into the future. The Administrator is using her judgment, based on existing science, to weigh the threat for each of the identifiable risks, to weigh the potential benefits where relevant, and ultimately to assess whether these risks and effects, when viewed in total, endanger public health or welfare.

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public health by evaluating the risks associated with changes in air quality, increases in temperatures, changes in extreme weather events, increases in food- and water-borne pathogens, and changes in aeroallergens. The evidence concerning adverse air quality impacts provides strong and clear support for an endangerment finding. Increases in ambient ozone are expected to occur over broad areas of the country, and they are expected to increase serious adverse health effects in large population areas that are and may continue to be in nonattainment. The evaluation of the potential risks associated with increases in ozone in attainment areas also supports such a finding.

The impact on mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heat waves, also provides support for a public health endangerment finding. There are uncertainties over the net health impacts of a temperature increase due to decreases in cold-related mortality, but some recent evidence suggests that the net impact on mortality is more likely to be adverse, in a context where heat is already the leading cause of weather-related deaths in the United States.

The evidence concerning how human-induced climate change may alter extreme weather events also clearly supports a finding of endangerment, given the serious adverse impacts that can result from such events and the increase in risk, even if small, of the occurrence and intensity of events such as hurricanes and floods. Additionally, public health is expected to be adversely affected by an increase in the severity of coastal storm events due to rising sea levels.

There is some evidence that elevated carbon dioxide concentrations and climate changes can lead to changes in aeroallergens that could increase the potential for allergenic illnesses. The evidence on pathogen borne disease vectors provides directional support for an endangerment finding. The Administrator acknowledges the many uncertainties in these areas. Although these adverse effects provide some support for an endangerment finding, the Administrator is not placing primary weight on these factors.

Finally, the Administrator places weight on the fact that certain groups, including children, the elderly, and the poor, are most vulnerable to these climate-related health effects.

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public welfare by evaluating numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife. For each of these sectors, the evidence provides support for a finding of endangerment to public welfare. The evidence concerning adverse impacts in the areas of water resources and sea level rise and coastal areas provides the clearest and strongest support for an endangerment finding, both for current and future generations. Strong support is also found in the evidence concerning infrastructure and settlements, as well ecosystems and wildlife. Across the sectors, the potential serious adverse impacts of extreme events, such as wildfires, flooding, drought, and extreme weather conditions, provide strong support for such a finding.

Water resources across large areas of the country are at serious risk from climate change, with effects on water supplies, water quality, and adverse effects from extreme events such as floods and droughts. Even areas of the country where an increase in water flow is projected could face water resource problems from the supply and water quality problems associated with temperature increases and precipitation variability, as well as the increased risk of serious adverse effects from extreme events, such as floods and drought. The severity of risks and impacts is likely to increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

Overall, the evidence on risk of adverse impacts for coastal areas provides clear support for a finding that greenhouse gas air pollution endangers the welfare of current and future generations. The most serious potential adverse effects are the increased risk of storm surge and flooding in coastal areas from sea level rise and more intense storms. Observed sea level rise is already increasing the risk of storm surge and flooding in some coastal areas. The conclusion in the assessment literature that there is the potential for hurricanes to become more intense (and even some evidence that Atlantic hurricanes have already become more intense) reinforces the judgment that coastal communities are now endangered by human-induced climate change, and may face substantially greater risk in the future. Even if there is a low probability of raising the destructive power of hurricanes, this threat is enough to support a finding that coastal communities are endangered by greenhouse gas air pollution. In addition, coastal areas face other adverse impacts from sea level rise such as land loss due to inundation, erosion, wetland submergence, and habitat loss. The increased risk associated with these adverse impacts also endangers public welfare, with an increasing risk of greater adverse impacts in the future.

Strong support for an endangerment finding is also found in the evidence concerning energy, infrastructure, and settlements, as well ecosystems and wildlife. While the impacts on net energy demand may be viewed as generally neutral for purposes of making an endangerment determination, climate change is expected to result in an increase in electricity production, especially supply for peak demand. This may be exacerbated by the potential for adverse impacts from climate change on hydropower resources as well as the potential risk of serious adverse effects on energy infrastructure from extreme events. Changes in extreme weather events threaten energy, transportation, and water resource infrastructure. Vulnerabilities of industry, infrastructure, and settlements to climate change are generally greater in high-risk locations, particularly coastal and riverine areas, and areas whose economies are closely linked with climate-sensitive resources. Climate change will likely interact with and possibly exacerbate ongoing environmental change and environmental pressures in settlements, particularly in Alaska where indigenous communities are facing major environmental and cultural impacts on their historic lifestyles. Over the 21st century, changes in climate will cause some species to shift north and to higher elevations and fundamentally rearrange U.S. ecosystems. Differential capacities for range shifts and constraints from development, habitat fragmentation, invasive species, and broken ecological connections will likely alter ecosystem structure, function, and services, leading to predominantly negative consequences for biodiversity and the provision of ecosystem goods and services.

There is a potential for a net benefit in the near term[2] for certain crops, but there is significant

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[2] The temporal scope of impacts is discussed in more detail in Section III.C. The phrase "near term" as used in this document generally refers to the current time period from and the next few decades. The phrase "long term" generally refers to a time frame extending beyond that to approximately the middle to the end of this century.

uncertainty about whether this benefit will be achieved given the various potential adverse impacts of climate change on crop yield, such as the increasing risk of extreme weather events. Other aspects of this sector may be adversely affected by climate change, including livestock management and irrigation requirements, and there is a risk of adverse effect on a large segment of the total crop market. For the near term, the concern over the potential for adverse effects in certain parts of the agriculture sector appears generally comparable to the potential for benefits for certain crops. However, The body of evidence points towards increasing risk of net adverse impacts on U.S. food production and agriculture over time, with the potential for significant disruptions and crop failure in the future.

For the near term, the Administrator finds the beneficial impact on forest growth and productivity in certain parts of the country from elevated carbon dioxide concentrations and temperature increases to date is offset by the clear risk from the observed increases in wildfires, combined with risks from the spread of destructive pests and disease. For the longer term, the risk from adverse effects increases over time, such that overall climate change presents serious adverse risks for forest productivity. There is compelling reason to find that the support for a positive endangerment finding increases as one considers expected future conditions where temperatures continue to rise.

Looking across all of the sectors discussed above, the evidence provides compelling support for finding that greenhouse gas air pollution endangers the public welfare of both current and future generations. The risk and the severity of adverse impacts on public welfare are expected to increase over time.

The Administrator also finds that emissions of well-mixed greenhouse gases from the transportation sources covered under CAA section 202(a)[3] contribute to the total greenhouse gas air pollution, and thus to the climate change problem, which is reasonably anticipated to endanger public health and welfare. The Administrator is defining the air pollutant that contributes to climate change as the aggregate group of the well-mixed greenhouse gases. The definition of air pollutant used by the Administrator is based on the similar attributes of these substances. These attributes include the fact that they are sufficiently long-lived to be well mixed globally in the atmosphere, that they are directly emitted, and that they exert a climate warming effect by trapping outgoing, infrared heat that would otherwise escape to space, and that they are the focus of climate change science and policy.

In order to determine if emissions of the well-mixed greenhouse gases from CAA section 202(a) source categories contribute to the air pollution that endangers public health and welfare, the Administrator compared the emissions from these CAA section 202(a) source categories to total global and total U.S. greenhouse gas emissions, finding that these source categories are responsible for about 4 percent of total global well-mixed greenhouse gas emissions and just over 23 percent of total U.S. well-mixed greenhouse gas emissions. The Administrator found that these comparisons, independently and together, clearly establish that these emissions contribute to greenhouse gas concentrations. For example, the emissions of well-mixed greenhouse gases from CAA section 202(a) sources are larger in magnitude than the total well-mixed greenhouse gas emissions from every other individual nation with the exception of China, Russia, and India, and are the second largest emitter within the United States behind the electricity generating sector. As the Supreme Court noted, "[j]udged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations and hence, * * * to global warming." *Massachusetts v. EPA*, 549 U.S. 497, 525 (2007).

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[3] Section 202(a) source categories include passenger cars, heavy-, medium and light-duty trucks, motorcycles, and buses.

The Administrator's findings are in response to the Supreme Court's decision in *Massachusetts v. EPA*. That case involved a 1999 petition submitted by the International Center for Technology Assessment and 18 other environmental and renewable energy industry organizations requesting that EPA issue standards under CAA section 202(a) for the emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from new motor vehicles and engines. The Administrator's findings are in response to this petition and are for purposes of CAA section 202(a).

B. Background Information Helpful To Understand These Findings

This section provides some basic information regarding greenhouse gases and the CAA section 202(a) source categories, as well as the ongoing joint-rulemaking on greenhouse gases by EPA and the Department of Transportation. Additional technical and legal background, including a summary of the Supreme Court's *Massachusetts v. EPA* decision, can be found in the Proposed Endangerment and Contribution Findings (74 FR 18886, April 24, 2009).

1. Greenhouse Gases and Transportation Sources Under CAA Section 202(a)

Greenhouse gases are naturally present in the atmosphere and are also emitted by human activities. Greenhouse gases trap the Earth's heat that would otherwise escape from the atmosphere, and thus form the greenhouse effect that helps keep the Earth warm enough for life. Human activities are intensifying the naturally-occurring greenhouse effect by adding greenhouse gases to the atmosphere. The primary greenhouse gases of concern that are directly emitted by human activities include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Other pollutants (such as aerosols) and other human activities, such as land use changes that alter the reflectivity of the Earth's surface, also cause climatic warming and cooling effects. In these Findings, the term "climate change" generally refers to the global warming effect plus other associated changes (e.g., precipitation effects, sea level rise, changes in the frequency and severity of extreme weather events) being induced by human activities, including activities that emit greenhouse gases. Natural causes also, contribute to climate change and climatic changes have occurred throughout the Earth's history. The concern now, however, is that the changes taking place in our atmosphere as a result of the well-documented buildup of greenhouse gases due to human activities are changing the climate at a pace and in a way that threatens human health, society, and the natural environment. Further detail on the state of climate change science can be found in Section

III of these Findings as well as the technical support document (TSD) that accompanies this action (www.epa.gov/climatechange/endangerment.html).

The transportation sector is a major source of greenhouse gas emissions both in the United States and in the rest of the world. The transportation sources covered under CAA section 202(a)-the section of the CAA under which these Findings occur-include passenger cars, light- and heavy-duty trucks, buses, and motorcycles. These transportation sources emit four key greenhouse gases: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. Together, these transportation sources are responsible for 23 percent of total annual U.S. greenhouse gas emissions, making this source the second largest in the United States behind electricity generation.[4]

Further discussion of the emissions data supporting the Administrator's cause or contribute finding can be found in Section V of these Findings, and the detailed greenhouse gas emissions data for section 202(a) source categories can be found in Appendix B of EPA's TSD.

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[4] The units for greenhouse gas emissions in these findings are provided in carbon dioxide equivalent units, where carbon dioxide is the reference gas and every other greenhouse gas is converted to its carbon dioxide equivalent by using the 100-year global warming potential (as estimated by the Intergovernmental Panel on Climate Change (IPCC). assigned to each gas. The reference gas used is CO-T22, and therefore Global Warming Potential (GWP)-weighted emissions are measured in teragrams of CO-T22 equivalent (Tg CO-T22 eq.). In accordance with UNFCCC reporting procedures, the United States quantifies greenhouse gas emissions using the 100-year time frame values for GWPs established in the IPCC Second Assessment Report.

2. Joint EPA and Department of Transportation Proposed Greenhouse Gas Rule

On September 15, 2009, EPA and the Department of Transportation's National Highway Safety Administration (NHTSA) proposed a National Program that would dramatically reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States. The combined EPA and NHTSA standards that make up this proposed National Program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They proposed to require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these proposed standards would cut carbon dioxide emissions by an estimated 950 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The proposed rulemaking can be viewed at (74 FR 49454, September 28, 2009).

C. Public Involvement

In response to the Supreme Court's decision, EPA has been examining the scientific and technical basis for the endangerment and cause or contribute decisions under CAA section 202(a) since 2007. The science informing the decision-making process has grown stronger since our work began. EPA's approach to evaluating the science, including comments submitted during the public comment period, is further discussed in Section III.A of these Findings.

Public review and comment has always been a major component of EPA's process.

1. EPA's Initial Work on Endangerment

As part of the Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act (73 FR 44353) published in July 2008, EPA provided a thorough discussion of the issues and options pertaining to endangerment and cause or contribute findings under the CAA. The Agency also issued a TSD providing an overview of all the major scientific assessments available at the time and emission inventory data relevant to the contribution finding (Docket ID No. EPA-HQ-OAR-2008-0318). The comment period for that Advance Notice was 120 days, and it provided an opportunity for EPA to hear from the public with regard to the issues involved in endangerment and cause or contribute findings as well as the supporting science. EPA received, reviewed and considered numerous comments at that time and this public input was reflected in the Findings that the Administrator proposed in April 2009. In addition, many comments were received on the TSD released with the Advance Notice and reflected in revisions to the TSD released in April 2009 to accompany the Administrator's proposal. All public comments on the Advance Notice are contained in the public docket for this action (Docket ID No. EPA-HQ-OAR-2008-0318) accessible through www.regulations.gov.

2. Public Involvement Since the April 2009 Proposed Endangerment Finding

The Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases (Proposed

Findings) was published on April 24, 2009 (74 FR 18886). The Administrator's proposal was subject to a 60-day public comment period, which ended June 23, 2009, and also included two public hearings. Over 380,000 public comments were received on the Administrator's proposed endangerment and cause or contribute findings, including comments on the elements of the Administrator's April 2009 proposal, the legal issues pertaining to the Administrator's decisions, and the underlying TSD containing the scientific and technical information.

A majority of the comments (approximately 370,000) were the result of mass mail campaigns, which are defined as groups of comments that are identical or very similar in form and content. Overall, about two-thirds of the mass-mail comments received are supportive of the Findings and generally encouraged the Administrator both to make a positive endangerment determination and implement greenhouse gas emission regulations. Of the mass mail campaigns in disagreement with the Proposed Findings most either oppose the proposal on economic grounds (e.g., due to concern for regulatory measures following an endangerment finding) or take issue with the proposed finding that atmospheric greenhouse gas concentrations endanger public health and welfare. Please note that for mass mailer campaigns, a representative copy of the comment is posted in the public docket for this Action (Docket ID No. EPA-HQ-OAR-2009-0171) at www.regulations.gov.

Approximately 11,000 other public comments were received. These comments raised a variety of issues related to the scientific and technical information EPA relied upon in making the Proposed Findings, legal and procedural issues, the content of the Proposed

Findings, and the implications of the Proposed Findings.

In light of the very large number of comments received and the significant overlap between many comments, EPA has not responded to each comment individually. Rather, EPA has summarized and provided responses to each significant argument, assertion and question contained within the totality of the comments. EPA's responses to some of the most significant comments are provided in these Findings. Responses to all significant issues raised by the comments are contained in the 11 volumes of the Response to Comments document, organized by subject area (found in docket EPA-HQ-OAR-2009-0171).

3. Issues Raised Regarding the Rulemaking Process

EPA received numerous comments on process-related issues, including comments urging the Administrator to delay issuing the final findings, arguing that it was improper for the Administrator to sever the endangerment and cause or contribute findings from the attendant section 202(a) standards, arguing the final decision was preordained by the President's May vehicle announcement, and questioning the adequacy of the comment period. Summaries of key comments and EPA's responses are discussed in this section. Additional and more detailed responses can be found in the Response to Comments document, Volume 11. As noted in the Response to Comments document, EPA also received comments supporting the overall process.

a. It Is Reasonable for the Administrator To Issue the Endangerment and Cause or Contribute Findings Now

Though the Supreme Court did not establish a specific deadline for EPA to act, more than two and a half years have passed since the remand from the Supreme Court, and it has been 10 years since EPA received the original petition requesting that EPA regulate greenhouse gas emissions from new motor vehicles. EPA has a responsibility to respond to the Supreme Court's decision and to fulfill its obligations under current law, and there is good reason to act now given the urgency of the threat of climate change and the compelling scientific evidence.

Many commenters urge EPA to delay making final findings for a variety of reasons. They note that the Supreme Court did not establish a deadline for EPA to act on remand. Commenters also argue that the Supreme Court's decision does not require that EPA make a final endangerment finding, and thus that EPA has discretionary power and may decline to issue an endangerment finding, not only if the science is too uncertain, but also if EPA can provide "some reasonable explanation" for exercising its discretion. These commenters interpret the Supreme Court decision not as rejecting all policy reasons for declining to undertake an endangerment finding, but rather as dismissing solely the policy reasons EPA set forth in 2003. Some commenters cite language in the

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one. EPA has satisfied all the requirements of CAA section 307(d). Indeed, the commenter itself "is not asserting that the Clean Air Act expressly requires" the additional procedures it requests. Moreover, the commenter does not discuss how the suggested formal proceeding would fit into the informal rulemaking requirements of CAA section 307(d) that do apply.

Formal rulemaking is very rarely used by Federal agencies. The formal rulemaking provisions of the APA are only triggered when the statute explicitly calls for proceedings "on the record after opportunity for an agency hearing." *United States v. Florida East Coast Ry. Co.*, 410 U.S. 224, 241 (1973). The mere mention of the word "hearing" does not trigger the formal rulemaking provisions of the APA. *Id.* The CAA does not include the statutory phrase required to trigger the formal rulemaking provisions of the APA (and as noted above the APA does not apply in the first place). Congress specified that certain rulemakings under the CAA follow the rulemaking procedures outlined in CAA section 307(d) rather than the APA "formal rulemaking" commenter suggests.

Despite the inapplicability of the formal rulemaking provisions to this action, commenters suggest that to refuse to voluntarily undertake rulemaking provisions not preferred by Congress would make EPA's rulemaking action an "abuse of discretion." EPA disagrees with this claim, and cases cited by the commenter do not indicate otherwise. To support the idea that an agency decision to engage in informal rulemaking could be an abuse of discretion, commenter cites *Ford Motor Co. v. FTC*, 673 F.2d 1008 (9th Cir. 1981). In *Ford Motor Co.*, the court ruled that the FTC's decision regarding an automobile dealership should have been resolved through a rulemaking rather than an individualized adjudication. *Id.* at 1010. In that instance, the court favored "rulemaking" over adjudication-not "formal rulemaking" over the far more common "informal rulemaking." The case stands only for the non-controversial proposition that sometimes agency use of adjudications may rise to an abuse of discretion where a rulemaking would be more appropriate-whether formal or informal. The Commenter does not cite a single judicial opinion stating that an agency abused its discretion by following the time-tested and Congressionally-favored informal rulemaking provisions of the CAA or the APA instead of the rarely used formal APA rulemaking provisions.

The commenter also alludes to the possibility that the choice of informal rulemaking may be "arbitrary and capricious. EPA disagrees that the choice to follow the frequently used, and CAA required, informal rulemaking procedures is arbitrary and capricious. The commenter cites Vermont Yankee Nuclear Power *Corp. v. NRDC*, 435 U.S. 519 (1978) for the proposition that "extremely compelling circumstances" could lead to a court overturning agency action for declining to follow extraneous procedures. As the commenter notes, in Vermont Yankee the Supreme Court overturned a lower court decision for imposing additional requirements not required by applicable statutes. Even if the dicta in Vermont Yankee could be applied contrary to the holding of the case in the way the commenter suggests, EPA's decision to follow frequently used informal rulemaking procedures for this action is highly reasonable.

As for the ACUS factors the commenter cites in support of its request, as the commenter notes, the ACUS factors are mere recommendations. While EPA certainly respects the views of ACUS, the recommendations are not binding on the Agency. In addition, EPA has engaged in a thorough, traditional rulemaking process that ensures that any concerns expressed by the commenter have been addressed. EPA has fully satisfied all applicable law in their consideration of this rulemaking.

Finally, as explained in Section III of these Findings and the Response to Comments document, EPA's approach to evaluating the evidence before it was entirely reasonable, and did not require a formal hearing. EPA relied primarily on robust synthesis reports that have undergone peer review and comment. The Agency also carefully considered the comments received on the Proposed Findings and TSD, including review of attached studies and documents. The public has had ample opportunity to provide its views on the science, and the record supporting these final findings indicates that EPA carefully considered and responded to significant public comments. To the extent the commenter's concern is that a formal proceeding will help ensure the right action in response to climate change is taken, that is not an issue for these Findings. As discussed in Section III of these Findings, this science-based judgment is not the forum for considering the potential mitigation options or their impact.

II. Legal Framework for This Action

As discussed in the Proposed Findings, two statutory provisions of the CAA govern the Administrator's Findings. Section 202(a) of the CAA sets forth a two-part test for regulatory action under that provision: Endangerment and cause or contribute. Section 302 of the CAA contains definitions of the terms "air pollutant" and "effects on welfare". Below is a brief discussion of these statutory provisions and how they govern the Administrator's decision, as well as a summary of significant legal comments and EPA's responses to them.

A. Section 202(a) of the CAA-Endangerment and Cause or Contribute

1. The Statutory Framework

Section 202(a)(1) of the CAA states that:

> The Administrator shall by regulation prescribe (and from time to time revise) standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [her] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

Based on the text of CAA section 202(a) and its legislative history, the Administrator interprets the two-part test as follows. Further discussion of this two-part test can be found in Section II of the preamble for the Proposed Findings. First, the Administrator is required to protect public health and welfare, but she is not asked to wait until harm has occurred. EPA must be ready to take regulatory action to prevent harm before it occurs. Section 202(a)(1) requires the Administrator to "anticipate" "danger" to public health or welfare. The Administrator is thus to consider both current and future risks. Second, the Administrator is to exercise judgment by weighing risks, assessing potential harms, and making reasonable projections of future trends and possibilities. It follows that when exercising her judgment the Administrator balances the likelihood and severity of effects. This balance involves a sliding scale; on one end the severity of the effects may be of great concern, but the likelihood low, while on the other end the severity may be less, but the likelihood high. Under either scenario, the

Administrator is permitted to find endangerment. If the harm would be catastrophic, the Administrator is permitted to find endangerment even if the likelihood is small.

Because scientific knowledge is constantly evolving, the Administrator may be called upon to make decisions while recognizing the uncertainties and limitations of the data or information available, as risks to public health or welfare may involve the frontiers of scientific or medical knowledge. At the same time, the Administrator must exercise reasoned decision making, and avoid speculative inquiries. Third, as discussed further below, the Administrator is to consider the cumulative impact of sources of a pollutant in assessing the risks from air pollution, and is not to look only at the risks attributable to a single source or class of sources. Fourth, the Administrator is to consider the risks to all parts of our population, including those who are at greater risk for reasons such as increased susceptibility to adverse health effects. If vulnerable subpopulations are especially at risk, the Administrator is entitled to take that point into account in deciding the question of endangerment. Here too, both likelihood and severity of adverse effects are relevant, including catastrophic scenarios and their probabilities as well as the less severe effects. As explained below, vulnerable subpopulations face serious health risks as a result of climate change.

In addition, by instructing the Administrator to consider whether emissions of an air pollutant cause or contribute to air pollution, the statute is clear that she need not find that emissions from any one sector or group of sources are the sole or even the major part of an air pollution problem. The use of the term "contribute" clearly indicates a lower threshold than the sole or major cause. Moreover, the statutory language in CAA section 202(a) does not contain a modifier on its use of the term contribute. Unlike other CAA provisions, it does not require "significant" contribution. *See*, *e.g*., CAA sections 111(b); 213(a)(2), (4). To be sure, any finding of a "contribution" requires some threshold to be met; a truly trivial or de minimis "contribution" might not count as such. The Administrator therefore has ample discretion in exercising her reasonable judgment in determining whether, under the circumstances presented, the cause or contribute criterion has been met. Congress made it clear that the Administrator is to exercise her judgment in determining contribution, and authorized regulatory controls to address air pollution even if the air pollution problem results from a wide variety of sources. While the endangerment test looks at the entire air pollution problem and the risks it poses, the cause or contribute test is designed to authorize EPA to identify and then address what may well be many different sectors or groups of sources that are each part of-and thus contributing to-the problem.

This framework recognizes that regulatory agencies such as EPA must be able to deal with the reality that "[m]an's ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations." *See Ethyl Corp v. EPA*, 541 F.2d 1, 6 (DC Cir.), cert. denied 426 U.S. 941 (1976). Both "the Clean Air Act 'and common sense * * * demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable.' " *See Massachusetts v. EPA*, 549 U.S. at 506, n.7 (*citing Ethyl Corp*.).

The Administrator recognizes that the context for this action is unique. There is a very large and comprehensive base of scientific information that has been developed over many years through a global consensus process involving numerous scientists from many countries and representing many disciplines. She also recognizes that there are varying degrees of uncertainty across many of these scientific issues. It is in this context that she is exercising her judgment and applying the statutory framework. As discussed in the Proposed Findings, this interpretation is based on and supported by the language in CAA section 202(a), its legislative history and case law.

2. Summary of Response to Key Legal Comments on the Interpretation of the CAA Section 202(a) Endangerment and Cause or Contribute Test

EPA received numerous comments regarding the interpretation of CAA section 202(a) set forth in the Proposed Findings. Below is a brief discussion of some of the key adverse legal comments and EPA's responses. Other key legal comments and EPA's responses are provided in later sections discussing the Administrator's findings.

Additional and more detailed summaries and responses can be found in the Response to Comments document. As noted in the Response to Comments document, EPA also received comments supporting its legal interpretations.

a. The Administrator Properly Interpreted the Precautionary and Preventive Nature of the Statutory Language

Various commenters argue either that the endangerment test under CAA section 202(a) is not precautionary and preventive in nature, or that EPA's interpretation and application is so extreme that it is contrary to what Congress intended in 1977, and effectively guarantees an affirmative endangerment finding. Commenters also argue that the endangerment test improperly shifts the burdens to the opponents of an endangerment finding and is tantamount to assuming the air pollution is harmful unless it is shown to be safe.

EPA rejects the argument that the endangerment test in CAA section 202(a) is not precautionary or preventive in nature. As discussed in more detail in the proposal, Congress relied heavily on the en banc decision in *Ethyl* when it revised section 202(a) and other CAA provisions to adopt the current language on endangerment and contribution. 74 FR 18886, 18891-2. The *Ethyl* court could not have been clearer on the precautionary nature of a criteria based on endangerment. The court rejected the argument that EPA had to find actual harm was occurring before it could make the required endangerment finding. The court stated that:

The Precautionary Nature of "Will Endanger." Simply as a matter of plain meaning, we have difficulty crediting petitioners' reading of the "will endanger" standard. The meaning of "endanger" is not disputed. Case law and dictionary definition agree that endanger means something less than actual harm. When one is endangered, harm is threatened;

no actual injury need ever occur. Thus, for example, a town may be "endangered" by a threatening plague or hurricane and yet emerge from the danger completely unscathed. A statute allowing for regulation in the face of danger is, necessarily, a precautionary statute. Regulatory action may be taken before the threatened harm occurs; indeed, the very existence of such precautionary legislation would seem to demand that regulatory action precede, and, optimally, prevent, the perceived threat. As should be apparent, the "will endanger" language of Section 211(c)(1)(A) makes it such a precautionary statute. *Ethyl* at 13 (footnotes omitted).

Similarly, the court stated that "[i]n sum, based on the plain meaning of the statute, the juxtaposition of CAA section 211 with CAA sections 108 and 202, and the Reserve Mining precedent, we conclude that the "will endanger" standard is precautionary in nature and does not require proof of actual harm before regulation is appropriate." *Ethyl* at 17. It is this authority to act before harm has occurred that makes it a preventive, precautionary provision.

It is important to note that this statement was in the context of rejecting an argument that EPA had to prove actual harm before it could adopt fuel control regulations under then CAA section 211(c)(1). The court likewise rejected the argument that EPA had to show that such harm was "probable." The court made it clear that determining endangerment entails judgments involving both the risk or likelihood of harm and the severity of the harm if it were to occur. Nowhere did the court indicate that the burden was on the opponents of an endangerment finding to show that there was no endangerment. The opinion focuses on describing the burden the statute places on EPA, rejecting *Ethyl*'s arguments of a burden to show actual or probable harm.

Congress intentionally adopted a precautionary and preventive approach. It stated that the purpose of the 1977 amendments was to "emphasize the preventive or precautionary nature of the act, i.e., to assure that regulatory action can effectively prevent harm before it occurs; to emphasize the predominate value of protection to public health."[6] Congress also stated that it authorized the Administrator to weigh risks and make projections of future trends, a "middle road between those who would impose a nearly impossible standard of proof on the Administrator before he may move to protect public health and those who would shift the burden of proof for all pollutants to make the pollutant source prove the safety of its emissions as a condition of operation." *Leg. His*. at 2516.

Thus, EPA rejects commenters' arguments. Congress intended this provision to be preventive and precautionary in nature, however it did not shift the burden of proof to opponents of an endangerment finding to show safety or no endangerment. Moreover, as is demonstrated in the following, EPA has not shifted the burden of proof in the final endangerment finding, but rather is weighing the likelihood and severity of harms to arrive at the final finding. EPA has not applied an exaggerated or dramatically expanded precautionary principle, and instead has exercised judgment by weighing and balancing the factors that are relevant under this provision.

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[6] The Supreme Court recognized that the current language in section 202(a), adopted in 1977, is "more protective" than the 1970 version that was similar to the section 211 language before the DC Circuit in *Ethyl*. *Massachusetts v. EPA*, 549 U.S. at 506, fn 7.

b. The Administrator Does Not Need To Find That the Control Measures Following an Endangerment Finding Would Prevent at Least a Substantial Part of the Danger in Order To Find Endangerment

Several commenters argue that it is unlawful for EPA to make an affirmative endangerment finding unless EPA finds that the regulatory control measures contemplated to follow such a finding would prevent at least a substantial part of the danger from the global climate change at which the regulation is aimed. This hurdle is also described by commenters as the regulation "achieving the statutory objective of preventing damage", or "fruitfully attacking" the environmental and public health danger at hand by meaningfully and substantially reducing it. Commenters point to *Ethyl Corp. v. EPA*, 541 F.2d 1 (DC Cir. 1976) (en banc) as support for this view, as well as portions of the legislative history of this provision.

Commenters contend that EPA has failed to show that this required degree of meaningful reduction of endangerment would be achieved through regulation of new motor vehicles based on an endangerment finding. In making any such showing, commenters argue that EPA would need to account for the following: (1) The fact that any regulation would be limited to new motor vehicles, if not the subset of new motor vehicles discussed in the President's May 2009 announcement, (2) any increase in emissions from purchasers delaying purchases of new vehicles subject to any greenhouse gas emissions standards, or increasing the miles traveled of new vehicles with greater fuel economy, (3) the fact that only a limited portion of the new motor vehicle emissions of greenhouse gases would be controlled, (4) the fact that CAFE standards would effectively achieve the same reductions, and (5) the fact that any vehicle standards would not themselves reduce global temperatures. Some commenters refer to EPA's proposal for greenhouse gas emissions standards for new motor vehicles as support for these arguments, claiming the proposed new motor vehicle emission standards are largely duplicative of the standards proposed by the National Highway Traffic Safety Administration (NHTSA), and the estimates of the impacts of the proposed standards confirm that EPA's proposed standards cannot "fruitfully attack" global climate change (74 FR 49454, September 28, 2009).

Commenters attempt to read into the statute a requirement that is not there. EPA interprets the endangerment provision of CAA section 202(a) as not requiring any such finding or showing as described by commenters. The text of CAA section 202(a) does not support such an interpretation. The endangerment provision calls for EPA, in its judgment, to determine whether air pollution is reasonably anticipated to endanger public health or welfare, and whether emissions from certain sources cause or contribute to such air pollution. If EPA makes an affirmative finding, then it shall set emissions standards applicable to emissions of such air pollutants from new motor vehicles. There is no reference in the text of the endangerment or cause or contribute provision to anything concerning the degree of reductions that would be achieved by the emissions standards that would follow such a finding. The Administrator's judgment is directed at the issues of endangerment and cause or contribute, not at how effective the resulting emissions control standards will be.

As in the several other similar provisions adopted in the 1977 amendments, in CAA section 202(a) Congress explicitly separated two different decisions to be made, providing different criteria for them. The first decision involves the air pollution and the endangerment criteria, and the contribution to the air pollution by the sources. The second decision involves how to regulate the sources to control the emissions if an affirmative endangerment and contribution finding are made. In all of the various provisions, there is broad similarity in the phrasing of the endangerment and contribution decision. However, for the decision on how to regulate, there are a wide variety of different approaches adopted by Congress. In some case, EPA has discretion whether to issue standards or not, while in other cases, as in CAA section 202(a), EPA is required to issue standards. In some cases, the regulatory criteria are general, as in CAA section 202(a); in others, they provide significantly more direction as to how standards are to be set, as in CAA section 213(a)(4).

As the Supreme Court made clear in *Massachusetts v. EPA*, EPA's judgment in making the endangerment and contribution findings is constrained by the statute, and EPA is to decide these issues based solely on the scientific and other evidence relevant to that decision. EPA may not "rest[] on reasoning divorced from the statutory text," and instead EPA's exercise of judgment must relate to whether an air pollutant causes or contributes to air pollution that endangers. *Massachusetts v. EPA*, 549 U.S. at 532. As the Supreme Court noted, EPA must "exercise discretion within defined statutory limits." *Id.* at 533. EPA's belief one way or the other regarding whether regulation of greenhouse gases from new motor vehicles would be "effective" is irrelevant in making the endangerment and contribution decisions before EPA. *Id.* Instead "[t]he statutory question is whether sufficient information exists to make an endangerment finding" *Id.* at 534.

The effectiveness of a potential future control strategy is not relevant to deciding whether air pollution levels in the atmosphere endanger. It is also not relevant to deciding whether emissions of greenhouse gases from new motor vehicles contribute to such air pollution. Commenters argue that Congress implicitly imposed a third requirement, that the future control strategy have a certain degree of effectiveness in reducing the endangerment before EPA could make the affirmative findings that would authorize such regulation. There is no statutory text that supports such an interpretation, and the Supreme Court makes it clear that EPA has no discretion to read this kind of additional factor into CAA section 202(a)'s endangerment and contribution criteria. In fact, the Supreme Court rejected similar arguments that EPA had the discretion to consider various other factors besides endangerment and contribution in deciding whether to deny a petition. *Massachusetts v. EPA*, 549 U.S. at 532-35.

Commenters point to language from the *Ethyl* case to support their position, noting that the DC Circuit referred to the emissions control regulation adopted by EPA under CAA section 211(c) as one that would "fruitfully attack" the environmental and public health danger by meaningfully and substantially reducing the danger. It is important to understand the context for this discussion in *Ethyl*. The petitioner Ethyl Corp. argued that EPA had to show that the health threat from the emissions of lead from the fuel additive being regulated had to be considered in isolation, and the threat "in and of itself" from the additive had to meet the test of endangerment in CAA section 211(c). EPA had rejected this approach, and had interpreted CAA section 211(c)(1) as calling for EPA to look at the cumulative impact of lead, and to consider the impact of lead from emissions related to use of the fuel additive in the context all other human exposure to lead. The court rejected *Ethyl's* approach and supported EPA's interpretation. The DC Circuit noted that Congress was fully aware that the burden of lead on the body was caused by multiple sources and that it would be of no value to try and determine the effect on human health from the lead automobile emissions by themselves. The court specifically noted that "the incremental effect of lead emissions on the total body lead burden is of no practical value in determining whether health is endangered," but recognized that this incremental effect is of value "in deciding whether the lead exposure problem can fruitfully be attacked through control of lead additives." *Ethyl*, 541 F.2d at 31 fn 62. The court made clear that the factor that was critically important to determining the effectiveness of the resulting control strategy-the incremental effect of automobile lead emissions on total body burden-was irrelevant and of no value in determining whether the endangerment criteria was met. Thus it is clear that the court in *Ethyl* did not interpret then CAA section 211(c)(1)(A) as requiring EPA to make a showing of the effectiveness of the resulting emissions control strategy, and instead found just the opposite, that the factors that would determine effectiveness are irrelevant to determining endangerment.

Commenters also cite to the legislative history, noting that Congress referred to the "preventive or precautionary nature of the Act, i.e., to assure that regulatory action can effectively prevent harm before it occurs." Leg. Hist. at 2516. However, this statement by Congress is presented as an answer to the question on page 2515, "Should the Administrator act to prevent harm before it occurs or should he be authorized to regulate an air pollutant only if he finds actual harm has already occurred." Leg. Hist. at 2515. In this context, the discussion on page 2516 clearly indicates that there is no opportunity for prevention or precaution if the test is one of actual harm already occurring. This discussion does not say or imply that even if the harm has not occurred, you cannot act unless you also show that your action will effectively address it. This discussion concerns the endangerment test, not the criteria for standard setting. The criteria for standard setting address how the agency should act to address the harm, and as the *Ethyl* case notes, the factors relevant to how to "fruitfully attack" the harm are irrelevant to determining whether the harm is one that endangers the public health or welfare.

As with current CAA section 202(a), there is no basis to conflate these two separate decisions and to read into the endangerment criteria an obligation that EPA show that the resulting emissions control strategy or strategies will have some significant degree of harm reduction or effectiveness in addressing the endangerment. The conflating of the two decisions is not supported in the text of this provision, by the Supreme Court in *Massachusetts v. EPA*, by the DC history of this provision. It would be an unworkable interpretation, calling for EPA to project out the result of perhaps not one, but even several, future rulemakings stretching over perhaps a decade or decades. Especially in the context of global climate change, the effectiveness of a control strategy for new motor vehicles would have to be viewed in the context of a number of future motor vehicle regulations, as well as in the larger context of the CAA and perhaps even global context. That would be an unworkable and speculative requirement to impose on EPA as a precondition to answering the public health and welfare issues before it, as they are separate and apart from the issues involved with developing, implementing and evaluating the effectiveness of emissions control strategies.

c. The Administrator Does Not Need To Find There Is Significant Risk of Harm

Commenters argue that Congress established a minimum requirement that there be a "significant risk of harm" to find endangerment. They contend that this requirement stemmed from the *Ethyl* case, and that Congress adopted this view. According to the commenters, the risk is the function of two variables: the nature of the hazard at issue and the likelihood of its occurrence. Commenters argue that Congress imposed a requirement that this balance demonstrate a "significant risk of harm" to strike a balance between the precautionary nature of the CAA and the burdensome economic and societal consequences of regulation.

There are two basic problems with the commenters' arguments. First, commenters equate "significant risk of harm" as the overall test for endangerment, however the *Ethyl* case and the legislative history treat the risk of harm as only one of the two components that are to be considered in determining endangerment.-, The two components are the likelihood or risk of a harm occurring, and the severity of harm if it were to occur. Second, commenters equate it to a minimum statutory requirement. However, while the court in the *Ethyl* case made it clear that the facts in that case met the then applicable endangerment criteria, it also clearly said it was not determining what other facts or circumstances might amount to endangerment, including cases where the likelihood of a harm occurring was less than a significant risk of the harm.

In the EPA rulemaking that led to the *Ethyl* case, EPA stated that the requirement to reduce lead in gasoline "is based on the finding that lead particle emissions from motor vehicles present a significant risk of harm to the health of urban populations, particularly to the health of city children" (38 FR 33734, December 6, 1973). The court in *Ethyl* supported EPA's determination, and addressed a variety of issues. First, it determined that the "will endanger" criteria of then CAA section 211(c) was intended to be precautionary in nature. It rejected arguments that EPA had to show proof of actual harm, or probable harm. *Ethyl*, 541 F.2d at 13-20. It was in this context, evaluating petitioner's arguments on whether the likelihood of a harm occurring had to rise to the level of actual or probable harm, that the court approved of EPA's view that a significant risk of harm could satisfy the statutory criteria. The precautionary nature of the provision meant that EPA did not need to show that either harm was actually occurring or was probable.

Instead, the court made it clear that the concept of endangerment is "composed of reciprocal elements of risk and harm," *Ethyl* at 18. This means "the public health may properly be found endangered both by a lesser risk of a greater harm and by a greater risk of lesser harm. Danger depends upon the relation between the risk and harm presented by each case, and cannot legitimately be pegged to 'probable' harm, regardless of whether that harm be great or small." The *Ethyl* court pointed to the decision by the 8th Circuit in *Reserve Mining Co. v. EPA*, 514 F.2d 492 (8th Cir, 1975), which interpreted similar language under the Federal Water Pollution Control Act, where the 8th Circuit upheld an endangerment finding in a case involving "reasonable medical concern," or a "potential" showing of harm. This was further evidence that a minimum "probable" likelihood of harm was not required.

The *Ethyl* court made it clear that there was no specific magnitude of risk of harm occurring that was required. "Reserve Mining convincingly demonstrates that the magnitude of risk sufficient to justify regulation is inversely proportional to the harm to be avoided." *Ethyl* at 19. This means there is no minimum requirement that the magnitude of risk be "significant" or another specific level of likelihood of occurrence. You need to evaluate the risk of harm in the context of the severity of the harm if it were to occur. In the case before it, the *Ethyl* court noted that "the harm caused by lead poisoning is severe." Even with harm as severe as lead poisoning, EPA did not rely on "potential" risk or a "reasonable medical concern." Instead, EPA found that there was a significant risk of this harm to health. This finding of a significant risk was less than the level of "probable" harm called for by the petitioner *Ethyl* Corporation but was "considerably more certain than the risk that justified regulation in Reserve Mining of a comparably 'fright-laden' harm." *Ethyl* at 19-20. The *Ethyl* court concluded that this combination of risk (likelihood of harm) and severity of harm was sufficient under CAA section 211(c). "Thus we conclude that however far the parameters of risk and harm inherent in the 'will endanger' standard might reach in an appropriate case, they certainly present a 'danger' that can be regulated when the harm to be avoided is widespread lead poisoning and the risk of that occurrence is 'significant'." *Ethyl* at 20.

Thus, the court made it clear that the endangerment criteria was intended to be precautionary in nature, that the risk of harm was one of the elements to consider in determining endangerment, and that the risk of harm needed to be considered in the context of the severity of the potential harm. It also concluded that a significant risk of harm coupled with an appropriate severity of the potential harm would satisfy the statutory criteria, and in the case before it the Administrator was clearly authorized to determine endangerment where there was a significant risk of harm that was coupled with a severe harm such as lead poisoning.

Importantly, the court also made it clear that it was not determining a minimum threshold that always had to be met. Instead, it emphasized that the risk of harm and severity of the potential harm had to be evaluated on a case by case basis. The court specifically said it was not determining "however far the parameters of risk and harm * * * might reach in an appropriate case." *Ethyl* at 20. Also *see Ethyl* fn 17 at 13. The court recognized that this balancing of risk and harm "must be confined to reasonable limits" and even absolute certainty of a de minimis harm might not justify government action. However, "whether a particular combination of slight risk and great harm, or great risk and slight harm constitutes a danger must depend on the facts of each case." *Ethyl* at fn 32 at 18.[7]

In some cases, commenters confuse matters by switching the terminology, and instead refer to effects that "significantly harm" the public health or welfare. As with the reference to "significant risk of harm," commenters fail to recognize that there are two different aspects that must be considered, risk of harm and severity of harm, and neither of these aspects has a requirement that there be a finding of "significance." The DC Circuit in *Ethyl* makes clear that it is the combination of these two aspects that must be evaluated for purposes of endangerment, and there is no requirement of "significance" assigned to either of the two aspects that must instead be evaluated in combination. Congress addressed concerns over burdensome economic and societal consequences in the various statutory provisions that provide the criteria for standard setting or other agency action if there is an affirmative endangerment finding. Those statutory provisions, for example, make standard setting discretionary or specify how cost and other factors are to be taken into consideration in setting standards. However, the issues of risk of harm and severity of harm if it were to occur are separate from the issues of the economic impacts of any resulting regulatory provisions (*see* below).

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[7] Commenters point to *Amer. Farm Bureau Ass'n v. EPA*, 559 F.3d 512, 533 (DC Cir. 2009) as supporting their argument. However, in that case the Court made clear that EPA's action was not subject to the endangerment criterion in CAA section 108 but instead was subject to CAA section 109's requirement that the primary NAAQS be requisite to protect the public health with an adequate margin of safety. Under that provision and its case law, the Court upheld EPA's reasoned balancing of the uncertainty regarding the link between non-urban thoracic coarse PM and adverse health effects, the large population groups potentially exposed to these particles, and the nature and degree of the health effects at issue. Citing to EPA's reasoning at 71 FR 61193 in the final PM rule, the court explained that EPA need not wait for conclusive proof of harm before setting a NAAQS under section 109 for this kind of coarse PM. The Court's reference to EPA's belief that there may be a significant risk to public health is not stated as any sort of statutory minimum, but instead refers to the Agency's reasoning at 71 FR 61193, which displays a reasoned balancing of possibility of harm and severity of harm if it were to occur.

As is clear in the prior summary of the endangerment findings and the more detailed discussion later, the breadth of the sectors of our society that are affected by climate change and the time frames at issue mean there is a very wide range of risks and harms that need to be considered, from evidence of various harms occurring now to evidence of risks of future harms. The Administrator has determined that the body of scientific evidence compellingly supports her endangerment finding.

B. Air Pollutant, Public Health and Welfare

The CAA defines both "air pollutant" and "effects on welfare." We provide both definitions here again for convenience.

Air pollutant is defined as:

> "Any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has

> identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used." CAA section 302(g). As the Supreme Court held, greenhouse gases fit well within this capacious definition. *See Massachusetts v. EPA*, 549 U.S. at 532. They are "without a doubt" physical chemical substances emitted into the ambient air. *Id.* at 529.

"Regarding 'effects on welfare', the CAA states that [a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants." CAA section 302(h).

As noted in the Proposed Findings, this definition is quite broad. Importantly, it is not an exclusive list due to the use of the term "includes, but is not limited to, * * * ." Effects other than those listed here may also be considered effects on welfare. Moreover, the terms contained within the definition are themselves expansive.

Although the CAA defines "effects on welfare" as discussed above, there are no definitions of "public health" or "public welfare" in the CAA. The Supreme Court has discussed the concept of public health in the context of whether costs of implementation can be considered when setting the health based primary National Ambient Air Quality Standards. *Whitman v. American Trucking Ass'n*, 531 U.S. 457 (2001). In Whitman, the Court imbued the term with its most natural meaning: "the health of the public. *Id.* at 466.

In the past, when considering public health, EPA has looked at morbidity, such as impairment of lung function, aggravation of respiratory and cardiovascular disease, and other acute and chronic health effects, as well as mortality. *See*, e.g., Final National Ambient Air Quality Standard for Ozone, (73 FR 16436, 2007).

EPA received numerous comments regarding its proposed interpretations of air pollutant and public health and welfare. Summaries of key comments and EPA's responses are discussed in Sections IV and V of these Findings. Additional and more detailed summaries and responses can be found in the Response to Comments document. As noted in the Response to Comments document, EPA also received comments supporting its legal interpretations.

III. EPA's Approach for Evaluating the Evidence Before It

This section discusses EPA's approach to evaluating the evidence before it, including the approach taken to the scientific evidence, the legal framework for this decision making, and several issues critical to determining the scope of the evaluation performed.

A. *The Science on Which the Decisions Are Based*

In 2007, EPA initiated its assessment of the science and other technical information to use in addressing the endangerment and cause or contribute issues before it under CAA section 202(a). This scientific and technical information was developed in the form of a TSD in 2007. An earlier draft of this document was released as part of the ANPR published July 30, 2008 (73 FR 44353). That earlier draft of the TSD relied heavily on the IPCC Fourth Assessment Report of

2007, key NRC reports, and a limited number of then-available synthesis and assessment products of the U.S. Climate Change Science Program (CCSP; now encompassed by USGCRP). EPA received a number of comments specifically focused on the TSD during the 120-day public comment period for the ANPR.

EPA revised and updated the TSD in preparing the Proposed Findings on endangerment and cause or contribute. Many of the comments received on the ANPR were reflected in the draft TSD released in April 2009 that served as the underlying scientific and technical basis for the Administrator's Proposed Findings, published April 24, 2009 (74 FR 18886). The draft TSD released in April 2009 also reflected the findings of 11 new synthesis and assessment products under the U.S. CCSP that had been published since July 2008.

The TSD that summarizes scientific findings from the major assessments of the USGCRP, the IPCC, and the NRC accompanies these Findings. The TSD is available at www.epa.gov/climatechange/endangerment.html and in the docket for this action. It also includes the most recent comprehensive assessment of the USGCRP, Global Climate Change Impacts in the United States,[8] published in June 2009. In addition, the TSD incorporates up-to-date observational data for a number of key climate variables from the NOAA, and the most up-to-date emissions data from EPA's annual Inventory of U.S. Greenhouse Gas Emissions and Sinks, published in April, 2009.[9] And finally, as discussed in Section I.B of these Findings, EPA received a large number of public comments on the Administrator's Proposed Findings, many of which addressed science issues either generally or specifically as reflected in the draft TSD released with the April 2009 proposal. A number of edits and updates were made to the draft TSD as a result of these comments.[10]

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[8] Karl, T., J. Melillo, and T. Peterson (Eds.) (2009) Global Climate Change Impacts in the United States. Cambridge University Press, Cambridge, United Kingdom.

EPA is giving careful consideration to all of the scientific and technical information in the record, as discussed below. However, the Administrator is relying on the major assessments of the USGCRP, IPCC, and NRC as the primary scientific and technical basis of her endangerment decision for a number of reasons.

First, these assessments address the scientific issues that the Administrator must examine for the endangerment analysis. When viewed in total, these assessments address the issue of greenhouse gas endangerment by providing data and information on: (1) The amount of greenhouse gases being emitted by human activities; (2) how greenhouse gases have been and continue to accumulate in the atmosphere as a result of human activities; (3) changes to the Earth's energy balance as a result of the buildup of atmospheric greenhouse gases; (4) observed temperature and other climatic changes at the global and regional scales; (5) observed changes in other climate-sensitive sectors and systems of the human and natural environment; (6) the extent to which observed climate change and other changes in climate-sensitive systems can be attributed to the human-induced buildup of atmospheric greenhouse gases; (7) future projected climate change under a range of different scenarios of changing greenhouse gas emission rates; and (8) the projected risks and impacts to human health, society and the environment.

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[9] U.S. EPA (2009) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007. EPA-430-R-09-004, Washington, DC.

[10] EPA has placed within the docket a separate memo "Summary of Major Changes to the Technical Support Document" identifying where within the TSD such changes were made relative to the draft TSD released in April 2009.

Second, as indicated above, these assessments are recent and represent the current state of knowledge on the key elements for the endangerment analysis. It is worth noting that the June 2009 assessment of the USGCRP incorporates a number of key findings from the 2007 IPCC Fourth Assessment Report; such findings include the attribution of observed climate change to human emissions of greenhouse gases, and the future projected scenarios of climate change for the global and regional scales. This demonstrates that much of the underlying science that EPA has been utilizing since 2007 has not only been in the public domain for some time, but also has remained relevant and robust.

Third, these assessments are comprehensive in their coverage of the greenhouse gas and climate change problem, and address the different stages of the emissions-to-potential-harm chain necessary for the endangerment analysis. In so doing, they evaluate the findings of numerous individual peer-reviewed studies in order to draw more general and overarching conclusions about the state of science. The USGCRP, IPCC, and NRC assessments synthesize literally thousands of individual studies and convey the consensus conclusions on what the body of scientific literature tells us.

Fourth, these assessment reports undergo a rigorous and exacting standard of peer review by the expert community, as well as rigorous levels of U.S. government review and acceptance. Individual studies that appear in scientific journals, even if peer reviewed, do not go through as many review stages, nor are they reviewed and commented on by as many scientists. The review processes of the IPCC, USGCRP, and NRC (explained in fuller detail in the TSD and the Response to Comments document, Volume 1) provide EPA with strong assurance that this material has been well vetted by both the climate change research community and by the U.S. government. These assessments therefore essentially represent the U.S. government's view of the state of knowledge on greenhouse gases and climate change. For example, with regard to government acceptance and approval of IPCC assessment reports, the USGCRP Web site states that: "When governments accept the IPCC reports and approve their Summary for Policymakers, they acknowledge the legitimacy of their scientific content."[11] It is the Administrator's view that such review and acceptance by the U.S. Government lends further support for placing primary weight on these major assessments.

It is EPA's view that the scientific assessments of the IPCC, USGRCP, and the NRC represent the best reference materials for determining the general state of knowledge on the scientific and technical issues before the agency in making an endangerment decision. No other source of information provides such a comprehensive and in-depth analysis across such a large body of scientific studies, adheres to such a high and exacting standard of peer review, and synthesizes the resulting consensus view of a large body of scientific experts across the world. For these reasons, the Administrator is placing primary and significant weight on these assessment reports in making her decision on endangerment.

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[11] http://www.globalchange.gov/publications/reports/ipcc-reports.

A number of commenters called upon EPA to perform a new and independent assessment of all of the underlying climate change science, separate and apart from USGCRP, IPCC, and NRC. In effect, commenters suggest that EPA is either required to or should ignore the attributes discussed above concerning these assessment reports, and should instead perform its own assessment of all of the underlying studies and information.

In addition to the significant reasons discussed above for relying on and placing primary weight on these assessment reports, EPA has been a very active part of the U.S. government climate change research enterprise, and has taken an active part in the review, writing, and approval of these assessments. EPA was the lead agency for three significant reports under the USGCRP[12], and recently completed an assessment addressing the climate change impacts on U.S. air quality-a report on which the TSD heavily relies for that particular issue. EPA was also involved in review of the IPCC Fourth Assessment Report, and in particular took part in the approval of the summary for policymakers for the Working Group II Volume, Impacts, Adaptation and Vulnerability.[13] The USGCRP, IPCC, and NRC assessments have been reviewed and formally accepted by, commissioned by, or in some cases authored by, U.S. government agencies and individual government scientists. These reports already reflect significant input from EPA's scientists and the scientists of many other government agencies.

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[12] CCSP (2009) Coastal Sensitivity to Sea-Level Rise: A Focus on the Mid-Atlantic Region. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [James G. Titus (Coordinating Lead Author), K. Eric Anderson, Donald R. Cahoon, Dean B. Gesch, Stephen K. Gill, Benjamin T. Gutierrez, E. Robert Thieler, and S. Jeffress Williams (Lead Authors)], U.S. Environmental Protection Agency, Washington DC, USA, 320 pp. CCSP (2008) Preliminary review of adaptation options for climate-sensitive ecosystems and resources. A Report by the U.S. Climate Change Science Program

EPA has no reason to believe that the assessment reports do not represent the best source material to determine the state of science and the consensus view of the world's scientific experts on the issues central to making an endangerment decision with respect to greenhouse gases. EPA also has no reason to believe

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and the Subcommittee on Global Change Research. [Julius, S.H., J.M. West (eds.), J.S. Baron, B. Griffith, L.A. Joyce, P. Kareiva, B.D. Keller, M.A. Palmer, C.H. Peterson, and J.M. Scott (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA, 873 pp. CCSP (2008) Analyses of the effects of global change on human health and welfare and human systems. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [Gamble, J.L. (ed.), K.L. Ebi, F.G. Sussman, T.J. Wilbanks, (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA.

[13] IPCC (2007) Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 976pp.

that putting this significant body of work aside and attempting to develop a new and separate assessment would provide any better basis for making the endangerment decision, especially because any such new assessment by EPA would still have to give proper weight to these same consensus assessment reports.

In summary, EPA concludes that its reliance on existing and recent synthesis and assessment reports is entirely reasonable and allows EPA to rely on the best available science.[14] EPA also recognizes that scientific research is very active in many areas addressed in the TSD (e.g., aerosol effects on climate, climate feedbacks such as water vapor, and internal and external climate forcing mechanisms), as well as for some emerging issues (e.g., ocean acidification and climate change effects on water quality). EPA recognizes the potential importance of new scientific research, and the value of an ongoing process to take more recent science into account. EPA reviewed new literature in preparation of this TSD to evaluate its consistency with recent scientific assessments. We also considered public comments received and studies incorporated by reference. In a number of cases, the TSD was updated based on such information to add context for assessment literature findings, which includes supporting information and/or qualifying statements. In other cases, material that was not incorporated into the TSD is discussed within the Response to Comments document.

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[14] It maintains the highest level of adherence to Agency and OMB guidelines for data and scientific integrity and transparency. This is discussed in greater detail in EPA's Response to Comments document.

EPA reviewed these individual studies that were not considered or reflected in these major assessments to evaluate how they inform our understanding of how greenhouse gas emissions affect climate change, and how climate change may affect public health and welfare. Given the very large body of studies reviewed and assessed in developing the assessment reports, and the rigor and breadth of that review and assessment, EPA placed limited weight on the much smaller number of individual studies that were not considered or reflected in the major assessments. EPA reviewed them largely to see if they would lead EPA to change or place less weight on the judgments reflected in the assessment report. While EPA recognizes that some studies are more useful or informative than others, and gave each study it reviewed the weight it was due, the overall conclusion EPA drew from its review of studies submitted by commenters was that the studies did not change the various conclusions or judgments EPA would draw based on the assessment reports.

Many comments focus on the scientific and technical data underlying the Proposed Findings, such as climate change science and greenhouse gas emissions data. These comments cover a range of topics and are summarized and responded to in the Response to Public Comments document. The responses note those cases where a technical or scientific comment resulted in an editorial or substantive change to the TSD. The final TSD reflects all changes made as a result of public comments.

B. The Law on Which the Decisions Are Based

In addition to grounding these determinations on the science, they are also firmly grounded in EPA's legal authority. Section II of these Findings provides an in-depth discussion of the legal framework for the endangerment and cause or contribute decisions under CAA section 202(a), with additional discussion in Section II of the Proposed Finding (74 FR 18886, 18890, April 24, 2009). A variety of important legal issues are also discussed in Sections III, IV, and V of these Findings, as well as in the Response to Comments document, Volume 11. Section IV and V of these Findings explain the Administrator's decisions, and how she exercised her judgment in making the endangerment and contribution determinations, based on the entire scientific record before her and the legal framework structuring her decision making.

C. Adaptation and Mitigation

Following the language of CAA section 202(a), in which the Administrator, in her judgment, must determine if greenhouse gases constitute the air pollution that may be reasonably anticipated to endanger public health or welfare, EPA evaluated, based primarily on the scientific reports discussed above, how greenhouse gases and other climate-relevant substances are affecting the atmosphere and climate, and how these climate changes affect public health and welfare, now and in the future. Consistent with EPA's scientific approach underlying the Administrator's Proposed Findings, EPA did not undertake a separate analysis to evaluate potential societal and policy responses to any threat (i.e., the endangerment) that may exist due to anthropogenic emissions of greenhouse gases. Risk reduction through adaptation and greenhouse gas mitigation measures is of course a strong focal area of scientists and policy makers, including EPA; however, EPA considers adaptation and mitigation to be potential responses to endangerment, and as such has determined that they are outside the scope of the endangerment analysis.

The Administrator's position is not that adaptation will not occur or cannot help protect public health and welfare from certain impacts of climate change, as some commenters intimated. To the contrary, EPA recognizes that some level of autonomous adaptation [15]will occur, and commenters are correct that autonomous adaptation can affect the severity of climate change impacts. Indeed, there are some cases in the TSD in which some degree of adaptation is accounted for; these cases occur where the literature on which the TSD relies already uses assumptions about autonomous adaptation when projecting the future effects of climate change. Such cases are noted in the TSD. We also view planned adaptation as an important near-term risk-minimizing strategy given that some degree of climate change will continue to occur as a result of past and current emissions of greenhouse gases that remain in the atmosphere for decades to centuries.

However, it is the Administrator's position that projections of adaptation and mitigation in response to risks and impacts associated with climate change are not appropriate for EPA to consider in making a decision on whether the air pollution endangers. The issue before EPA involves evaluating the risks to public health and welfare from the air pollution if we do not take action to address it. Adaptation and mitigation address an important but different issue-how much risk will remain assuming some projection of how people and society will respond to the threat.

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[15] The IPCC definition of adaptation: "Adaptation to climate change takes place through adjustments to reduce vulnerability or enhance resilience in response to observed or expected changes in climate and associated extreme weather events. Adaptation occurs in physical, ecological and human systems. It involves changes in social and environmental processes, perceptions of climate risk, practices and functions to reduce potential damages or to realize new opportunities." The IPCC defines autonomous adaptation as "Adaptation that does not constitute a conscious response to climatic stimuli but is triggered by ecological changes in natural systems and by market or welfare changes in human systems."

Several commenters argue that it is arbitrary not to consider adaptation in determining endangerment. They contend that because endangerment is a forward-looking exercise, the fundamental inquiry concerns the type and extent of harm that is believed likely to occur in the future. Just as the Administrator makes projections of potential harms in the future, these commenters contend that the Administrator needs to consider the literature on adaptation that addresses the likelihood and the severity of potential effects. Commenters also note that since adaption is one of the likely impacts of climate change, it is irrational to exclude it from consideration when the goal is to evaluate the risks and harms in the real world in the future, not the risks and harms in the hypothetical scenario that result if you ignore adaptation.

According to commenters, the Administrator must consider both autonomous adaptation and anticipatory adaptation. They contend that literature on adaptation makes it clear there is a significant potential for adaptation, and that it can reduce the likelihood or severity of various effects, including health effects, and could even avert what might otherwise constitute endangerment. Commenters note that EPA considered the adaptation of species in nature, and it is arbitrary to not also consider adaptation by humans. Moreover, they argue that there is great certainty that adaptation will occur, and thus EPA is required to address it and make projections. They recommend that EPA look to historic responses to changes in conditions as an analogue in making projections, recognizing that life in the United States is likely to be quite different 50 or 100 years from now, irrespective of climate change.

Commenters argue that adaption needs to be considered because it is central to the statutory requirements governing the endangerment inquiry. EPA is charged to determine the type and extent of harms that are likely to occur, and they argue that this cannot rationally be considered without considering adaptation. Since some degree of adaptation is likely to occur, they continue that such a projection of future actual conditions requires consideration of adaption to evaluate whether the future conditions amount to endangerment from the air pollution.

According to commenters, the issue therefore is focused on human and societal adaptation, which can come in a wide variety of forms, ranging from changes in personal behavioral patterns to expenditures of resources to change infrastructure, such as building and maintaining barriers to protect against sea level rise.

With regard to mitigation, commenters argue that EPA should consider mitigation strategies and their potential to alleviate harm from greenhouse gas emissions. They contend that it is unreasonable for EPA to assume that society will not undertake mitigation.

Section 202(a) of the CAA reflects the basic approach of many CAA sections-the threshold inquiry is whether the endangerment and cause or contribute criteria are satisfied, and only if they are met do the criteria for regulatory action go into effect. This reflects the basic separation of two different decisions-is this a health and welfare problem that should be addressed, and if so what are the appropriate mechanisms to address it? There is a division between identifying the health and welfare problem associated with the air pollution, and identifying the mechanisms used to address or solve the problem.

In evaluating endangerment, EPA is determining whether the risks to health and welfare from the air pollution amount to endangerment. As commenters recognize, that calls for evaluating and projecting the nature and types of risks from the air pollution, including the probability or likelihood of the occurrence of an impact and the degree of adversity (or benefit) of such an impact. This issue focuses on how EPA makes such an evaluation in determining endangerment-does EPA look at the risks assuming no planned adaptation and/or mitigation, although EPA projects some degree is likely to occur, or does EPA look at the risks remaining after some projection of adaptation and/or mitigation?

These two approaches reflect different views of the core question EPA is trying to answer. The first approach most clearly focuses on just the air pollution and its impacts, and aims to separate this from the human and societal responses that may or should be taken in response to the risks from the air pollution. By its nature, this separation means this approach may not reflect the actual conditions in the real world in the future, because adaptation and/or mitigation may occur and change the risks. For example, adaptation would not change the atmospheric concentrations, or the likelihood or probability of various impacts occurring (e.g., it would not change the degree of sea level rise), but adaptation has the potential to reduce the adversity of the effects that do occur from these impacts. Mitigation could reduce the atmospheric concentrations that would otherwise occur, having the potential to reduce the likelihood or probability of various impacts occurring. Under this approach, the evaluation of risk is focused on the risk if we do not address the problem. It does not answer the question of how much risk we project will remain after we do address the problem, through either adaptation or mitigation or some combination of the two.

The second approach, suggested by commenters, would call for EPA to project into the future adaptation and/or mitigation, and the effect of these measures in reducing the risks to health or welfare from the air pollution. Commenters argue this will better reflect likely real world conditions, and therefore is needed to allow for an appropriate determination of whether EPA should, at this time, make an affirmative endangerment finding. However, this approach would not separate the air pollution and its impacts from the human and societal responses to the air pollution. It would intentionally and inextricably intertwine them. It would inexorably change the focus from how serious is the air pollution problem we need to address to how good a job are people and society likely to do in addressing or solving the problem. In addition it would dramatically increase the complexity of the issues before EPA.

The context for this endangerment finding is a time span of several decades into the future. It involves a wide variety of differing health and welfare effects, and almost every sector in our society. This somewhat unique context tends to amplify the differences between the two different approaches. It also means that it is hard to cleanly implement either approach. For example, it is hard under the first approach to clearly separate impacts with and without adaption, given the nature of the scientific studies and information before us. Under the second approach it would be extremely hard to make a reasoned projection of human and societal adaptation and mitigation responses, because these are basically not scientific or technical judgments, but are largely political judgments for society or individual personal judgments.

However, the context for this endangerment finding does not change the fact that at their core the two different approaches are aimed at answering different questions. The first approach is focused on answering the question of what are the risks to public health and welfare from the air pollution if we do not take action to address it. The second approach is focused on answering the question of how much risk will remain assuming some projection of how people and society will respond.

EPA believes that it is appropriate and reasonable to interpret CAA section 202(a) as calling for the first approach. The structure of CAA section 202(a) and the various other similar provisions indicate an intention by Congress to separate the question of what is the problem we need to address from the question of what is the appropriate way to address it. The first approach is clearly more consistent with this statutory structure. The amount of reduction in risk that might be achieved through adaptation and/or mitigation is closely related to the way to address a problem, and is not focused on what is the problem that needs to be addressed. It helps gauge the likelihood of success in addressing a problem, and how good a job society may do in reducing risk; it is not at all as useful in determining the severity of the problem that needs to be addressed.

The endangerment issue at its core is a decision on whether there is a risk to health and welfare that needs to be addressed, and the second approach would tend to indicate that the more likely a society is to solve a problem, the less likely there is a problem that needs to be addressed. This would mask the issue and provide a directionally wrong signal. Assume two different situations, both presenting the same serious risks to public health or welfare without consideration of adaptation or mitigation. The more successful society is projected to be in solving the serious problem in the future would mean the less likely we would be to make an endangerment finding at the inception identifying it as a problem that needs to be addressed. This is much less consistent with the logic embodied in CAA section 202(a), which separates the issue of whether there is a problem from the issue of what can be done to successfully address it.

In addition, the second approach would dramatically increase the complexity of the issues to resolve, and would do this by bringing in issues that are not the subject of the kind of scientific or technical judgments that Congress envisioned for the endangerment test. The legislative history indicates Congress was focused on issues of science and medicine, including issues at the frontiers of these fields. It referred to data, research resources, science and medicine, chemistry, biology, and statistics. There is no indication Congress envisioned exercising judgment on the very different types of issues involved in projecting the political actions likely to be taken by various local, State, and Federal governments, or judgments on the business or other decisions that are likely to be made by companies or other organizations, or the changes in personal behavior that may be occasioned by the adverse impacts of air pollution. The second approach would take EPA far away from the kind of judgments Congress envisioned for the endangerment test.

D. Geographic Scope of Impacts

It is the Administrator's view that the primary focus of the vulnerability, risk, and impact assessment is the United States. As described in Section IV of these Findings, the Administrator gives some consideration to climate change effects in world regions outside of the United States. Given the global nature of climate change, she has also examined potential impacts in other regions of the world. Greenhouse gases, once emitted, become well mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment, but other regions of the world as well. Likewise, emissions in other countries can affect the United States. Furthermore, impacts in other regions of the world may have consequences that in turn raise humanitarian, trade, and national security concerns for the United States.

Commenters argue that EPA does not have the authority to consider international effects. They contend that the burden is on EPA is to show endangerment based on impacts in the United States. They note that EPA proposed this approach, which is the only relevant issue for EPA. The purpose of CAA section 202(a), as the stated purpose of the CAA, commenters note, is to protect the quality of the nation's air resources and to protect the health and welfare of the U.S. population. Thus, they continue, international public health and welfare are not listed or stated, and are not encompassed by these provisions. Moreover, they argue that Congress addressed international impacts expressly in two other provisions of the CAA. They note that under CAA section 115, EPA considers emissions of pollutants that cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare in a foreign country, and that CAA section 179B addresses emissions of air pollutants in foreign countries that interfere with attainment of a National Ambient Air Quality Standards (NAAQS) in the United States. Because Congress intentionally addressed international impacts in those provision, commenters argue that the absence of this direction in CAA section 202(a) means that EPA is not to consider international effects when assessing endangerment under this provision.

Commenters fail to recognize that EPA's consideration of international effects is directed at evaluating their impact on the public health and welfare of the U.S. population. EPA is not considering international effects to determine whether the health and welfare of the public in a foreign country is endangered. Instead, EPA's consideration of international effects for purposes of determining endangerment is limited to how those international effects impact the health and welfare of the U.S. population.

The Administrator looked first at impacts in the United States itself, and determined that these impacts are reasonably anticipated to endanger the public health and the welfare of the U.S. population. That remains the Administrator's position, and by itself supports her determination of endangerment. The Administrator also considered the effects of global climate change outside the borders of the United States and evaluated them to determine whether these international effects impact the U.S. population, and if so whether it impacts the U.S. population in a manner that supports or does not support endangerment to the health and welfare of the U.S. public. She is not evaluating international effects to determine whether populations in a foreign country are endangered. The Administrator is looking at international effects solely for the purpose of evaluating their effects on the U.S. population.

For example, the U.S. population can be impacted by effects in other countries. These international effects can impact U.S. economic, trade, and humanitarian and national security interests. These would be potential effects on the U.S. population, brought about by the effects of climate change occurring outside the United States. It is fully reasonable and rational to expect that events occurring outside our borders can affect the U.S. population.

Thus, commenters misunderstand the role that international effects played in the proposal. The Administrator is not evaluating the impact of international effects on populations outside the United States; she is considering what impact these international effects could have on the U.S. population. That is fully consistent with the CAA's stated purpose of protecting the health and welfare of this nation's population.

E. Temporal Scope of Impacts

An additional parameter of the endangerment analysis is the timeframe. The Administrator's view is that the timeframe over which vulnerabilities, risks, and impacts are considered should be consistent with the timeframe over which greenhouse gases, once emitted, have an effect on climate. Thus the relevant time frame is decades to centuries for the primary greenhouse gases of concern. Therefore, in addition to reviewing recent observations, the underlying science upon which the Administrator is basing her findings generally considers the next several decades-the time period out to around 2100, and for certain impacts, the time period beyond 2100. How the accumulation of atmospheric greenhouse gases and resultant climate change may affect current and future generations is discussed in section IV in these Findings. By current generations we mean a near-term time frame of approximately the next 10 to 20 years; by future generations we mean a longer-term time frame extending beyond that. Some public comments were received that questioned making an endangerment finding based on current conditions, while others questioned EPA's ability to make an endangerment finding based on future projected conditions. Some of these comments are likewise addressed in Section IV in these Findings; and all comments on these temporal issues are addressed in the Response to Comments document.

F. Impacts of Potential Future Regulations and Processes That Generate Greenhouse Gas Emissions

This action is a stand-alone set of findings regarding endangerment and cause or contribute for greenhouse gases under CAA section 202(a), and does not contain any regulatory requirements. Therefore, this action does not attempt to assess the impacts of any future regulation. Although EPA would evaluate any future proposed regulation, many commenters argue that such a regulatory analysis should be part of the endangerment analysis.

Numerous commenters argue that EPA must fully consider the adverse and beneficial impacts of regulation together with the impacts of inaction, and describe this balancing as "risk-risk analysis," "health-health analysis," and most predominantly "risk tradeoff analysis." Commenters argue that EPA's final endangerment finding would be arbitrary unless EPA undertakes this type of risk trade-off analysis.

Commenters specifically argue that EPA must consider the economic impact of regulation, including the Prevention of Significant Deterioration (PSD) permitting program for major stationary sources because it is triggered by a CAA section 202(a) standard, when assessing whether there is endangerment to public welfare. In other words, they argue that the Administrator should determine if finding endangerment and regulating greenhouse gases under the CAA would be worse for public health and welfare than not regulating. Commenters also argue that the reference to "public" health or welfare in CAA section 202, as well as the fact that impacts on the economy should be considered impacts to welfare, especially requires EPA to consider the full range of possible impacts of regulation. Commenters provide various predictions regarding how regulating greenhouse gases under the CAA more broadly will impact the public, industry, states the overall economy, and thus, they conclude, public health and welfare. Examples of commenters' predictions include potential adverse impacts on (1) the housing industry and the availability of affordable housing, (2) jobs and income due to industry moving overseas, (3) the agriculture industry and its ability to provide affordable food, and (4) the nation's energy supply. They also cite to the letter from the Office of Management and Budget provided with the ANPR, as well as interagency comments on the draft Proposed Findings, in support of their argument.

At least one commenter argues that EPA fails to discuss the public health or welfare benefits of the processes that produce the emissions. The commenter contends that for purposes of CAA section 202(a), this process would be the combustion of gasoline or other transportation fuel in new motor vehicles, and that for purposes of other CAA provisions with similar endangerment finding triggers, the processes would be the combustion of fossil fuel for electric generation and other activities. The commenter continues that EPA's decision to limit its analysis to the perceived detrimental aspects of emissions after they enter the atmosphere-as opposed to the possible positive aspects of emissions because of the processes that create the emissions-is based on EPA's overly narrow interpretation of both the meaning of the term "emission" in CAA section 202(a) (and therefore in other endangerment finding provisions) and the intent of these provisions. The commenter states that logically, it makes little sense to limit the definition of the term "emission" to only the "air pollutants" that are emitted. The commenter concludes that when EPA assesses whether the emission of greenhouse gases endanger public health and welfare, EPA must assess the dangers and benefits on both sides of the point where the emissions occur: in the atmosphere where the emissions lodge and, on the other side of the emitting stack or structure, in the processes that create the emissions. Otherwise, EPA will not be able to accurately assess whether the fact that society emits greenhouse gases is a benefit or a detriment. The commenter states that because greenhouse gas emissions, particularly carbon dioxide emissions, are so closely tied with all facets of modern life, a finding that greenhouse gas emissions endanger public health and welfare is akin to saying that modern life endangers public health or welfare. The commenter states that simply cannot be true because the lack of industrial activity that causes greenhouse gas emissions would pose other, almost certainly more serious health and welfare consequences.

Finally, some commenters argue that the impact of regulating under CAA section 202(a) supports making a final, negative endangerment finding. These commenters contend that the incredible costs associated with using the inflexible regulatory structure of the CAA will harm public health and welfare, and therefore EPA should exercise its discretion and find that greenhouse gases do not endanger public health and welfare because once EPA makes an endangerment finding under CAA section 202(a), it will be forced to regulate greenhouse gases under a number of other sections of the CAA, resulting in regulatory chaos.

At their core, these comments are not about whether commenters believe greenhouse gases may reasonably be anticipated to endanger public health or welfare, but rather about commenters' dissatisfaction with the decisions that Congress made regarding the response to any endangerment finding that EPA makes under CAA section 202(a). These comments do not discuss the science of greenhouse gases or climate change, or the impacts of climate change on public health or welfare. Instead they muddle the rather straightforward scientific judgment about whether there may be endangerment by throwing the potential impact of responding to the danger into the initial question. To use an analogy, the question of whether the cure is worse than the illness is different than the question of whether there is an illness in the first place. The question of whether there is endangerment is like the question of whether there is an illness. Once one knows there is an illness, then the next question is what to do, if anything, in response to that illness.

What these comments object to is that Congress has already made some decisions about next steps after a finding of endangerment, and commenters are displeased with the results. But if this is the case, commenters should take up their concerns with Congress, not EPA. EPA's charge is to issue new motor vehicle standards under CAA section 202(a) applicable to emissions of air pollutants that cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. It is not to find that there is no endangerment in order to avoid issuing those standards, and dealing with any additional regulatory impact.

Indeed, commenters' argument would insert policy considerations into the endangerment decision, an approach already rejected by the Supreme Court. First, as discussed in Section I.B of these Findings, in *Massachusetts v. EPA*, the court clearly indicated that the Administrator's decision must be a "scientific judgment." 549 U.S. at 534. She must base her decision about endangerment on the science, and not on policy considerations about the repercussions or impact of such a finding.

Second, in considering whether the CAA allowed for economic considerations to play a role in the promulgation of the NAAQS, the Supreme Court rejected arguments that because many more factors than air pollution might affect public health, EPA should consider compliance costs that produce health losses in setting the NAAQS. *Whitman v. ATA*, 531 U.S. at 457, 466 (2001). To be sure, the language in CAA section 109(b) applicable to the setting of a NAAQS is different than that in CAA section 202(a) regarding endangerment. But the concepts are similar-the NAAQS are about setting standards at a level requisite to protect public health (with an adequate margin of safety) and public welfare, and endangerment is about whether the current or projected future levels may reasonably be anticipated to endanger public health or welfare. In other words, both decisions essentially are based on assessing the harm associated with a certain level of air pollution.

Given this similarity in purpose, as well as the Court's instructions in *Massachusetts v. EPA* that the Administrator should base her decision on the science, EPA reasonably interprets the statutory endangerment language to be analogous to setting the NAAQS. Therefore, it is reasonable to interpret the endangerment test as not requiring the consideration of the impacts of implementing the statute in the event of an endangerment finding as part of the endangerment finding itself.[16]

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[16] Indeed, some persons may argue that due to the similarities between setting a NAAQS and making an endangerment finding, EPA cannot consider the impacts of implementation of the statute.

Moreover, EPA does not believe that the impact of regulation under the CAA as a whole, let alone that which will result from this particular endangerment finding, will lead to the panoply of adverse consequences that commenters predict. EPA has the ability to fashion a reasonable and common-sense approach to address greenhouse gas emissions and climate change. The Administrator thinks that EPA has and will continue to take a measured approach to address greenhouse gas emissions. For example, the Agency's recent Mandatory Greenhouse Gas Reporting Rule focuses on only the largest sources of greenhouse gases in order to reduce the burden on smaller facilities.[17]

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[17] Note that it is EPA's current position that these Final Findings do not make well-mixed greenhouse gases "subject to regulation" for purposes of the CAA's Prevention of Significant Deterioration (PSD) and title V programs. *See, e.g.*, memorandum entitled "EPA's Interpretation of Regulations that Determine Pollutants Covered By Federal Prevention of Significant Deterioration (PSD) Permit Program" (Dec. 18, 2008). While EPA is reconsidering this memorandum and is seeking public comment on the issues raised in it generally, including whether a final endangerment finding should trigger PSD, the effectiveness of the positions provided in the memorandum was not stayed pending that reconsideration. Prevention of Significant Deterioration (PSD): Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD Permit Program, 74 FR 515135, 51543-44 (Oct. 7, 2009). In addition, EPA has proposed new temporary thresholds for greenhouse gas emissions that define when PSD and title V permits are required for new or existing facilities. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule (74 FR 55292, October 27, 2009). The proposed thresholds would "tailor" the permit programs to limit which facilities would be required to obtain PSD and title V permits. As noted in the preamble for the tailoring rule proposal, EPA also intends to evaluate ways to streamline the process for

We also note that commenters' approach also is another version of the argument that EPA must consider adaptation and mitigation in the endangerment determination. Just as EPA should consider whether mitigation would reduce endangerment, commenters argue we should consider whether mitigation would increase endangerment. But as discussed previously, EPA disagrees and believes its approach better achieves the goals of the statute.

Finally, EPA simply disagrees with the commenter who argues that because we are better off now than before the industrial revolution, greenhouse gases cannot be found to endanger public health or welfare. As the DC Circuit noted in the *Ethyl* decision, "[m]an's ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations." *See Ethyl Corp.*, 541 F.2d at 6. The fact that we as a society are better off now than 100 years ago, and that processes that produce greenhouse gases are a large part of this improvement, does not mean that those processes do not have unintended adverse impacts. It also was entirely reasonable for EPA to look at "emissions" as the pollution once it is emitted from the source into the air, and not also as the process that generates the pollution. Indeed, the definition of "air pollutant" talks in terms of substances "emitted into or otherwise enter[ing] the ambient air" (CAA section 302(g)). It is entirely appropriate for EPA to consider only the

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identifying GHG emissions control requirements and issuing permits. *See* the Response to Comments Document, Volume 11, and the Tailoring Rule, for more information.

substance being emitted as the air pollution or air pollutant.

IV. The Administrator's Finding That Greenhouse Gases Endanger Public Health and Welfare

The Administrator finds that elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations. The Administrator is making this finding specifically with regard to six key directly-emitted, long-lived and well-mixed greenhouse gases: Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The Administrator is making this judgment based on both current observations and projected risks and impacts into the future. Furthermore, the Administrator is basing this finding on impacts of climate change within the United States. However, the Administrator finds that when she considers the impacts on the U.S. population of risks and impacts occurring in other world regions, the case for endangerment to public health and welfare is only strengthened.

A. The Air Pollution Consists of Six Key Greenhouse Gases

The Administrator must define the scope and nature of the relevant air pollution for the endangerment finding under CAA section 202(a). In this final action, the Administrator finds that the air pollution is the combined mix of six key directly-emitted, long-lived and well-mixed greenhouse gases (henceforth "well-mixed greenhouse gases"), which together, constitute the root cause of human-induced climate change and the resulting impacts on public health and welfare. These six greenhouse gases are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

EPA received public comments on this definition of air pollution from the Proposed Findings, and summarizes responses to some of those key comments below; fuller responses to public comments can be found in EPA's Response to Comments document, Volume 9. The Administrator acknowledges that other anthropogenic climate forcers also play a role in climate change. Many public comments either supported or opposed inclusion of other substances in addition to the six greenhouse gases for the definition of air pollution. EPA's responses to those comments are also summarized below, and in volume 9 of the Response to Comments document.

The Administrator explained her rationale for defining air pollution under CAA section 202(a) as the combined mix of the six greenhouse gases in the Proposed Findings. After review of the public comments, the Administrator is using the same definition of the air pollution in the final finding, for the following reasons: (1) These six greenhouse gas share common properties regarding their climate effects; (2) these six greenhouse gases have been estimated to be the primary cause of human-induced climate change, are the best understood drivers of climate change, and are expected to remain the key driver of future climate change; (3) these six greenhouse gases are the common focus of climate change science research and policy analyses and discussions; (4) using the combined mix of these gases as the definition (versus an individual gas-by-gas approach) is consistent with the science, because risks and impacts associated with greenhouse gas-induced climate change are not assessed on an individual gas approach; and (5) using the combined mix of these gases is consistent with past EPA practice, where separate substances from different sources, but with common properties, may be treated as a class (*e.g.*, oxides of nitrogen).

1. Common Physical Properties of the Six Greenhouse Gases

The common physical properties relevant to the climate change problem shared by the six greenhouse gases include the fact that they are long-lived in the atmosphere. "Long-lived" is used here to mean that the gas has a lifetime in the atmosphere sufficient to become globally well mixed throughout the entire atmosphere, which requires a minimum atmospheric lifetime of about one year.[18] Thus, this definition of air pollution is global in nature because the greenhouse gas emissions emitted from the United States (or from any other region of the world) become globally well mixed, such that it would not be meaningful to define the air pollution as the greenhouse gas concentrations over the United States as somehow being distinct from the greenhouse gas concentrations over other regions of the world.

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[18] The IPCC also refers to these six GHGs as long-lived. Methane has an atmospheric lifetime of roughly a decade. One of the most commonly used hydrofluorocarbons (HFC-134a) has a lifetime of 14 years. Nitrous oxide has a lifetime of 114 years; sulfur hexafluoride over 3,000 years; and some PFCs up to 10,000 to 50,000 years. Carbon dioxide in the atmosphere is sometimes approximated as having a lifetime of roughly 100 years, but for a given amount of carbon dioxide emitted a better description is that some fraction of the atmospheric increase in concentration is quickly absorbed by the oceans and terrestrial vegetation, some fraction of the atmospheric increase will only slowly decrease over a number of years, and a small portion of the increase will remain for many centuries or more.

It is also well established that each of these gases can exert a warming effect on the climate by trapping in heat that would otherwise escape to space. These six gases are directly emitted as greenhouse gases rather than forming as a greenhouse gas in the atmosphere after emission of a pre-cursor gas. Given these properties, the magnitude of the warming effect of each of these gases is generally better understood than other climate forcing agents that do not share these same properties (addressed in more detail below). The ozone-depleting substances that include chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HFCs) also share the same physical attributes discussed here, but for reasons discussed throughout the remainder of this section are not being included in the Administrator's definition of air pollution for this finding.

2. Evidence That the Six Greenhouse Gases Are the Primary Driver of Current and Projected Climate Change

a. Key Observations Driven Primarily by the Six Greenhouse Gases

The latest assessment of the USGCRP, as summarized in EPA's TSD, confirms the evidence presented in the Proposed Findings that current atmospheric greenhouse gas concentrations are now at elevated and essentially unprecedented levels as a result of both historic and current anthropogenic emissions. The global atmospheric carbon dioxide concentration has increased about 38 percent from pre-industrial levels to 2009, and almost all of the increase is due to anthropogenic emissions. The global atmospheric concentration of methane has increased by 149 percent since pre-industrial levels (through 2007); and the nitrous oxide concentration has increased 23 percent (through 2007). The observed concentration increase in these gases can also be attributed primarily to anthropogenic emissions. The industrial fluorinated gases have relatively low concentrations, but these concentrations have also been increasing and are almost entirely anthropogenic in origin.

Historic data show that current atmospheric concentrations of the two most important directly emitted, long-lived greenhouse gases (carbon dioxide and methane) are well above the natural range of atmospheric concentrations compared to at least the last 650,000 years. Atmospheric greenhouse gas concentrations have been increasing because anthropogenic emissions are outpacing the rate at which greenhouse gases are removed from the atmosphere by natural processes over timescales of decades to centuries. It also remains clear that these high atmospheric concentrations of greenhouse gases are the unambiguous result of human activities.

Together the six well-mixed greenhouse gases constitute the largest anthropogenic driver of climate change.[19] Of the total anthropogenic heating effect caused by the accumulation of the six well-mixed greenhouse gases plus other warming agents (that do not meet all of the Administrator's criteria that pertain to the six greenhouse gases) since pre-industrial times, the combined heating effect of the six well-mixed greenhouses is responsible for roughly 75 percent, and it is expected that this share may grow larger over time, as discussed below.

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[19] As summarized in EPA's TSD, the global average net effect of the increase in atmospheric greenhouse gas concentrations, plus other human activities (e.g., land use change and aerosol emissions), on the global energy balance since 1750 has been one of warming. This total net heating effect, referred to as forcing, is estimated to be +1.6 (+0.6 to +2.4) Watts per square meter (W/m-T12), with much of the range surrounding this estimate due to

Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Global mean surface temperatures have risen by 0.74 °C (1.3 °F) (<plus-minus>0.18 °C) over the last 100 years. Eight of the 10 warmest years on record have occurred since 2001. Global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries.

The global surface temperature record relies on three major global temperature datasets, developed by NOAA, NASA, and the United Kingdom's Hadley Center. All three show an unambiguous warming trend over the last 100 years, with the greatest warming occurring over the past 30 years.[20] Furthermore, all three datasets show that eight of the

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uncertainties about the cooling and warming effects of aerosols. The combined radiative forcing due to the cumulative (i.e., 1750 to 2005) increase in atmospheric concentrations of CO-T22, CH-T24, and N-T22 O is estimated to be +2.30 (+2.07 to +2.53) W/m-T12 . The rate of increase in positive radiative forcing due to these three GHGs during the industrial era is very likely to have been unprecedented in more than 10,000 years.

[20] See section 4 of the TSD for more detailed information about the three global temperature datasets.

10 warmest years on record have occurred since 2001; that the 10 warmest years have all occurred in the past 12 years; and that the 20 warmest years have all occurred since 1981. Though most of the warmest years on record have occurred in the last decade in all available datasets, the rate of warming has, for a short time in the Hadley Center record, slowed. However, the NOAA and NASA trends do not show the same marked slowdown for the 1999-2008 period. Year-to-year fluctuations in natural weather and climate patterns can produce a period that does not follow the long-term trend. Thus, each year may not necessarily be warmer than every year before it, though the long-term warming trend continues.[21]

The scientific evidence is compelling that elevated concentrations of heat-trapping greenhouse gases are the root cause of recently observed climate change. The IPCC conclusion from 2007 has been re-confirmed by the June 2009 USGCRP assessment that most of the observed increase in global average temperatures since the mid-20th century is very likely[22] due to the observed increase in anthropogenic greenhouse gas concentrations. Climate model simulations suggest natural forcing alone (*e.g.*, changes in solar irradiance) cannot explain the observed warming.

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[21] Karl T. et al., (2009).

[22] The IPCC Fourth Assessment Report uses specific terminology to convey likelihood and confidence. Likelihood refers to a probability that the statement is correct or that something will occur. "Virtually certain" conveys greater than 99 percent probability of occurrence; "very likely" 90 to 99 percent; "likely" 66 to 90 percent. IPCC assigns confidence levels as to the correctness of a statement. "Very high confidence" conveys at least 9 out of 10 chance of being correct; "high confidence" about 8 out of 10 chance; "medium confidence" about 5 out of 10 chance. The USGCRP uses the same or similar terminology in its reports. *See also* Box 1.2 of the TSD. Throughout this document, this terminology is used in conjunction with statements from the IPCC and USGCRP reports to convey the same meaning that those reports intended. In instances where a word such as "likely" may appear outside the context of a specific IPCC or USGCRP

The attribution of observed climate change to anthropogenic activities is based on multiple lines of evidence. The first line of evidence arises from our basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system. The second line of evidence arises from indirect, historical estimates of past climate changes that suggest that the changes in global surface temperature over the last several decades are unusual.[23] The third line of evidence arises from the use of computer-based climate models to simulate the likely patterns of response of the climate system to different forcing mechanisms (both natural and anthropogenic).

The claim that natural internal variability or known natural external forcings can explain most (more than half) of the observed global warming of the past 50 years is inconsistent with the vast majority of the scientific literature, which has been synthesized in several assessment reports. Based on analyses of widespread temperature increases throughout the climate system and changes in other climate variables, the IPCC has reached the following conclusions about external climate forcing: "It is extremely unlikely (<5 percent) that the global pattern of warming during the past half century can be explained without external forcing, and very unlikely that it is due to known

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statement, it is not meant to necessarily convey the same quantitative meaning as the IPCC terminology.

[23] Karl T. et al. (2009).

natural external causes alone" (Hegerl et al., 2007). With respect to internal variability, the IPCC reports the following: "The simultaneous increase in energy content of all the major components of the climate system as well as the magnitude and pattern of warming within and across the different components supports the conclusion that the cause of the [20th century] warming is extremely unlikely (<5 percent) to be the result of internal processes" (Hegerl et al., 2007). As noted in the TSD, the observed warming can only be reproduced with models that contain both natural and anthropogenic forcings, and the warming of the past half century has taken place at a time when known natural forcing factors alone (solar activity and volcanoes) would likely have produced cooling, not warming.

United States temperatures also warmed during the 20th and into the 21st century; temperatures are now approximately 0.7 °C (1.3 °F) warmer than at the start of the 20th century, with an increased rate of warming over the past 30 years. Both the IPCC and CCSP reports attributed recent North American warming to elevated greenhouse gas concentrations. The CCSP (2008g) report finds that for North America, "more than half of this warming [for the period 1951-2006] is likely the result of human-caused greenhouse gas forcing of climate change."

Observations show that changes are occurring in the amount, intensity, frequency, and type of precipitation. Over the contiguous United States, total annual precipitation increased by 6.1 percent from 1901-2008. It is likely that there have been increases in the number of heavy precipitation events within many land regions, even in those where there has been a reduction in total precipitation amount, consistent with a warming climate.

There is strong evidence that global sea level gradually rose in the 20th century and is currently rising at an increased rate. It is very likely that the response to anthropogenic forcing contributed to sea level rise during the latter half of the 20th century. It is not clear whether the increasing rate of sea level rise is a reflection of short-term variability or an increase in the longer-term trend. Nearly all of the Atlantic Ocean shows sea level rise during the last 50 years with the rate of rise reaching a maximum (over 2 mm per year) in a band along the U.S. east coast running east-northeast.

Satellite data since 1979 show that annual average Arctic sea ice extent has shrunk by 4.1 percent per decade. The size and speed of recent Arctic summer sea ice loss is highly anomalous relative to the previous few thousands of years.

Widespread changes in extreme temperatures have been observed in the last 50 years across all world regions including the United States. Cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.

Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. However, directly attributing specific regional changes in climate to emissions of greenhouse gases from human activities is difficult, especially for precipitation.

Ocean carbon dioxide uptake has lowered the average ocean pH (increased the acidity) level by approximately 0.1 since 1750. Consequences for marine ecosystems may include reduced calcification by shell-forming organisms, and in the longer term, the dissolution of carbonate sediments.

Observations show that climate change is currently affecting U.S. physical and biological systems in significant ways. The consistency of these observed changes in physical and biological systems and the observed significant warming likely cannot be explained entirely due to natural variability or other confounding non-climate factors.

b. Key Projections Based Primarily on Future Scenarios of the Six Greenhouse Gases

There continues to be no reason to expect that, without substantial and near-term efforts to significantly reduce emissions, atmospheric levels of greenhouse gases will not continue to climb, and thus lead to ever greater rates of climate change. Given the long atmospheric lifetime of the six greenhouse gases, which range from roughly a decade to centuries, future atmospheric greenhouse gas concentrations for the remainder of this century and beyond will be influenced not only by future emissions but indeed by present-day and near-term emissions. Consideration of future plausible scenarios, and how our current greenhouse gas emissions essentially commit present and future generations to cope with an altered atmosphere and climate, reinforces the Administrator's judgment that it is appropriate to define the combination of the six key greenhouse gases as the air pollution.

Most future scenarios that assume no explicit greenhouse gas mitigation actions (beyond those already enacted) project increasing global greenhouse gas emissions over the century, which in turn result in climbing greenhouse gas concentrations. Under the range of future emission scenarios evaluated by the assessment literature, carbon dioxide is expected to remain the dominant anthropogenic greenhouse gas, and thus driver of climate change, over the course of the 21st century. In fact, carbon dioxide is projected to be the largest contributor to total radiative forcing in all periods and the radiative forcing associated with carbon dioxide is projected to be the fastest growing. For the year 2030, projections of the six greenhouse gases show an increase of 25 to 90 percent compared with 2000 emissions. Concentrations of carbon dioxide and the other well-mixed gases increase even for those scenarios where annual emissions toward the end of the century are assumed to be lower than current annual emissions. The radiative forcing associated with the non-carbon dioxide well-mixed greenhouse gases is still important and increasing over time. Emissions of the ozone-depleting substances are projected to continue decreasing due to the phase-out schedule under the Montreal Protocol on Substances that Deplete the Ozone Layer. Considerable uncertainties surround the estimates and future projections of anthropogenic aerosols; future atmospheric concentrations of aerosols, and thus their respective heating or cooling effects, will depend much more on assumptions about future emissions because of their short atmospheric lifetimes compared to the six well-mixed greenhouse gases.

Future warming over the course of the 21st century, even under scenarios of low emissions growth, is very likely to be greater than observed warming over the past century. According to climate model simulations summarized by the IPCC, through about 2030, the global warming rate is affected little by the choice of different future emission scenarios. By the end of the century, projected average global warming (compared to average temperature around 1990) varies significantly depending on emissions scenario and climate sensitivity assumptions, ranging from 1.8 to 4.0 °C (3.2 to 7.2 °F), with an uncertainty range of 1.1 to 6.4 °C (2.0 to 11.5 °F).

All of the United States is very likely to warm during this century, and most areas of the United States are expected to warm by more than the global average. The largest warming is projected to occur in winter over northern parts of Alaska. In western, central and eastern regions of North America, the projected warming has less seasonal variation and is not as large, especially near the coast, consistent with less warming over the oceans.

3. The Six Greenhouse Gases Are Currently the Common Focus of the Climate Change Science and Policy Communities

The well-mixed greenhouse gases are currently the common focus of climate science and policy analyses and discussions. For example, the United Nations Framework Convention on Climate Change (UNFCCC), signed and ratified by the United States in 1992, requires its signatories to "develop, periodically update, publish and make available * * * national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies * * *" To date, the focus of UNFCCC actions and discussions has been on the six greenhouse gases that are the same focus of these Findings.

Because of these common properties, it has also become common practice to compare these gases on a carbon dioxide equivalent basis, based on each gas's warming effect relative to carbon dioxide (the designated reference gas) over a specified timeframe. For example, both the annual Inventory of U.S. Greenhouse Gases and Sinks published by EPA and the recently finalized EPA Mandatory Greenhouse Gas Reporting Rule (74 FR 56260), use the carbon dioxide equivalent metric to sum and compare these gases, and thus accept the common climate-relevant properties of these gases for their treatment as a group. This is also common practice internationally as the UNFCCC reporting guidelines for developed countries, and the Clean Development Mechanism procedures for developing countries both require the use of global warming potentials published by the IPCC to convert the six greenhouse gases into their respective carbon dioxide equivalent units.

4. Defining Air Pollution as the Aggregate Group of Six Greenhouse Gases Is Consistent With Evaluation of Risks and Impacts Due to Human-Induced Climate Change

Because the well-mixed greenhouse gases are collectively the primary driver of current and projected human-induced climate change, all current and future risks due to human-induced climate change-whether these risks are associated with increases in temperature, changes in precipitation, a rise in sea levels, changes in the frequency and intensity of weather events, or more directly with the elevated greenhouse gas concentrations themselves-can be associated with this definition of air pollution.

5. Defining the Air Pollution as the Aggregate Group of Six Greenhouse Gases Is Consistent With Past EPA Practice

Treating the air pollution as the aggregate of the well-mixed greenhouse gases is consistent with other provisions of the CAA and previous EPA practice under the CAA, where separate emissions from different sources but with common properties may be treated as a class (e.g., particulate matter (PM)). This approach addresses the total, cumulative effect that the elevated concentrations of the six well-mixed greenhouse gases have on climate, and thus on different elements of health, society and the environment.[24]

EPA treats, for example, PM as a common class of air pollution; PM is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles.

6. Other Climate Forcers Not Being Included in the Definition of Air Pollution for This Finding

Though the well-mixed greenhouse gases that make up the definition of air pollution for purposes of making the endangerment decision under CAA section 202(a) constitute the primary driver of human-induced climate change, there are other substances emitted from human activities that contribute to climate change and deserve careful attention, but are not being included in the air pollution definition for this particular action. These substances are discussed immediately below.

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[24] Due to the cumulative purpose of the statutory language, even if the Administrator were to look at the atmospheric concentration of each greenhouse gas individually, she would still consider the impact of the concentration of a single greenhouse gas in combination with that caused by the other greenhouse gases.

a. Black Carbon

Several commenters request that black carbon be included in the definition of air pollution because of its warming effect on the climate. Black carbon is not a greenhouse gas, rather, it is an aerosol particle that results from the incomplete combustion of carbon contained in fossil fuels and biomass, and remains in the atmosphere for only about a week. Unlike any of the greenhouse gases being addressed by this action, black carbon is a component of particulate matter (PM), where PM is a criteria air pollutant under section 108 of the CAA. The extent to which black carbon makes up total PM varies by emission source, where, for example, diesel vehicle PM emissions contain a higher fraction of black carbon compared to most other PM emission sources. Black carbon causes a warming effect primarily by absorbing incoming and reflected sunlight (whereas greenhouse gases cause warming by trapping outgoing, infrared heat), and by darkening bright surfaces such as snow and ice, which reduces reflectivity. This latter effect, in particular, has been raising concerns about the role black carbon may be playing in observed warming and ice melt in the Arctic.

As stated in the April 2009 Proposed Findings, there remain some significant scientific uncertainties about black carbon's total climate effect,[25] as well as concerns about how to treat the short-lived black carbon emissions alongside the long-lived, well-mixed greenhouse gases in a common framework (e.g., what are the appropriate metrics to compare the warming and/or climate effects of the different substances, given that, unlike greenhouse gases, the magnitude of aerosol effects can vary immensely with location and season of emissions). Nevertheless, the Administrator recognizes that black carbon is an important climate forcing agent and takes very seriously the emerging science on black carbon's contribution to global climate change in general and the high rates of observed climate change in the Arctic in particular. As noted in the Proposed Findings, EPA has various pending petitions under the CAA calling on the Agency to make an endangerment finding and regulate black carbon emissions.

b. Other Climate Forcers

There are other climate forcers that play a role in human-induced climate change that were mentioned in the Proposed Findings, and were the subject of some public comments. These include the stratospheric ozone-depleting substances, nitrogen trifluoride (NF_3), water vapor, and tropospheric ozone.

As mentioned above, the ozone-depleting substances (CFCs and HCFCs) do share the same physical, climate-relevant attributes as the six well-mixed greenhouse gases, however, emissions of these substances are playing a diminishing role in human-induced climate change. They are being controlled and phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer. Because of this, the major scientific assessment reports such as those from IPCC focus primarily on the same six well-mixed greenhouse gases included in the definition of air pollution in these Findings. It is also worth noting that the UNFCCC, to which the United States is a signatory, addresses "all greenhouse gases not controlled by the Montreal Protocol."[26] One commenter noted that because the Montreal Protocol controls production and consumption of ozone-depleting substances, but not existing banks of the substances, that CFCs should be included in the definition of air pollution in this finding, which might, in turn, create some future action under the CAA to address the banks of ozone-depleting substances as a climate issue. However, the primary criteria for defining the air pollution in this finding is the focus on the core of the climate change problem, and concerns over future actions to control depletion of stratospheric ozone are separate from and not central to the air pollution causing climate change.

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[25] The range of uncertainty in the current magnitude of black carbon's climate forcing effect is evidenced by the ranges presented by the IPCC Fourth Assessment Report (2007) and the more recent study by Ramanathan, V. and Carmichael, G. (2008) Global and regional climate changes due to black carbon. Nature Geoscience, 1(4): 221-227.

Nitrogen trifluoride also shares the same climate-relevant attributes as the six well-mixed greenhouse gases, and it is also included in EPA's Mandatory Greenhouse Gas Reporting Rule (FR 74 56260). However, the Administrator is maintaining the reasoning laid out in the Proposed Findings to not include NF_3 in the definition of air pollution for this finding because the overall magnitude of its forcing effect on climate is not yet well quantified. EPA will continue to track the science on NF_3 .

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[26] UNFCCC, Art. 4.1(b).

A number of public comments question the exclusion of water vapor from the definition of air pollution because it is the most important greenhouse gas responsible for the natural, background greenhouse effect. The Administrator's reasoning for excluding water vapor, was described in the Proposed Findings and is summarized here with additional information in Volume 10 of the Response to Comments document. First, climate change is being driven by the buildup in the atmosphere of greenhouse gases. The direct emissions primarily responsible for this are the six well-mixed greenhouse gases. Direct anthropogenic emissions of water vapor, in general, have a negligible effect and are thus not considered a primary driver of human-induced climate change. EPA plans to further evaluate the issues of emissions of water that are implicated in the formation of contrails and also changes in water vapor due to local irrigation. At this time, however, the findings of the IPCC state that the total forcing from these sources is small and that the level of understanding is low.

Water produced as a byproduct of combustion at low altitudes has a negligible contribution to climate change. The residence time of water vapor is very short (days) and the water content of the air in the long term is a function of temperature and partial pressure, with emissions playing no role. Additionally, the radiative forcing of a given mass of water at low altitudes is much less than the same mass of carbon dioxide. Water produced at higher altitudes could potentially have a larger impact. The IPCC estimated the contribution of changes in stratospheric water vapor due to methane and other sources, as well as high altitude contributions from contrails, but concluded that both contributions were small, with a low level of understanding. The report also addressed anthropogenic contributions to water vapor arising from large scale irrigation, but assigned it a very low level of understanding, and suggested that the cooling from evaporation might outweigh the warming from its small radiative contribution.

Increases in tropospheric ozone concentrations have exerted a significant anthropogenic warming effect since pre-industrial times. However, as explained in the Proposed Findings, tropospheric ozone is not a long-lived, well-mixed greenhouse gas, and it is not directly emitted. Rather it forms in the atmosphere from emissions of pre-cursor gases. There is increasing attention in climate change research and the policy community about the extent to which further reductions in tropospheric ozone levels may help slow down climate change in the near term. The Administrator views this issue seriously but maintains that tropospheric ozone is sufficiently different such that it deserves an evaluation and treatment separate from this finding.

7. Summary of Key Comments on Definition of Air Pollution

a. It Is Reasonable for the Administrator To Define the Air Pollution as Global Concentrations of the Well-Mixed Greenhouse Gases

Many commenters argue that EPA does not have the authority to establish domestic rights and obligations based on environmental conditions that are largely attributed to foreign nations and entities that are outside the jurisdiction of EPA under the CAA. They contend that in this case, the bulk of emissions that would lead to mandatory emissions controls under the CAA would not and could not be regulated under the CAA. They state that CAA requirements cannot be enforced against foreign sources of air pollution, and likewise domestic obligations under the CAA cannot be caused by foreign emissions that are outside the United States. The commenters argue that EPA committed procedural error by not addressing this legal issue of authority in the proposal.

Commenters cite no statutory text or judicial authority for this argument, and instead rely entirely on an analogy to the issues concerning the exercise of extra-territorial jurisdiction. The text of CAA section 202(a), however, does not support this claim. Nothing in CAA section 202(a) limits the term air pollution to those air pollution matters that are caused solely or in large part by domestic emissions. The only issue under CAA section 202(a) is whether the air pollution is reasonably anticipated to endanger, and whether emissions from one domestic source category-new motor vehicles-cause or contribute to this air pollution. Commenters would read into this an additional cause or contribute test-whether foreign sources cause or contribute to the air pollution in such a way that the air pollution is largely attributable to the foreign emissions, or the bulk of emissions causing the air pollution are from foreign sources. There is no such provision in CAA section 202(a). Congress was explicit about the contribution test it imposed, and the only source that is relevant for purposes of contribution is new motor vehicles. Commenters suggest an ill-defined criterion that is not in the statute.

In addition, as discussed in Section II of these Findings, Congress intentionally meant the agency to judge the air pollution endangerment criteria based on the "cumulative impact of all sources of a pollutant," and not an incremental look at just the endangerment from a subset of sources. Commenters' arguments appear to lead to this result. Under the commenters' approach, in those cases where the bulk of emissions which form the air pollution come from foreign sources, EPA apparently would have no authority to make an endangerment finding. Logically, EPA would be left with the option of identifying and evaluating the air pollution attributable to domestic sources alone, and determining whether that narrowly defined form of air pollution endangers public health or welfare. This is the kind of unworkable, incremental approach that was rejected by the court in *Ethyl* and by Congress in the 1977 amendments adopting this provision.

The analogy to extra-territorial jurisdiction is also not appropriate. The endangerment finding itself does not exercise jurisdiction over any source, domestic or foreign. It is a judgment that is a precondition for exercising regulatory authority. Under CAA section 202(a), any exercise of regulatory authority following from this endangerment finding would be for new motor vehicles either manufactured in the United States or imported into the United States. There would be no extra-territorial exercise of jurisdiction. The core issues for endangerment focus on impacts inside the United States, not outside the United States. In addition, the contribution finding is based solely on the contribution from new motor vehicles built in or imported to the United States. The core judgments that need to be made under CAA section 202(a) are all focused on actions and impacts inside the United States. This does not raise any concerns about an extra-territorial exercise of jurisdiction. The basis for the endangerment and contribution findings is fully consistent with the principles underlying the desire to avoid exercises of extra-territorial jurisdiction. Any limitations on the ability to exercise control over foreign sources of emissions does not, however, call into question the authority under CAA section 202 to exercise control over domestic sources of emissions based on their contribution to an air pollution problem that is judged to endanger public health or welfare based on impacts occurring in the United States or otherwise affecting the United States and its citizens.

In essence, commenters are concerned about the effectiveness of the domestic control strategies that can be adopted to address a global air pollution problem that is caused only in part by domestic sources of emissions. While that is a quite valid and important policy concern, it does not translate into a legal limitation on EPA's authority to make an endangerment finding. Neither the text nor the legislative history of CAA section 202(a) support such an interpretation and Congress explicitly separated the decision on endangerment from the decision on what controls are required or appropriate once an affirmative endangerment finding has been made. The effectiveness of the resulting regulatory controls is not a relevant factor to determining endangerment.

EPA also committed no procedural flaw as argued by commenters. The proposal fully explored the interpretation of endangerment and cause or contribution under CAA section 202(a), and was very clear that EPA was considering air pollution to mean the elevated global concentration of greenhouse gases in the atmosphere, recognizing that these atmospheric concentrations were the result of worldwide emissions, not just or even largely U.S. emissions. The separation of the effectiveness of the control strategy from the endangerment criteria, and the need to consider the cumulative impact of all sources in evaluating endangerment was clearly discussed. Commenters received fair notice of EPA's proposal and the basis for it.

Similarly, some commenters argue that EPA's proposal defines air pollution as global air pollution, but EPA is limited to evaluating domestic air only; in other words that EPA may only regulate domestic emissions with localized effects. They argue this limitation derives from the purpose of the CAA-to enhance the quality of the Nation's air resources, recognizing that air pollution prevention and control focus on the sources of the emissions, and are the primary responsibility of States and local governments. Therefore, commenters continue, that "air pollution" has to be air pollution that originates domestically and is to be addressed only at the domestic source. Sections 115 and 179B of the CAA, as discussed below, reflect this intention as well. The result, they conclude, is that "air pollution" as used in CAA section 202(a), includes only pollution that originates domestically, where the effects occur locally. They argue EPA has improperly circumvented this by a "local-global-local" analysis that injects global air pollution into the middle of the endangerment test.

The statutory arguments made by the commenters attempt to read an unrealistic limitation into the general provisions discussed. The issues are similar in nature to those raised by the commenters arguing that

EPA has no authority to establish domestic rights and obligations based on environmental conditions that are largely attributable to emissions from foreign nations and entities that are outside the jurisdiction of EPA under the CAA. In both cases, the question is whether EPA has authority to make an endangerment finding when the air pollution of concern is a relatively homogenous atmospheric concentration of greenhouse gases. According to the commenters, although this global pool includes the air over the United States, and leads to impacts in the United States and on the U.S. population, Congress prohibited EPA from addressing this air pollution problem because of its global aspects.

The text of the CAA does not specifically address this, as the term air pollution is not defined. EPA interprets this term as including the air pollution problem involved in this case-elevated atmospheric concentration of greenhouse gases that occur in the air above the United States as well as across the globe, and where this pool of global gases leads to impacts in the United States and on the U.S. population. This is fully consistent with the statutory provisions discussed by commenters. This approach seeks to protect the Nation's air resources, as clearly the Nation's air resources are an integral part of this global pool. The Nation's air resources by definition are not an isolated atmosphere that only contains molecules emitted within the United States, or an atmosphere that bears no relationship to the rest of the globe's atmosphere. There is no such real world body of air. Protecting the Nation's resources of clean air means to protect the air in the real world, not an artificial construct of "air" that ignores the many situations where the air over our borders includes compounds and pollutants emitted outside our borders, and in this case to ignore the fact that the air over our borders will by definition have elevated concentrations of greenhouse gases only when the air around the globe also has such concentrations. The suggested narrow view of "air pollution" does not further the protection of the Nation's air resources, but instead attempts to limit such protection by defining these resources in a scientifically artificial way that does not comport with how the air in the atmosphere is formed or changes over time, how it relates to and interacts with air around the globe, and how the result of this can affect the U.S. population.

The approach suggested by commenters fails to provide an actual definition for EPA to follow-for example, would U.S. or domestic "air pollution" be limited to only those air concentrations composed of molecules that originated in the United States? Is there a degree of external gases or compounds that could be allowed? Would it ignore the interaction and relationship between the air over the U.S. borders and the air around the rest of the globe? The latter approach appears to be the one suggested by commenters. Commenters' approach presumably would call for EPA to only consider the effects that derive solely from the air over our borders, and to ignore any effects that occur within the United States that are caused by air around the globe. However the air over the United States will by definition affect climate change only in circumstances where the air around the world is also doing so. The impacts of the air over the United States cannot be assessed separately from the impacts from the global pool, as they occur together and work together to affect the climate. Ignoring the real world nature of the Nation's air resources, in the manner presumably suggested by the commenters, would involve the kind of unworkable, incremental, and artificially isolating approach that was rejected by the court in *Ethyl* and by Congress in 1977. Congress intended EPA to interpret this provision by looking at air pollutants and air pollution problems in a broad manner, not narrowly, to evaluate problems within their broader context and not to attempt to isolate matters in an artificial way that fails to account for the real world context that lead to health and welfare impacts on the public. Commenters' suggested interpretation fails to implement this intention of Congress.

Commenters in various places refer to the control of the pollution, and the need for it to be aimed at local sources. That is addressed in the standard setting portion of CAA section 202(a), as in other similar provisions. The endangerment provision does not address how the air pollution problem should be addressed-who should be regulated and how they should be regulated. The endangerment provision addresses a different issue-is there an air pollution problem that should be addressed? In that context, EPA rejects the artificially narrow interpretation suggested by the commenters, and believes its broader interpretation in this case is reasonable and consistent with the intention of Congress.

b. Consideration of Greenhouse Gases as Air Pollution Given Their Impact Is Through Climate Rather Than Direct Toxic Effects

A number of commenters argue that carbon dioxide and the other greenhouse gases should not be defined as the air pollution because these gases do not cause direct human health effects, such as through inhalation. Responses to such comments are summarized in Section IV.B.1 of these Findings in the discussion of the public health and welfare nature of the endangerment finding.

c. The Administrator's Reliance on the Global Temperature Data Is a Reasonable Indicator of Human-Induced Climate Change

We received many comments suggesting global temperatures have stopped warming. The commenters base this conclusion on temperature trends over only the last decade. While there have not been strong trends over the last seven to ten years in global surface temperature or lower troposphere temperatures measured by satellites, this pause in warming should not be interpreted as a sign that the Earth is cooling or that the science supporting continued warming is in error. Year-to-year variability in natural weather and climate patterns make it impossible to draw any conclusions about whether the climate system is warming or cooling from such a limited analysis. Historical data indicate short-term trends in long-term time series occasionally run counter to the overall trend. All three major global surface temperature records show a continuation of long-term warming. Over the last century, the global average temperature has warmed at the rate of about 0.13 °F (0.072 °C) per decade in all three records. Over the last 30 years, the global average surface temperature has warmed by about 0.30 °F (0.17 °C) per decade. Eight of the 10 warmest years on record have occurred since 2001 and the 20 warmest years have all occurred since 1981. Satellite measurements of the troposphere also indicate warming over the last 30 years at a rate of 0.20 to 0.27 °F (0.11 °C to 0.15 °C) per decade. Please see the relevant volume of the Response to Comments document for more detailed responses.

Some commenters indicate the global surface temperature records are biased by urbanization, poor siting of instruments, observation methods, and other factors. Our review of the literature suggests that these biases have in many cases been corrected for, are largely random where they remain, and therefore cancel out over large regions. Furthermore, we note that though the three global surface temperature records use differing techniques to analyze much of the same data, they produce almost the same results, increasing our confidence in their legitimacy. The assessment literature has concluded that warming of the climate system is unequivocal. The warming trend that is evident in all of the temperature records is confirmed by other independent observations, such as the melting of Arctic sea ice, the retreat of mountain glaciers on every continent, reductions in the extent of snow cover, earlier blooming of plants in the spring, and increased melting of the Greenland and Antarctic ice sheets. Please see the relevant volume of the Response to Comments document for more detailed responses.

A number of commenters argue that the warmth of the late 20th century is not unusual relative to the past 1,000 years. They maintain temperatures were comparably warm during the Medieval Warm Period (MWP) centered around 1000 A.D. We agree there was a Medieval Warm Period in many regions but find the evidence is insufficient to assess whether it was globally coherent. Our review of the available evidence suggests that Northern Hemisphere temperatures in the MWP were probably between 0.1 °C and 0.2 °C below the 1961-1990 mean and significantly below the level shown by instrumental data after 1980. However, we note significant uncertainty in the temperature record prior to 1600 A.D. Please see the relevant volume of the Response to Comments document for more detailed responses.

d. Ability To Attribute Observed Climate Change to Anthropogenic, Well-Mixed Greenhouse Gases

Many commenters question the link between observed temperatures and anthropogenic greenhouse gas emissions. They suggest internal variability of the climate system and natural forcings explain observed temperature trends and that anthropogenic greenhouse gases play, at most, a minor role. However, the attribution of most of the recent warming to anthropogenic activities is based on multiple lines of evidence. The first line of evidence arises from our basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system. Greenhouse gas concentrations have indisputably increased and their radiative properties are well established. The second line of evidence arises from indirect, historical estimates of past climate changes that suggest that the changes in global surface temperature over the last several decades are unusual. The third line of evidence arises from the use of computer-based climate models to simulate the likely patterns of response of the climate system to different forcing mechanisms (both natural and anthropogenic). These models are unable to replicate the observed warming unless anthropogenic emissions of greenhouse gases are included in the simulations. Natural forcing alone cannot explain the observed warming. In fact, the assessment literature[27] indicates the sum of solar and volcanic forcing in the past half century would likely have produced cooling, not warming. Please see the relevant volume of the Response to Comments for more detailed responses.

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[27] Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C.

B. The Air Pollution Is Reasonably Anticipated To Endanger Both Public Health and Welfare

The Administrator finds that the elevated atmospheric concentrations of the well-mixed greenhouse gases may reasonably be anticipated to endanger the public health and welfare of current and future generations. This section describes the major pieces of scientific evidence supporting the Administrator's endangerment finding, discusses both the public health and welfare nature of the endangerment finding, and addresses a number of key issues the Administrator considered when evaluating the state of the science as well as key public comments on the Proposed Findings. Additional detail can be found in the TSD and the Response to Comments document.

As described in Section II of these Findings, the endangerment test under CAA section 202(a) does not require the Administrator to identify a bright line,

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Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F. Stocker, P. Whetton, R.A. Wood and D. Wratt (2007) Technical Summary. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Karl, T. et al. (2009).

quantitative threshold above which a positive endangerment finding can be made. The statutory language explicitly calls upon the Administrator to use her judgment. This section describes the general approach used by the Administrator in reaching the judgment that a positive endangerment finding should be made, as well as the specific rationale for finding that the greenhouse gas air pollution may reasonably be anticipated to endanger both public health and welfare.

First, the Administrator finds the scientific evidence linking human emissions and resulting elevated atmospheric concentrations of the six well-mixed greenhouse gases to observed global and regional temperature increases and other climate changes to be sufficiently robust and compelling. This evidence is briefly explained in more detail in Section V of these Findings. The Administrator recognizes that the climate change associated with elevated atmospheric concentrations of carbon dioxide and the other well-mixed greenhouse gases have the potential to affect essentially every aspect of human health, society and the natural environment. The Administrator is therefore not limiting her consideration of potential risks and impacts associated with human emissions of greenhouse gases to any one particular element of human health, sector of the economy, region of the country, or to any one particular aspect of the natural environment. Rather, the Administrator is basing her finding on the total weight of scientific evidence, and what the science has to say regarding the nature and potential magnitude of the risks and impacts across all climate-sensitive elements of public health and welfare, now and projected out into the foreseeable future.

The Administrator has considered the state of the science on how human emissions and the resulting elevated atmospheric concentrations of well-mixed greenhouse gases may affect each of the major risk categories, i.e., those that are described in the TSD, which include human health, air quality, food production and agriculture, forestry, water resources, sea level rise and coastal areas, the energy sector, infrastructure and settlements, and ecosystems and wildlife. The Administrator understands that the nature and potential severity of impacts can vary across these different elements of public health and welfare, and that they can vary by region, as well as over time.

The Administrator is therefore aware that, because human-induced climate change has the potential to be far-reaching and multi-dimensional, not all risks and potential impacts can be characterized with a uniform level of quantification or understanding, nor can they be characterized with uniform metrics. Given this variety in not only the nature and potential magnitude of risks and impacts, but also in our ability to characterize, quantify and project into the future such impacts, the Administrator must use her judgment to weigh the threat in each of the risk categories, weigh the potential benefits where relevant, and ultimately judge whether these risks and benefits, when viewed in total, are judged to be endangerment to public health and/or welfare.

This has a number of implications for the Administrator's approach in assessing the nature and magnitude of risk and impacts across each of the risk categories. First, the Administrator has not established a specific threshold metric for each category of risk and impacts. Also, the Administrator is not necessarily placing the greatest weight on those risks and impacts which have been the subject of the most study or quantification.

Part of the variation in risks and impacts is the fact that climbing atmospheric concentrations of greenhouse gases and associated temperature increases can bring about some potential benefits to public health and welfare in addition to adverse risks. The current understanding of any potential benefits associated with human-induced climate change is described in the TSD and is taken into consideration here. The potential for both adverse and beneficial effects are considered, as well as the relative magnitude of such effects, to the extent that the relative magnitudes can be quantified or characterized. Furthermore, given the multiple ways in which the buildup of atmospheric greenhouse gases can cause effects (e.g., via elevated carbon dioxide concentrations, via temperature increases, via precipitation increases, via sea level rise, and via changes in extreme events), these multiple pathways are considered. For example, elevated carbon dioxide concentrations may be beneficial to crop yields, but changes in temperature and precipitation may be adverse and must also be considered. Likewise, modest temperature increases may have some public health benefits as well as harms, and other pathways such as changes in air quality and extreme events must also be considered.

The Administrator has balanced and weighed the varying risks and effects for each sector. She has judged whether there is a pattern across the sector that supports or does not support an endangerment finding, and if so whether the support is of more or less weight. In cases where there is both a potential for benefits and risks of harm, the Administrator has balanced these factors by determining whether there appears to be any directional trend in the overall evidence that would support placing more weight on one than the other, taking into consideration all that is known about the likelihood of the various risks and effects and their seriousness. In all of these cases, the judgment is largely qualitative in nature, and is not reducible to precise metrics or quantification.

Regarding the timeframe for the endangerment test, it is the Administrator's view that both current and future conditions must be considered. The Administrator is thus taking the view that the endangerment period of analysis extend from the current time to the next several decades, and in some cases to the end of this century. This consideration is also consistent with the timeframes used in the underlying scientific assessments. The future timeframe under consideration is consistent with the atmospheric lifetime and climate effects of the six well-mixed greenhouse gases, and also with our ability to make reasonable and plausible projections of future conditions.

The Administrator acknowledges that some aspects of climate change science and the projected impacts are more certain than others. Our state of knowledge is strongest for recently observed, large-scale changes. Uncertainty tends to increase in characterizing changes at smaller (regional) scales relative to large (global) scales. Uncertainty also increases as the temporal scales move away from present, either backward, but more importantly forward in time. Nonetheless, the current state of knowledge of observed and past climate changes and their causes enables projections of plausible future changes under different scenarios of anthropogenic forcing for a range of spatial and temporal scales.

In some cases, where the level of sensitivity to climate of a particular sector has been extensively studied, future impacts can be quantified whereas in other instances only a qualitative description of a directional change, if that, may be possible. The inherent uncertainty in the direction, magnitude, and/or rate of certain future climate change impacts opens up the possibility that some changes could be more or less severe than expected, and the possibility of unanticipated outcomes. In some cases, low probability, high impact outcomes (i.e., known unknowns) are possibilities but cannot be explicitly assessed.

1. The Air Pollution Is Reasonably Anticipated To Endanger Public Health

The Administrator finds that the well-mixed greenhouse gas air pollution is reasonably anticipated to endanger public health, for both current and future generations. The Administrator finds that the public health of current generations is endangered and that the threat to public health for both current and future generations will likely mount over time as greenhouse gases continue to accumulate in the atmosphere and result in ever greater rates of climate change.

After review of public comments, the Administrator continues to believe that climate change can increase the risk of morbidity and mortality and that these public health impacts can and should be considered when determining endangerment to public health under CAA section 202(a). As described in Section IV.B.1 of these Findings, the Administrator is not limited to only considering whether there are any direct health effects such as respiratory or toxic effects associated with exposure to greenhouse gases.

In making this public health finding, the Administrator considered direct temperature effects, air quality effects, the potential for changes in vector-borne diseases, and the potential for changes in the severity and frequency of extreme weather events. In addition, the Administrator considered whether and how susceptible populations may be particularly at risk. The current state of science on these effects from the major assessment reports is described in greater detail in the TSD, and our responses to public comments are provided in the Response to Comments Documents.

a. Direct Temperature Effects

It has been estimated that unusually hot days and heat waves are becoming more frequent, and that unusually cold days are becoming less frequent, as noted above. Heat is already the leading cause of weather-related deaths in the United States. In the future, severe heat waves are projected to intensify in magnitude and duration over the portions of the United States where these events already occur. Heat waves are associated with marked short-term increases in mortality. Hot temperatures have also been associated with increased morbidity. The projected warming is therefore projected to increase heat related mortality and morbidity, especially among the elderly, young and frail. The populations most sensitive to hot temperatures are older adults, the chronically sick, the very young, city-dwellers, those taking medications that disrupt thermo-regulation, the mentally ill, those lacking access to air conditioning, those working or playing outdoors, and socially isolated persons. As warming increases over time, these adverse effects would be expected to increase as the serious heat events become more serious.

Increases in temperature are also expected to lead to some reduction in the risk of death related to extreme cold. Cold waves continue to pose health risks in northern latitudes in temperature regions where very low temperatures can be reached in a few hours and extend over long periods. Globally, the IPCC projects reduced human mortality from cold exposure through 2100. It is not clear whether reduced mortality in the United States from cold would be greater or less than increased heat-related mortality in the United States due to climate change. However, there is a risk that projections of cold-related deaths, and the potential for decreasing their numbers due to warmer winters, can be overestimated unless they take into account the effects of season and influenza, which is not strongly associated with monthly winter temperature. In addition, the latest USGCRP report refers to a study that analyzed daily mortality and weather data in 50 U.S. cities from 1989 to 2000 and found that, on average, cold snaps in the United States increased death rates by 1.6 percent, while heat waves triggered a 5.7 percent increase in death rates. The study concludes that increases in heat-related mortality due to global warming in the United States are unlikely to be compensated for by decreases in cold-related mortality.

b. Air Quality Effects

Increases in regional ozone pollution relative to ozone levels without climate change are expected due to higher temperatures and weaker circulation in the United States relative to air quality levels without climate change. Climate change is expected to increase regional ozone pollution, with associated risks in respiratory illnesses and premature death. In addition to human health effects, tropospheric ozone has significant adverse effects on crop yields, pasture and forest growth, and species composition. The directional effect of climate change on ambient particulate matter levels remains less certain.

Climate change can affect ozone by modifying emissions of precursors, atmospheric chemistry, and transport and removal. There is now consistent evidence from models and observations that 21st century climate change will worsen summertime surface ozone in polluted regions of North America compared to a future with no climate change.

Modeling studies discussed in EPA's Interim Assessment[28] show that simulated climate change causes increases in summertime ozone concentrations over substantial regions of the country, though this was not uniform, and some areas showed little change or decreases, though the decreases tend to be less pronounced than the increases. For those regions that showed climate-induced increases, the increase in maximum daily 8-hour average ozone concentration, a key metric for regulating U.S. air quality, was in the range of 2 to 8 ppb, averaged over the summer season. The increases were substantially greater than this during the peak pollution episodes that tend to occur over a number of days each summer. The overall effect of climate change was projected to increase ozone levels, compared to what would occur without this climate change, over broad areas of the country, especially on the highest ozone days and in the largest metropolitan areas with the worst ozone problems. Ozone decreases are projected to be less pronounced, and generally to be limited to some regions of the country with smaller population.

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[28] U.S. EPA (2009) Assessment of the Impacts of Global Change on Regional U.S. Air Quality: A Synthesis of Climate Change Impacts on Ground-Level Ozone. An Interim Report of the U.S. EPA Global Change Research Program. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-07/094.

c. Effects on Extreme Weather Events

In addition to the direct effects of temperature on heat- and cold-related mortality, the Administrator considers the potential for increased deaths, injuries, infectious diseases, and stress-related disorders and other adverse effects associated with social disruption and migration from more frequent extreme weather. The Administrator notes that the vulnerability to weather disasters depends on the attributes of the people at risk (including where they live, age, income, education, and disability) and on broader social and environmental factors (level of disaster preparedness, health sector responses, and environmental degradation). The IPCC finds the following with regard to extreme events and human health:

Increases in the frequency of heavy precipitation events are associated with increased risk of deaths and injuries as well as infectious, respiratory, and skin diseases. Floods are low-probability, high-impact events that can overwhelm physical infrastructure, human resilience, and social organization. Flood health impacts include deaths, injuries, infectious diseases, intoxications, and mental health problems.

Increases in tropical cyclone intensity are linked to increases in the risk of deaths, injuries, waterborne and food borne diseases, as well as post-traumatic stress disorders. Drowning by storm surge, heightened by rising sea levels and more intense storms (as projected by IPCC), is the major killer in coastal storms where there are large numbers of deaths. Flooding can cause health impacts including direct injuries as well as increased incidence of waterborne diseases due to pathogens such as Cryptosporidium and Giardia.

d. Effects on Climate-Sensitive Diseases and Aeroallergens

According to the assessment literature, there will likely be an increase in the spread of several food and water-borne pathogens among susceptible populations depending on the pathogens' survival, persistence, habitat range and transmission under changing climate and environmental conditions. Food borne diseases show some relationship with temperature, and the range of some zoonotic disease carriers such as the Lyme disease carrying tick may increase with temperature.

Climate change, including changes in carbon dioxide concentrations, could impact the production, distribution, dispersion and allergenicity of aeroallergens and the growth and distribution of weeds, grasses, and trees that produce them. These changes in aeroallergens and subsequent human exposures could affect the prevalence and severity of allergy symptoms. However, the scientific literature does not provide definitive data or conclusions on how climate change might impact aeroallergens and subsequently the prevalence of allergenic illnesses in the United States.

It has generally been observed that the presence of elevated carbon dioxide concentrations and temperatures stimulate plants to increase photosynthesis, biomass, water use efficiency, and reproductive effort. The IPCC concluded that pollens are likely to increase with elevated temperature and carbon dioxide.

e. Summary of the Administrator's Finding of Endangerment to Public Health

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public health by evaluating the risks associated with changes in air quality, increases in temperatures, changes in extreme weather events, increases in food and water borne pathogens, and changes in aeroallergens. The evidence concerning adverse air quality impacts provides strong and clear support for an endangerment finding. Increases in ambient ozone are expected to occur over broad areas of the country, and they are expected to increase serious adverse health effects in large population areas that are and may continue to be in nonattainment. The evaluation of the potential risks associated with increases in ozone in attainment areas also supports such a finding.

The impact on mortality and morbidity associated with increases in average temperatures which increase the likelihood of heat waves also provides support for a public health endangerment finding. There are uncertainties over the net health impacts of a temperature increase due to decreases in cold-related mortality, but there is some recent evidence that suggests that the net impact on mortality is more likely to be adverse, in a context where heat is already the leading cause of weather-related deaths in the United States.

The evidence concerning how human-induced climate change may alter extreme weather events also clearly supports a finding of endangerment, given the serious adverse impacts that can result from such events and the increase in risk, even if small, of the occurrence and intensity of events such as hurricanes and floods. Additionally, public health is expected to be adversely affected by an increase in the severity of coastal storm events due to rising sea levels.

There is some evidence that elevated carbon dioxide concentrations and climate changes can lead to changes in aeroallergens that could increase the potential for allergenic illnesses. The evidence on pathogen borne disease vectors provides directional support for an endangerment finding. The Administrator acknowledges the many uncertainties in these areas. Although these adverse effects, provide some support for an endangerment finding, the Administrator is not placing primary weight on these factors.

Finally, the Administrator places weight on the fact that certain groups, including children, the elderly, and the poor, are most vulnerable to these climate-related health effects.

f. Key Comments on the Finding of Endangerment to Public Health

EPA received many comments on public health issues and the proposed finding of endangerment to public health.

i. EPA's Consideration of the Climate Impacts as Public Health Issues Is Reasonable

Several commenters argue that EPA may only consider the health effects from direct exposure to pollutants in determining whether a pollutant endangers public health. The commenters state that EPA's proposal acknowledges that there is no evidence that greenhouse gases directly cause health effects, citing 74 FR 18901. To support their claim that EPA can only consider health effects that result from direct exposure to a pollutant, commenters cite several sources, discussed below.

Clean Air Act and Legislative History. Several commenters argue that the text of the CAA and the legislative history of the 1977 amendments demonstrate that Congress intended public health effects to relate to risks from direct exposure to a pollutant. They also argue that by considering health effects that result from welfare effects, EPA was essentially combining the two categories into one, contrary to the statute and Congressional intent.

Commenters state that the CAA, including CAA section 202(a)(1), requires EPA to consider endangerment of public health separately from endangerment of public welfare. Commenters note that while the CAA does not provide a definition of public health, CAA section 302(h) addresses the meaning of "welfare," which includes weather and climate. Thus, they argue, Congress has instructed that effects on weather and climate are to be considered as potentially endangering welfare-not human health. They continue that Congress surely knew that weather and climatic events such as flooding and heat waves could affect human health, but Congress nonetheless classified air pollutants' effects on weather and climate as effects on welfare.

Commenters also argue that the legislative history confirms that Congress intended for the definition of "public health" to only include the consequences of direct human exposure to ambient air pollutants. They note an early version of section 109(b) would have required only a single NAAQS standard to protect "public health," with the protection of "welfare" being a co-benefit of the single standard. Commenters note that the proponents of this early bill explained, "[i]n many cases, a level of protection of health would take care of the welfare situation" Sen. Hearing, Subcommittee on Air and Water Pollution, Comm. On Public Works (Mar. 17, 1970) (statement of Dr. Middleton, Comm'r, Nat'l Air Pollution Control Admin., HEW), 1970 Leg. Hist. 1194. Commenters state that the Senate bill that ultimately passed rejected this combined standard, requiring separate national ambient air quality standards and national ambient air quality goals. Commenters contend that Congress intended that the national ambient air quality goals be set "to protect the public health and welfare from any known or anticipated effects associated with" air pollution, including the list of "welfare" effects currently found in CAA section 302(h), such as effects on water, vegetation, animals, wildlife, weather and climate. Commenters note the Senate Committee Report stated that the national ambient air quality standards were created to protect public health, while the national ambient air quality goals were intended to address broader issues because "the Committee also recognizes that man's natural and man-made environment must be preserved and protected. Therefore, the bill provides for the setting of national ambient air quality goals at levels necessary to protect public health and welfare from any known or anticipated adverse effects of air pollution-including effects on soils, water, vegetation, man-made materials, animals, wildlife, visibility, climate, and economic values." Commenters argue this statement is clearly the source of the current definition of welfare effects in CAA section 302(h), which also includes "personal comfort and well being." They argue the Senate bill contemplates the NAAQS would include only direct health effects, while the goals would encompass effects on both the public health and welfare. Commenters continue that considering both public health effects and welfare effects under a combined standard, as the Administrator attempts to do in the proposed endangerment finding, would resurrect the combined approach to NAAQS that the Senate emphatically rejected.

The commenters also cite language from the House Report in support of their view that Congress only intended that EPA consider direct health effects when assessing endangerment to public health: "By the words 'cause or contribute to air pollution,' the committee intends to require the Administrator to consider all sources of the contaminant which contributes to air pollution and to consider all sources of exposure to the contaminant-food, water, air, etc.-in determining health risks" 7 H.R. Rep. No. 95-294, at 49-50 (1977). Commenters also cite language in the Senate Report: "Knowledge of the relationship between the exposure to many air pollution agents and acute and chronic health effects is sufficient to develop air quality criteria related to such effects" S. Rep. No. 91-1196, at 7 (1970).

The specific issue here is whether an effect on human health that results from a change in climate should be considered when EPA determines whether the air pollution of well-mixed greenhouse gases is reasonably anticipated to endanger public health. In this case, the air pollution has an effect on climate. For example the air pollution raises surface, air, and water temperatures. Among the many effects that flow from this is the expectation that there will be an increase in the risk of mortality and morbidity associated with increased intensity of heat waves. In addition, there is an expectation that there will be an increase in levels of ambient ozone, leading to increased risk of morbidity and mortality from exposure to ozone. All of these are effects on human health, and all of them are associated with the effect on climate from elevated atmospheric concentrations of greenhouse gases. None of these human health effects are associated with direct exposure to greenhouse gases.

In the past, EPA has not had to resolve the issue presented here, as it has been clear whether the effects relate to public health or relate to public welfare, with no confusion over what category was at issue. In those cases EPA has routinely looked at what effect the air pollution has on people. If the effect on people is to their health, we have considered it an issue of public health. If the effect on people is to their interest in matters other than health, we have considered it public welfare.

For example, there are serious health risks associated with inhalation of ozone, and they have logically been considered as public health issues. Ambient levels of ozone have also raised the question of indirect health benefits through screening of harmful UVB rays. EPA has also considered this indirect health effect of ozone to be a public health issue.[29] Ozone pollution also affects people by impacting their interests in various vegetation through foliar damage to trees, reduced crop yield, adverse impacts on horticultural plants, and the like. EPA has consistently considered these issues when evaluating the public welfare based NAAQS standards under CAA section 109.

In all of these situations the use of the term "public" has focused EPA on how people are affected by the air pollution. If the effect on people is to their health then we have considered it a public health issue. If the effect on people is to their interest in matters other than health, then we have treated it as a public welfare issue.

The situation presented here is somewhat unique. The focus again is on the effect the air pollution has on people. Here the effect on people is to their health. However this effect flows from the change in climate and effects on climate are included in the definition of effects on welfare. That raises the issue of how to categorize the health effects-should we consider them when evaluating endangerment to public health? When we evaluate endangerment to public welfare? Or both?

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[29] As discussed later, in the past EPA took the position that this kind of potential indirect beneficial impact on public health should not be considered when setting the primary health based NAAQS for ozone. This was not based on the view that it was not a potential public health impact, or that it was a public welfare impact instead of a public health impact. Instead EPA was interpreting the NAAQS standard setting provisions of section 109, and argued that they were intended to address only certain public health impacts, those that were adverse, and were not intended to address indirect, beneficial public health impacts. This interpretation of section 109 was rejected in *ATA v. EPA*, 175 F.3d 1027 (1999) reh'g granted in part and denied in part, 195 F.3d 4 (DC Cir. 1999). The court made it clear that the potential indirect beneficial impact of ambient ozone on public health from screening UVB rays needed to be considered when setting the NAAQS to protect public health.

The text of the CAA does not resolve this question. While Congress defined "effects on welfare," it did not define either "public health" or "public welfare". In addition, the definition of "effects on welfare" does not clearly address how to categorize health effects that flow from effects on soils, water, crops, vegetation, weather, climate, or any of the other factors listed in CAA section 302(h). It is clear that effects on climate are an effect on welfare, but the definition does not address whether health impacts that are caused by these changes in climate are also effects on welfare. The health effects at issue are not themselves effects on soils, water, crops, vegetation, weather, or climate. They are instead effects on health. They derive from the effects on climate, but they are not themselves effects on climate or on anything else listed in CAA section 302(h). So the definition of effects on welfare does not address whether an effect on health, which is not itself listed in CAA section 302(h), is also an effect on welfare if it results from an effect on welfare. The text of the CAA also does not address the issue of direct and indirect health effects. Contrary to commenters' assertions, the legislative history does not address or resolve this issue.

In this context, EPA is interpreting the endangerment provision in CAA section 202(a) as meaning that the effects on peoples' health from changes to climate can and should be included in EPA's evaluation of whether the air pollution at issue endangers public health. EPA is not deciding whether these health effects also could or should be considered in evaluating endangerment to public welfare.

The stating of the issue makes the answer seem straightforward. If air pollution causes sickness or death, then these health effects should be considered when evaluating whether the air pollution endangers public health. The term public health is undefined, and by itself this is an eminently reasonable way to interpret it. This focuses on the actual effect on people, as compared to ignoring that and focusing on the pathway from the air pollution to the effect. The question then becomes whether there is a valid basis in the CAA to take the different approach suggested by commenters, an approach contrary to the common sense meaning of public health.

Notably, the term "public welfare" is undefined. While it clearly means something other than public health, there is no obvious indication whether Congress intended there to be a clear boundary between the two terms or whether there might be some overlap where some impacts could be considered both a public health and a public welfare impact. Neither the text nor the legislative history resolves this issue. Under either approach, EPA believes the proper interpretation is that these effects on health should be considered when evaluating endangerment to public health.

If we assume Congress intended that effects on public welfare could not include effects on public health and vice versa, then the effects at issue here should most reasonably be considered in the public health category. Indisputably they are health effects, and the plain meaning of the term public health would call for their inclusion in that term. The term public welfare is undefined. If Congress intended that public welfare not include matters included in the public health category, then a reasonable interpretation of this undefined term would include those effects on welfare that impact people in ways other than impacting their health.

The definition of "effects on welfare" does not clearly address how to categorize health effects that flow from effects on water, soil, land, climate, or weather. As noted above, the definition does not address whether health impacts that are caused by these changes in climate are also "effects on welfare." Certainly effects on health are not included in the list in CAA section 302(h). The lack of clarity in the definition of effects on welfare, combined with the lack of definition of public welfare, do not warrant interpreting the term public health differently from its straightforward and common sense meaning.

The inclusion of the phrase "effects on * * * personal comfort and well-being" as an effect on welfare supports this view. The term would logically mean something other than the different term public health. The term "well-being" is not defined, and generally has a broader and different connotation of positive physical, emotional, and mental status. The most straightforward meaning of this term, in a context where Congress used the different term public health in a wide variety of other provisions, would be to include effects on people that do not rise to the level of health effects, but otherwise impact their physical, emotional, and mental status. This gives full meaning to both terms.

The term well-being is a general term, and in isolation arguably could include health effects. However there is no textual basis to say it would include some health effects but not others, as argued by commenters. If sickness impacts your well-being, then it impacts your well-being whether it results directly or indirectly from the pollution in the air. Nothing in CAA section 302(h) limits the term well-being to indirect impacts on people, or to health effects that occur because of other welfare effects, such as climate change. It is listed as its own effect on welfare. Instead of interpreting well-being as including all health effects, or some health effects, the much more logical way to interpret this provision in the context of all of the other provisions of the CAA is to interpret it as meaning effects on people other than health effects.

Thus, if Congress intended to draw a strict line between the two categories of public health and public welfare, for purposes of determining endangerment under CAA section 202(a), then EPA believes that its interpretation is a reasonable and straightforward way to categorize the health effects at issue here. This gives weight to the common sense meaning of the term public health, where the terms public health and public welfare are undefined and the definition of effects on welfare is at best ambiguous on this issue.

In the alternative, if Congress did not intend any such bright line between these two categories and there could be an overlap, then it is also reasonable for EPA to include these health effects in its consideration of whether the air pollution endangers public health. Neither approach condenses or conflates the two different terms. Under either approach EPA's interpretation, as demonstrated in this rulemaking, would still consider numerous and varied effects from climate change as indisputable impacts on public welfare and not impacts on public health. In addition, this interpretation will not change the fact that in almost all cases impacts on public health would not also be considered impacts on public welfare.

Prior EPA actions. Several commenters argue that EPA's decision to include health impacts that occur because of climate change is inconsistent with its past approach, which has been to treat indirect health effects as welfare effects. Commenters contend that in the latest Criteria Document for ozone EPA listed tropospheric ozone's effects on UVB-induced human diseases, as well as its effects on climate change, as welfare effects, even though the agency acknowledged significant health effects such as sunburn and skin cancer. Commenters also argue that EPA listed "risks to human health" from toxins released by algal blooms due to excess nitrogen as "ecological and other welfare effects" in the recent Criteria Document for oxides of nitrogen and sulfur. Finally, commenters argue that EPA's proposed action was contrary to the Agency decision to list new municipal solid waste landfills as a source category under CAA section 111. Commenters state that EPA listed climate change as a welfare effect in that action, (citing 56 FR 24469).

The Agency's recent approach regarding UVB-induced health effects is consistent with the endangerment findings, and demonstrates that the Agency considers indirect effects on human health as public health issues rather than public welfare issues. While the ozone Criteria Document may have placed the discussion of UV-B related health effects among chapters on welfare effects, in evaluating the evidence presented in the Criteria Document for purposes of preparing the policy assessment document, EPA staff clearly viewed UVB-induced effects as human health effects that were relevant in determining the public health based primary NAAQS for ozone, rather than welfare effects, regardless of which chapter in the Criteria Document described those effects. The evaluation of the UVB-related evidence is discussed with other human health effects evidence. The policy assessment document noted that Chapter 10 of the Criteria Document, "provides a thorough analysis of the current understanding of the relationship between reducing tropospheric [ozone] concentrations and the potential impact these reductions might have on UV-B surface fluxes and indirectly contributing to increased UV-B related health effects." *See*, Review of the National Ambient Air Quality Standards for Ozone: Policy Assessment of Scientific and Technical Information, p 3-36 (January 2007) (emphasis added).

EPA repeated this view in the 2007 proposed ozone NAAQS rule. In presenting its evaluation of the human health evidence for purposes of setting the public health based primary NAAQS, EPA stated: "This section also summarizes the uncertainty about the potential indirect effects on public health associated with changes due to increases in UV-B radiation exposure, such as UV-B radiation-related skin cancers, that may be associated with reductions in ambient levels of ground-level [ozone], as discussed in chapter 10 of the Criteria Document and chapter 3 of the Staff Paper." 72 FR 37818, 37827. *See* also, 72 FR 37837 ("* * * the Criteria Document also assesses the potential indirect effects related to the presence of [ozone] in the ambient air by considering the role of ground-level [ozone] in mediating human health effects that may be directly attributable to exposure to solar ultraviolet radiation (UV-B).")

Thus, EPA's approach to UV-B related health effects clearly shows the Agency has treated indirect health effects not as welfare effects, as commenters suggest, but as human health effects that need to be evaluated when setting the public health based primary NAAQS. In this ozone NAAQS rulemaking, EPA did not draw a line between direct and indirect health effects for purposes of evaluating UV-B related health effects and the public health based primary NAAQS.

Similarly, the NO_x /SO_x criteria document does not establish a precedent that indirect human health effects are welfare effects. Toxic algal blooms themselves are a welfare effect, so it is not surprising a discussion of algal blooms appears in sections dealing with welfare effects. The more relevant question is how EPA evaluated information regarding human health risks resulting from algal blooms. In the case of the Criteria Document, the role of nitrogen in causing algal blooms was unclear. As a result, the Agency did not have occasion to evaluate any resulting human health effects and the Criteria Document does not support the view that EPA treats indirect health effects as anything other than a public health issue.

Finally, EPA disagrees that its action here is at odds with the listing of municipal solid waste landfills under CAA section 111. In the landfills New Source Performance Standard (NSPS) EPA did not consider health effects resulting from climate change much less draw any conclusions about health effects from climate change being health or welfare effects. If anything, the landfills NSPS is consistent with EPA's approach. In the proposed rule, EPA stated: "The EPA has documented many cases of acute injury and death caused by explosions and fires related to municipal landfill gas emissions. In addition to these health effects, the associated property damage is a welfare effect" (56 FR 24474). EPA considered injury and death from fires resulting from landfill gasses to be health effects. Yet the injury did not result from direct exposure to the pollutant (landfill gas). Instead, the injury resulted from the combustion of the pollutant-the injury is essentially an indirect effect of the pollutant. Yet, as with this action, EPA considered the injury as a human health effect.

Case law. Several commenters argue that EPA's proposed endangerment finding was inconsistent with *NRDC v. EPA*, 902 F.2d 962 (DC Cir 1990). Commenters argue that in rejecting the argument that EPA must consider the health effects of increased unemployment that could result from a more stringent primary NAAQS standard, the DC Circuit explained that, "[i]t is only the health effects relating to pollutants in the air that EPA may consider." *Id.* at 973. Several commenters further argue that EPA later relied on that holding to defend its decision to set a primary NAAQS for ozone based solely on direct health effects of ozone. *Citing, EPA Pet'n for Rehearing, Am. Trucking Ass'n v. EPA*, No. 97-1440 (DC Cir. June 28, 1999) ("ATA I") (arguing that the primary NAAQS should be set through consideration of only "direct adverse effects on public health, and not indirect, allegedly beneficial effects.")

The NRDC case is not contrary to EPA's endangerment finding. In NRDC, petitioner American Iron and Steel Institute argued that EPA had to consider the costs of health consequences that might arise from increased unemployment. The court ruled that, "[c]onsideration of costs associated with alleged health risks from unemployment would be flatly inconsistent with the statute, legislative history and case law on this point." 902 F.2d at 973. The cases cited by the court in support of its decision all hold that EPA may not consider economic or technological feasibility in establishing a NAAQS. The NRDC decision does not establish a precedent that the CAA prohibits EPA from considering indirect health effects as a public health issue rather than a public welfare issue.

EPA also believes reliance on the Agency's petition for rehearing in noted above is misplaced. In that case, EPA did not argue that indirect beneficial health effects were not public health issues. Instead EPA argued that under the CAA, it did not have to consider such indirect beneficial health effects of an air pollutant when setting the health based primary NAAQS. EPA was interpreting the NAAQS standard setting provisions of CAA section 109, and argued that they were intended to address only certain public health impacts, those that were adverse, and were not intended to address indirect, beneficial public health impacts. The issue in the case was not whether indirect health effects are relevant for purposes of making an endangerment decision concerning public health, but rather whether EPA must consider such beneficial health effects in establishing a primary NAAQS under CAA section 109. EPA's interpretation of CAA section 109 was rejected in *ATA v. EPA*, 175 F.3d at 1027 (1999) reh'g granted in part and denied in part, 195 F.3d at 4 (DC Cir. 1999). The court made it clear that the potential indirect beneficial impact of ambient ozone on public health from screening UVB rays needed to be considered when setting the NAAQS to protect public health. As discussed above, EPA has done just that as noted above in the UV-B context. Moreover, as discussed in Section II of these Findings, EPA is doing that here as well (*e.g.*, considering any benefits from reduced cold weather related deaths).

ii. EPA's Treatment and Balancing of Heat- vs. Cold-Related Public Health Risks Was Reasonable

A number of public commenters maintain that the risk of heat waves in the future will be modulated by adaptive measures. The Administrator is aware of the potential benefits of adaptation in reducing heat-related morbidity and mortality and recognizes most heat-related deaths are preventable. Nonetheless, the Administrator notes the assessment literature[30] indicates heat is the leading weather-related killer in the United States even though countermeasures have been employed in many vulnerable areas. Given projections for heat waves of greater frequency, magnitude, and duration coupled with a growing population of older adults (among the most vulnerable groups to this hazard), the risk of adverse health outcomes from heat waves is expected to increase. Intervention and response measures could certainly reduce the risk, but as we have noted, the need to adapt supports an increase in risk or endangerment. For a general discussion about EPA's treatment of adaptation see Section III.C of these Findings.

Several commenters also suggest cold-related mortality will decrease more than heat-related mortality will increase, which indicates a net reduction in temperature-related mortality. Some commenters point to research suggesting migration to warmer climates has contributed to the increased longevity of some Americans, implying climate warming will have benefits for health. The Administrator is very clear that the exact balance of how heat- versus cold-related mortality will change in the future is uncertain; however, the assessment literature points to evidence suggesting that the increased risk from heat would exceed the decreased risk from cold in a warming climate. The Administrator does not dispute research indicating the benefits of migration to a warmer climate and nor that average climate warming may indeed provide health benefits in some areas. These points are reflected in the TSD's statement projecting less cold-related health effects. The Administrator considers these potential warming benefits independent of the potential negative effects of extreme heat events which are projected to increase under future climate change scenarios affecting vulnerable groups and communities.

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[30] Karl et al. (2009).

iii. EPA Was Reasonable To Find That the Air Quality Impacts of Climate Change Contribute to the Endangerment of Public Health

Several commenters suggest that air quality effects of climate change will be addressed through the CAA's NAAQS process, as implemented by the State Implementation Plans (SIP) and national regulatory programs. According to these commenters, these programs will ensure no adverse impact on public health due to climate change. Though climate change may cause certain air pollutant ambient concentrations to increase, States will continue to be compelled to meet the standards. So, while additional measures may be necessary, and result in increased costs, these commenters assert that, ultimately, public health will be protected by the continued existence of the NAAQS and therefore no endangerment with respect to this particular climate change-related impact will occur. One commenter states that EPA inappropriately assigns air quality risk to climate change that will be addressed through other programs. The CAA provides a mechanism to meet the standards and additional control measures consistent with the CAA will be adopted in the future, keeping pollution below unhealthy levels. The commenters state that the fact that NAAQS are in place that require EPA to fulfill its legal obligation to prevent this particular form of endangerment to public health.

EPA does have in place NAAQS for ozone, which are premised on the harmfulness of ozone to public health and welfare. These standards and their accompanying regulatory regime have helped to reduce the dangers from ozone in the United States. However, substantial challenges remain with respect to achieving the air quality protection promised by the NAAQS for ozone. It is the Administrator's view that these challenges will be exacerbated by climate change.

In addition, the control measures to achieve attainment with a NAAQS are a mitigation measure aimed at reducing emissions of ozone precursors. As discussed in Section III.C of these Findings, EPA is not considering the impacts of mitigation with respect to future reductions in emissions of greenhouse gases. For the same reasons, EPA is reasonably not considering mitigation in the form of the control measures that will need to be adopted in the future to reduce emissions of ozone precursors and thereby address the increased ambient ozone levels that can occur because of climate change.

It is important to note that controls to meet the NAAQS are typically put in place only after air quality concentrations exceeding the standard are detected.

Furthermore, implementation of controls to reduce ambient concentrations of pollutants occurs over an extended time period, ranging from three years to more than twenty years depending on the pollutant and the seriousness of the nonattainment problem. Thus, while the CAA provides mechanisms for addressing adverse health effects and the underlying air quality exacerbation over time, it will not prevent the adverse impacts in the interim. Given the serious nature of the health effects at issue-including respiratory and cardiovascular disease leading to hospital admissions, emergency department visits, and premature mortality-this increase in adverse impacts during the time before additional controls can be implemented is a serious public health concern. Historically, a large segment of the U.S. population has lived in areas exceeding the NAAQS, despite the CAA and its implementation efforts. Half of all Americans, 158 million people, live in counties where air pollution exceeds national health standards.[31] Where attainment of the NAAQS is especially difficult, leading to delays in meeting attainment deadlines, the health effects of increased ozone due to climate change may be substantial.

It is also important to note that it may not be possible for States and Tribes to plan accurately for the impacts of climate change in developing control strategies for nonattainment areas. As noted in the TSD and EPA's 2009 Interim Assessment report (IA), climate change is projected to lead to an increase in the variability of weather, and this may increase peak pollution events including increases in ozone exceedances. While the modeling studies in the IA all show significant future changes in meteorological quantities, there is also significant variability across the simulations in the spatial patterns of these future changes, making it difficult to select a set of future meteorological data for planning purposes. At this time, models used to develop plans to attain the NAAQS do not take potential changes in future meteorology into consideration. Inability to predict the frequency and magnitude of such events could lead to an underestimation of the controls needed to bring areas into attainment, and a prolonged period during which adverse health impacts continue to occur.

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[31] *U.S. EPA (2008) National Air Quality: Status and Trends Through 2007*, EPA-454/R-08-006, November 2008.

Even in areas that meet the NAAQS currently, air quality may deteriorate sufficiently to cause adverse health effects for some individuals. Some at-risk individuals, for example those with preexisting health conditions or other characteristics which increase their risk for adverse effects upon exposure to PM or ozone, may experience health effects at levels below the standard. Current evidence suggests that there is no threshold for PM or ozone concentrations below which no effects can be observed. Therefore, increases in ozone or PM in locations that currently meet the standards would likely result in additional adverse health effects for some individuals, even though the pollution increase might not be sufficient to cause the area to be designated nonattainment. While the NAAQS is set to protect public health with an adequate margin of safety, it is recognized that in attainment areas there may be individuals who remain at greater risk from an increase in ozone levels. The clear risk to the public from ozone increases in nonattainment areas, in combination with the risk to some individuals in attainment areas, supports the finding that overall the public health is endangered by increases in ozone resulting from climate change.

Finally, it is also important to note that not all air pollution events are subject to CAA controls under the NAAQS implementation provisions. "Exceptional events" are events for which the normal planning and regulatory process established by the CAA is not appropriate (72 FR 13561). Emissions from some events, including some wildfires, are not reasonably controllable or preventable. Such emissions, however, can adversely impact public health and welfare and are expected to increase due to climate change. As described in the TSD, PM emissions from wildfires can contribute to acute and chronic illnesses of the respiratory system, particularly in children, including pneumonia, upper respiratory diseases, asthma and chronic obstructive pulmonary disease. The IPCC (Field et al., 2007) reported with very high confidence that in North America, disturbances like wildfires are increasing and are likely to intensify in a warmer future with drier soils and longer growing seasons.

2. The Air Pollution Is Reasonably Anticipated to Endanger Public Welfare

The Administrator also finds that the well-mixed greenhouse gas air pollution may reasonably be anticipated to endanger public welfare, both for current and future generations.

As with public health, the Administrator considered the multiple pathways in which the greenhouse gas air pollution and resultant climate change affect climate-sensitive sectors, and the impact this may have on public welfare. These sectors include food production and agriculture; forestry; water resources; sea level rise and coastal areas; energy, infrastructure, and settlements; and ecosystems and wildlife. The Administrator also considered impacts on the U.S.

population from climate change effects occurring outside of the United States, such as national security concerns for the United States that may arise as a result of climate change impacts in other regions of the world. The Administrator examined each climate-sensitive sector individually, informed by the summary of the scientific assessments contained in the TSD, and the full record before EPA, and weighed the extent to which the risks and impacts within each sector support or do not support a positive endangerment finding in her judgment. The Administer then viewed the full weight of evidence looking across all sectors to reach her decision regarding endangerment to public welfare.

a. Food Production and Agriculture

Food production and agriculture within the United States is a sector that will be affected by the combined effects of elevated carbon dioxide concentrations and associated climate change. The Administrator considered how these effects, both adverse and beneficial, are affecting the agricultural sector now and in the future, and over different regions of the United States, taking into account that different regions of the country specialize in different agricultural products with varying degrees of sensitivity and vulnerability to elevated carbon dioxide levels and associated climate change.

Elevated carbon dioxide concentrations can have a stimulatory effect on grain and oilseed crop yield, as may modest temperature increases and a longer growing season that results. A report under the USGCRP concluded that, with increased carbon dioxide and temperature, the life cycle of grain and oilseed crops will likely progress more rapidly. However, such beneficial influences need to be considered in light of various other effects. For example, the literature indicates that elevated carbon dioxide concentrations may also enhance pest and weed growth. Pests and weeds can reduce crop yields, cause economic losses to farmers, and require management control options. How climate change (elevated carbon dioxide, increased temperatures, altered precipitation patterns, and changes in the frequency and intensity of extreme events) may affect the prevalence of pests and weeds is an issue of concern for food production and the agricultural sector. Research on the combined effects of elevated carbon dioxide and climate change on pests, weeds, and disease is still limited. In addition, higher temperature increases, changing precipitation patterns and variability, and any increases in ground-level ozone induced by higher temperatures, can work to counteract any direct stimulatory carbon dioxide effect, as well as lead to their own adverse impacts. There may be large regional variability in the response of food production and agriculture to climate change.

For grain and oilseed crop yields, there is support for the view that in the near term climate change may have a beneficial effect, largely through increased temperature and increased carbon dioxide levels. However there are also factors noted above, some of which are less well studied and understood, which would tend to offset any near term benefit, leaving significant uncertainty about the actual magnitude of any overall benefit. The USGCRP report also concluded that as temperature rises, these crops will increasingly begin to experience failure, especially if climate variability increases and precipitation lessens or becomes more variable.

A key uncertainty is how human-induced climate change may affect the intensity and frequency of extreme weather events such as droughts and heavy storms. These events have the potential to have serious negative impact on U.S. food production and agriculture, but are not always taken into account in studies that examine how average conditions may change as a result of carbon dioxide and temperature increases. Changing precipitation patterns, in addition to increasing temperatures and longer growing seasons, can change the demand for irrigation requirements, potentially increasing irrigation demand.

Another key uncertainty concerns the many horticultural crops (e.g., tomatoes, onions, fruits), which make up roughly 40 percent of total crop value in the United States. There is relatively little information on their response to carbon dioxide, and few crop simulation models, but according to the literature, they are very likely to be more sensitive to the various effects of climate change than grain and oilseed crops.

With respect to livestock, higher temperatures will very likely reduce livestock production during the summer season in some areas, but these losses will very likely be partially offset by warmer temperatures during the winter season. The impact on livestock productivity due to increased variability in weather patterns will likely be far greater than effects associated with the average change in climatic conditions. Cold-water fisheries will likely be negatively affected; warm-water fisheries will generally benefit; and the results for cool-water fisheries will be mixed, with gains in the northern and losses in the southern portions of ranges.

Finally, with respect to irrigation requirements, the adverse impacts of climate change on irrigation water requirements may be significant.

There is support for the view that there may be a benefit in the near term in the crop yield for certain crops. This potential benefit is subject to significant uncertainty, however, given the offsetting impact on the yield of these crops from a variety of other climate change impacts that are less well understood and more variable. Any potential net benefit is expected to change to a disbenefit in the longer term. In addition, there is clear risk that the sensitivity of a major segment of the total crop market, the horticultural sector, may lead to adverse affects from climate change. With respect to livestock production and irrigation requirements, climate change is likely to have adverse effects in both the near and long terms. The impact on fisheries varies, and would appear to be best viewed as neutral overall.

There is a potential for a net benefit in the near term for certain crops, but there is significant uncertainty about whether this benefit will be achieved given the various potential adverse impacts of climate change on crop yield, such as the increasing risk of extreme weather events. Other aspects of this sector are expected to be adversely affected by climate change, including livestock management and irrigation requirements, and there is a risk of adverse effect on a large segment of the total crop market. For the near term, the concern over the potential for adverse effects in certain parts of the agriculture sector appears generally comparable to the potential for benefits for certain crops.

However, considering the trend over near- and long-term future conditions, the Administrator finds that the body of evidence points towards increasing risk of net adverse impacts on U.S. food production and agriculture, with the potential for significant disruptions and crop failure in the future.

b. Forestry

The factors that the Administrator considered for the U.S. forest sector are similar to those for food production and agriculture. There is the potential for beneficial effects due to elevated concentrations of carbon dioxide and increased temperature, as well as the potential for adverse effects from increasing temperatures, changing precipitation patterns, increased insects and disease, and the potential for more frequent and severe extreme weather events. The potential beneficial effects are better understood and studied, and are limited to certain areas of the country and types of forests. The adverse effects are less certain, more variable, and also include some of the most serious adverse effects such as increased wildfire, drought, and major losses from insects and disease. As with food production and agriculture, the judgment to be made is largely a qualitative one, balancing impacts that vary in certainty and magnitude, with the end result being a judgment as to the overall direction and general level of concern.

According to the underlying science assessment reports, climate change has very likely increased the size and number of wildfires, insect outbreaks, and tree mortality in the Interior West, the Southwest, and Alaska, and will continue to do so. Rising atmospheric carbon dioxide levels will very likely increase photosynthesis for forests, but the increased photosynthesis will likely only increase wood production in young forests on fertile soils. Nitrogen deposition and warmer temperatures have very likely increased forest growth where water is not limiting and will continue to do so in the near future.

An increased frequency of disturbance (such as drought, storms, insect-outbreaks, and wildfire) is at least as important to forest ecosystem function as incremental changes in temperature, precipitation, atmospheric carbon dioxide, nitrogen deposition, and ozone pollution. Disturbances partially or completely change forest ecosystem structure and species composition, cause short-term productivity and carbon storage loss, allow better opportunities for invasive alien species to become established, and command more public and management attention and resources. The combined effects of expected increased temperature, carbon dioxide, nitrogen deposition, ozone, and forest disturbance on soil processes and soil carbon storage remain unclear.

Precipitation and weather extremes are key to many forestry impacts, accounting for part of the regional variability in forest response. If existing trends in precipitation continue, it is expected that forest productivity will likely decrease in the Interior West, the Southwest, eastern portions of the Southeast, and Alaska, and that forest productivity will likely increase in the northeastern United States, the Lake States, and in western portions of the Southeast. An increase in drought events will very likely reduce forest productivity wherever such events occur.

Changes in disturbance patterns are expected to have a substantial impact on overall gains or losses. More prevalent wildfire disturbances have recently been observed in the United States. Wildfires and droughts, among other extreme events (e.g., hurricanes) that can cause forest damage, pose the largest threats over time to forest ecosystems.

For the near term, the Administrator believes the beneficial impact on forest growth and productivity in certain parts of the country from climate change to be more than offset by the clear risk from the more significant and serious adverse effects from the observed increases in wildfires, combined with the adverse impacts on growth and productivity in other areas of the country and the serious risks from the spread of destructive pests and disease. Increased wildfires can also increase particulate matter and thus create public health concerns as well. For the longer term, the Administrator views the risk from adverse effects to increase over time, such that overall climate change presents serious adverse risks for forest productivity. The Administrator therefore finds there is compelling reason to find that the greenhouse gas air pollution endangers U.S. forestry in both the near and long term, with the support for a positive endangerment finding only increasing as one considers expected future conditions in which temperatures continue to rise.

c. Water Resources

The sensitivity of water resources to climate change is very important given the increasing demand for adequate water supplies and services for agricultural, municipal, and energy and industrial uses, and the current strains on this resource in many parts of the country.

According to the assessment literature, climate change has already altered, and will likely continue to alter, the water cycle, affecting where, when, and how much water is available for all uses. With higher temperatures, the water-holding capacity of the atmosphere and evaporation into the atmosphere increase, and this favors increased climate variability, with more intense precipitation and more droughts.

Climate change is causing and will increasingly cause shrinking snowpack induced by increasing temperature. In the western United States, there is already well-documented evidence of shrinking snowpack due to warming. Earlier meltings, with increased runoff in the winter and early spring, increase flood concerns and also result in substantially decreased summer flows. This pattern of reduced snowpack and changes to the flow regime pose very serious risks to major population regions, such as California, that rely on snowmelt-dominated watersheds for their water supply. While increased precipitation is expected to increase water flow levels in some eastern areas, this may be tempered by increased variability in the precipitation and the accompanying increased risk of floods and other concerns such as water pollution.

Warmer temperatures and decreasing precipitation in other parts of the country, such as the Southwest, can sustain and amplify drought impacts. Although drought has been more frequent and intense in the western part of the United States, the East is also vulnerable to droughts and attendant reductions in water supply, changes in water quality and ecosystem function, and challenges in allocation. The stress on water supplies on islands is expected to increase.

The impact of climate change on groundwater as a water supply is regionally variable; efforts to offset declining surface water availability due to increasing precipitation variability may be hampered by the fact that groundwater recharge will decrease considerably in some already water-stressed regions. In coastal areas, the increased salinization from intrusion of salt water is projected to have negative effects on the supply of fresh water.

Climate change is expected to have adverse effects on water quality. The IPCC concluded with high confidence that higher water temperatures, increased precipitation intensity, and longer periods of low flows exacerbate many forms of water pollution and can impact ecosystems, human health, and water system reliability and operating costs. These changes will also exacerbate many forms of water pollution, potentially making attainment of water quality goals more difficult. Water pollutants of concern that are particularly relevant to climate change effects include sediment, nutrients, organic matter, pathogens, pesticides, salt, and thermal pollution. As waters become warmer, the aquatic life they now support will be replaced by other species better adapted to warmer water. In the long term, warmer water, changing flows, and decreased water quality may result in deterioration of aquatic ecosystems.

Climate change will likely further constrain already over-allocated water resources in some regions of the United States, increasing competition among agricultural, municipal, industrial, and ecological uses. Although water management practices in the United States are generally advanced, particularly in the West, the reliance on past conditions as the basis for current and future planning may no longer be appropriate, as climate change increasingly creates conditions well outside of historical observations. Increased incidence of extreme weather and floods may also overwhelm or damage water treatment and management systems, resulting in water quality impairments. In the Great Lakes and major river systems, lower water levels are likely to exacerbate challenges relating to water quality, navigation, recreation, hydropower generation, water transfers, and bi-national relationships.

The Administrator finds that the total scientific literature provides compelling support for finding that greenhouse gas air pollution endangers the water resources important for public welfare in the United States, both for current and future generations. The adequacy of water supplies across large areas of the country is at serious risk from climate change. Even areas of the country where an increase in water flow is projected could face water resource problems from the variability of the supply and water quality problems associated with precipitation variability, and could face the serious adverse effects from risks from floods and drought. Climate change is expected to adversely affect water quality. There is an increased risk of serious adverse effects from extreme events of flooding and drought. The severity of risks and impacts may only increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

d. Sea Level Rise and Coastal Areas

A large percentage of the U.S. population lives in coastal areas, which are particularly vulnerable to the risks posed by climate change. The most vulnerable areas are the Atlantic and Gulf Coasts, the Pacific Islands, and parts of Alaska.

According to the assessment literature, sea level is rising along much of the U.S. coast, and the rate of change will very likely increase in the future, exacerbating the impacts of progressive inundation, storm-surge flooding, and shoreline erosion. Cities such as New Orleans, Miami, and New York are particularly at risk, and could have difficulty coping with the sea level rise projected by the end of the century under a higher emissions scenario. Population growth and the rising value of infrastructure increases the vulnerability to climate variability and future climate change in coastal areas. Adverse impacts on islands present concerns for Hawaii and the U.S. territories. Reductions in Arctic sea ice increases extreme coastal erosion in Alaska, due to the increased exposure of the coastline to strong wave action. In the Great Lakes, where sea level rise is not a concern, both extremely high and low water levels resulting from changes to the hydrological cycle have been damaging and disruptive to shoreline communities.

Coastal wetland loss is being observed in the United States where these ecosystems are squeezed between natural and artificial landward boundaries and rising sea levels. Up to 21 percent of the remaining coastal wetlands in the U.S. mid-Atlantic region are potentially at risk of inundation between 2000 and 2100. Coastal habitats will likely be increasingly stressed by climate change impacts interacting with development and pollution.

Although increases in mean sea level over the 21st century and beyond will inundate unprotected, low-lying areas, the most devastating impacts are likely to be associated with storm surge. Superimposed on expected rates of sea level rise, projected storm intensity, wave height, and storm surge suggest more severe coastal flooding and erosion hazards. Higher sea level provides an elevated base for storm surges to build upon and diminishes the rate at which low-lying areas drain, thereby increasing the risk of flooding from rainstorms. In New York City and Long Island, flooding from a combination of sea level rise and storm surge could be several meters deep. Projections suggest that the return period of a 100-year flood event in this area might be reduced to 19-68 years, on average, by the 2050s, and to 4-60 years by the 2080s. Additionally, some major urban centers in the United States, such as areas of New Orleans are situated in low-lying flood plains, presenting increased risk from storm surges.

The Administrator finds that the most serious risk of adverse effects is presented by the increased risk of storm surge and flooding in coastal areas from sea level rise. Current observations of sea level rise are now contributing to increased risk of storm surge and flooding in coastal areas, and there is reason to find that these areas are now endangered by human-induced climate change. The conclusion in the assessment literature that there is the potential for hurricanes to become more intense with increasing temperatures (and even some evidence that Atlantic hurricanes have already become more intense) reinforces the judgment that coastal communities are now endangered by human-induced climate change, and may face substantially greater risk in the future. The Administrator has concluded that even if there is a low probability of raising the destructive power of hurricanes, this threat is enough to support a finding that coastal communities are endangered by greenhouse gas air pollution.

In addition, coastal areas face other adverse impacts from sea level rise such as shoreline retreat, erosion, wetland loss and other effects. The increased risk associated with these adverse impacts also endangers the welfare of current and future generations, with an increasing risk of greater adverse impacts in the future.

Overall, the evidence on risk of adverse impacts for coastal areas from sea level rise provides clear support for finding that greenhouse gas air pollution endangers the welfare of current and future generations.

e. Energy, Infrastructure and Settlements

The Administrator also considered the impacts of climate change on energy consumption and production, and on key climate-sensitive aspects of the nation's infrastructure and settlements.

For the energy sector, the Administrator finds clear evidence that temperature increases will change heating and cooling demand, and to varying degrees across the country; however, under current conditions it is unclear whether or not net demand will increase or decrease. While the impacts on net energy demand may be viewed as generally neutral for purposes of making an endangerment determination, climate change is expected to call for an increase in electricity production, especially supply for peak demand. The U.S. energy sector, which relies heavily on water for cooling capacity and hydropower, may be adversely impacted by changes to water supply in reservoirs and other water bodies.

With respect to infrastructure, climate change vulnerabilities of industry, settlement and society are mainly related to extreme weather events rather than to gradual climate change. The significance of gradual climate change, e.g., increases in the mean temperature, lies mainly in changes in the intensity and frequency of extreme events. Extreme weather events could threaten U.S. energy infrastructure (transmission and distribution), transportation infrastructure (roads, bridges, airports and seaports), water infrastructure, and other built aspects of human settlements. Moreover, soil subsidence caused by the melting of permafrost in the Arctic region is a risk to gas and oil pipelines, electrical transmission towers, roads, and water systems. Vulnerabilities for industry, infrastructures, settlements, and society to climate change are generally greater in certain high-risk locations, particularly coastal and riverine areas, and areas whose economies are closely linked with climate-sensitive resources. Additionally, infrastructures are often connected, meaning that an impact on one can also affect others.

A significant fraction of U.S. infrastructure is located in coastal areas. In these locations, rising sea levels are likely to lead to direct losses (e.g., equipment damage from flooding) as well as indirect effects such as the costs associated with raising vulnerable assets to higher levels. Water infrastructure, including drinking water and wastewater treatment plants, and sewer and storm water management systems, may be at greater risk of flooding, sea level rise and storm surge, low flows, saltwater intrusion, and other factors that could impair performance and damage costly investments.

Within settlements experiencing climate change stressors, certain parts of the population may be especially vulnerable based on their circumstances. These include the poor, the elderly, the very young, those already in poor health, the disabled, those living alone, and/or indigenous populations dependent on one or a few resources. In Alaska, indigenous communities are likely to experience disruptive impacts, including shifts in the range or abundance of wild species crucial to their livelihoods and well-being.

Overall, the evidence strongly supports the view that climate change presents risks of serious adverse impacts on public welfare from the risk to energy production and distribution as well as risks to infrastructure and settlements.

f. Ecosystems and Wildlife

The Administrator considered the impacts of climate change on ecosystems and wildlife and the services they provide. The Administrator finds clear evidence that climate change is exerting major influences on natural environments and biodiversity, and these influences are generally expected to grow with increased warming. Observed changes in the life cycles of plants and animals include shifts in habitat ranges, timing of migration patterns, and changes in reproductive timing and behavior.

The underlying assessment literature finds with high confidence that substantial changes in the structure and functioning of terrestrial ecosystems are very likely to occur with a global warming greater than 2 to 3 °C above pre-industrial levels, with predominantly negative consequences for biodiversity and the provisioning of ecosystem goods and services. With global average temperature changes above 2 °C, many terrestrial, freshwater, and marine species (particularly endemic species) are at a far greater risk of extinction than in the geological past. Climate change and ocean acidification will likely impair a wide range of planktonic and other marine calcifiers such as corals. Even without ocean acidification effects, increases in sea surface temperature of about 1-3 °C are projected to result in more frequent coral bleaching events and widespread mortality. In the Arctic, wildlife faces great challenges from the effects of climatic warming, as projected reductions in sea ice will drastically shrink marine habitat for polar bears, ice-inhabiting seals, and other animals.

Some common forest types are projected to expand, such as oak-hickory, while others are projected to contract, such as maple-beech-birch. Still others, such as spruce-fir, are likely to disappear from the contiguous United States. Changes in plant species composition in response to climate change can increase ecosystem vulnerability to other disturbances, including wildfires and biological invasion. Disturbances such as wildfires and insect outbreaks are increasing in the United States and are likely to intensify in a warmer future with warmer winters, drier soils and longer growing seasons. The areal extent of drought-limited ecosystems is projected to increase 11 percent per °C warming in the United States. In California, temperature increases greater than 2 °C may lead to conversion of shrubland into desert and grassland ecosystems and evergreen conifer forests into mixed deciduous forests. Greater intensity of extreme events may alter disturbance regimes in coastal ecosystems leading to changes in diversity and ecosystem functioning. Species inhabiting salt marshes, mangroves, and coral reefs are likely to be particularly vulnerable to these effects.

The Administrator finds that the total scientific record provides compelling support for finding that the greenhouse gas air pollution leads to predominantly negative consequences for biodiversity and the provisioning of ecosystem goods and services for ecosystems and wildlife important for public welfare in the U.S., both for current and future generations.

The severity of risks and impacts may only increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

g. Summary of the Administrator's Finding of Endangerment to Public Welfare

The Administrator has considered how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect public welfare by evaluating numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife. For each of these sectors, the evidence provides support for a finding of endangerment to public welfare. The evidence concerning adverse impacts in the areas of water resources and sea level rise and coastal areas provide the clearest and strongest support for an endangerment finding, both for current and future generations. Strong support is also found in the evidence concerning infrastructure and settlements, as well ecosystems and wildlife. Across the sectors, the potential serious adverse impacts of extreme events, such as wildfires, flooding, drought, and extreme weather conditions provide strong support for such a finding.

Water resources across large areas of the country are at serious risk from climate change, with effects on water supplies, water quality, and adverse effects from extreme events such as floods and droughts. Even areas of the country where an increase in water flow is projected could face water resource problems from the supply and water quality problems associated with temperature increases and precipitation variability, and could face the increased risk of serious adverse effects from extreme events, such as floods and drought. The severity of risks and impacts is likely to increase over time with accumulating greenhouse gas concentrations and associated temperature increases and precipitation changes.

Overall, the evidence on risk of adverse impacts for coastal areas provides clear support for a finding that greenhouse gas air pollution endangers the welfare of current and future generations. The most serious potential adverse effects are the increased risk of storm surge and flooding in coastal areas from sea level rise and more intense storms. Observed sea level rise is already increasing the risk of storm surge and flooding in some coastal areas. The conclusion in the assessment literature that there is the potential for hurricanes to become more intense (and even some evidence that Atlantic hurricanes have already become more intense) reinforces the judgment that coastal communities are now endangered by human-induced climate change, and may face substantially greater risk in the future. Even if there is a low probability of increasing the destructive power of hurricanes, this threat is enough to support a finding that coastal communities are endangered by greenhouse gas air pollution. In addition, coastal areas face other adverse impacts from sea level rise such as land loss due to inundation, erosion, wetland submergence, and habitat loss. The increased risk associated with these adverse impacts also endangers public welfare, with an increasing risk of greater adverse impacts in the future.

Strong support for an endangerment finding is also found in the evidence concerning energy, infrastructure, and settlements, as well ecosystems and wildlife. While the impacts on net energy demand may be viewed as generally neutral for purposes of making an endangerment determination, climate change is expected to result in an increase in electricity production, especially to meet peak demand. This increase may be exacerbated by the potential for adverse impacts from climate change on hydropower resources as well as the potential risk of serious adverse effects on energy infrastructure from extreme events. Changes in extreme weather events threaten energy, transportation, and water resource infrastructure. Vulnerabilities of industry, infrastructure, and settlements to climate change are generally greater in high-risk locations, particularly coastal and riverine areas, and areas whose economies are closely linked with climate-sensitive resources. Climate change will likely interact with and possibly exacerbate ongoing environmental change and environmental pressures in settlements, particularly in Alaska where indigenous communities are facing major environmental and cultural impacts on their historic lifestyles. Over the 21st century, changes in climate will cause some species to shift north and to higher elevations and fundamentally rearrange U.S. ecosystems. Differential capacities for range shifts and constraints from development, habitat fragmentation, invasive species, and broken ecological connections will likely alter ecosystem structure, function, and services, leading to predominantly negative consequences for biodiversity and the provision of ecosystem goods and services.

With respect to food production and agriculture, there is a potential for a net benefit in the near term for certain crops, but there is significant uncertainty about whether this benefit will be achieved given the various potential adverse impacts of climate change on crop yield, such as the increasing risk of extreme weather events. Other aspects of this sector may be adversely affected by climate change, including livestock management and irrigation requirements, and there is a risk of adverse effect on a large segment of the total crop market. For the near term, the concern over the potential for adverse effects in certain parts of the agriculture sector appears generally comparable to the potential for benefits for certain crops. However, the body of evidence points towards increasing risk of net adverse impacts on U.S. food production and agriculture over time, with the potential for significant disruptions and crop failure in the future.

For the near term, the Administrator finds the beneficial impact on forest growth and productivity in certain parts of the country from elevated carbon dioxide concentrations and temperature increases to date is offset by the clear risk from the observed increases in wildfires, combined with risks from the spread of destructive pests and disease. For the longer term, the risk from adverse effects increases over time, such that overall climate change presents serious adverse risks for forest productivity. There is compelling reason to find that the support for a positive endangerment finding increases as one considers expected future conditions where temperatures continue to rise.

Looking across all of the sectors discussed above, the evidence provides compelling support for finding that greenhouse gas air pollution endangers the public welfare of both current and future generations. The risk and the severity of adverse impacts on public welfare are expected to increase over time.

h. Impacts in Other World Regions That Can Affect the U.S Population

While the finding of endangerment to public health and welfare discussed above is based on impacts in the United States, the Administrator also considered how human-induced climate change in other regions of the world may in turn affect public welfare in the United States. According to the USGCRP report of June 2009 and other sources, climate change impacts in certain regions of the world may exacerbate problems that raise humanitarian, trade, and national security issues for the United States. [32] The IPCC identifies the most vulnerable world regions as the Arctic, because of the effects of high rates of projected warming on natural systems; Africa, especially the sub-Saharan region, because of current low adaptive capacity as well as climate change; small islands, due to high exposure of population and infrastructure to risk of sea-level rise and increased storm surge; and Asian mega-deltas, such as the Ganges-Brahmaputra and the Zhujiang, due to large populations and high exposure to sea level rise, storm surge, and river flooding. Climate change has been described as a potential threat multiplier with regard to national security issues.

The Administrator acknowledges these kinds of risks do not readily lend themselves to precise analyses or future projections. However, given the unavoidable global nature of the climate change problem, it is appropriate and prudent to consider how impacts in other world regions may present risks to the U.S. population. Because human-induced climate change has the potential to aggravate natural resource, trade, and humanitarian issues in other world regions, which in turn may contribute to the endangerment of public welfare in the United States, this provides additional support for the Administrator's finding that the greenhouse gas air pollution is reasonably anticipated to endanger the public welfare of current and future generations of the United States population.

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[32] "In an increasingly interdependent world, U.S. vulnerability to climate change is linked to the fates of other nations. For example, conflicts or mass migrations of people resulting from food scarcity and other resource limits, health impacts or environmental stresses in other parts of the world could threaten U.S. national security." (Karl et al., 2009).

i. Summary of Key Public Comments on Endangerment to Public Welfare

Several public commenters point out the anticipated benefits that increasing carbon dioxide levels and temperatures will have on agricultural crops. In addition, commenters note how U.S. agricultural productivity, in particular, has been steadily rising over the last 100 years. Responses to major comments are found here and more detailed responses are found in the Response to Comments document.

The Administrator acknowledges that plants including agricultural crops respond to carbon dioxide positively based on numerous well-documented studies. However, previous assessments of food production and agriculture have been modified to highlight increasing vulnerability, stress, and adverse impacts from climate change over time, based on improvements in the understanding of plant physiology, concern over impacts on plant pests and pathogens, and the implications of changes in average temperatures for temperature extremes and for changes in the patterns of precipitation and evaporation. While it is still the case today and for the next few years that climate change benefits agriculture in some places and harms them in others, the Administrator considers that the far larger temperature increases expected over coming decades and beyond on the "business as usual" trajectory will put significant stresses on agriculture and land resources in all regions of the United States. The Administrator prudently considers increased climate variability associated with a warming climate, which may overwhelm the positive plant responses from elevated carbon dioxide over time. Further, the effects of climate change on weeds, insect pests, and pathogens are recognized as key factors in determining plant damage in future decades. The Administrator also notes that scientific literature clearly supports the finding that drought frequency and severity are projected to increase in the future over much of the United States, which will likely reduce crop yields because of excesses or deficits of water. Vulnerability to extended drought, according to IPCC, has been documented as already increasing across North America. Further, based on review of the assessment literature, the Administrator considers multiple stresses, such as limited availability of water resources, loss of biodiversity, and air pollution, which are likely to increase sensitivity and reduce resilience in the agricultural sector to climate change over time.

Similar to food production and agriculture, public commenters often noted that forest productivity is projected to increase in the coming years due to the direct stimulatory effect of carbon dioxide on plant growth combined with warmer temperatures and thus extended growing seasons. The Administrator notes this phenomenon has been well documented by numerous studies but recognizes that increased productivity will be associated with significant variation at local and regional scales. The Administrator considers that climate strongly influences forest productivity and composition, and the frequency and magnitude of disturbances that impact forests. Based on the most recent IPCC assessment of the scientific literature, several recent studies confirm previous findings that temperature and precipitation changes in future decades will modify, and often limit, direct carbon dioxide effects on plants. For example, increased temperatures may reduce carbon dioxide effects indirectly, by increasing water demand. The Administrator also considers that new research more firmly establishes the negative impacts of increased climate variability. Projected changes in the frequency and severity of extreme climate events have significant consequences for forestry production and amplify existing stresses to land resources in the future.

Several public commenters maintain that wildfires are primarily the result of natural climatic factors and not climate change and dispute that they are or will increase in the future. The Administrator notes the scientific literature and assessment reports provide several lines of evidence that suggest wildfires will likely increase in frequency over the next several decades because of climate warming. Wildfires and droughts, among other extreme events (e.g., hurricanes) that cause forest damage, pose the largest threats over time to forest ecosystems. The assessment literature suggests that large, stand-replacing wildfires will likely increase in frequency over the next several decades because of climate warming and general climate warming encourages wildfires by extending the summer period that dries fuels, promoting easier ignition and faster spread.

Furthermore, current climate modeling studies suggest that increased temperatures and longer growing seasons will elevate wildfire risk in connection with increased aridity.

V. The Administrator's Finding That Emissions of Greenhouse Gases From CAA Section 202(a) Sources Cause or Contribute to the Endangerment of Public Health and Welfare

As discussed in Section IV.A of these Findings, the Administrator is defining the air pollution for purposes of the endangerment finding to be the elevated concentration of well-mixed greenhouse gases in the atmosphere. The second step of the two-part endangerment test is for the Administrator to determine whether the emission of any air pollutant emitted from new motor vehicles cause or contribute to this air pollution. This is referred to as the cause or contribute finding, and is the second finding by the Administrator in this action.

Section V.A of these Findings describes the Administrator's definition and scope of the air pollutant "well-mixed greenhouse gases." Section V.B of these Findings puts forth the Administrator's finding that emissions of well-mixed greenhouse gases from new motor vehicles contribute to the air pollution which is reasonably anticipated to endanger public health and welfare. Section V.C of these Findings provides responses to some of the key comments on these issues. *See* Response to Comments document Volume 10 for responses to other significant comments on the cause or contribute finding. More detailed emissions data summarized in the discussion below can be found in Appendix B of the TSD.

A. The Administrator's Definition of the "Air Pollutant"

As discussed in the Proposed Findings, to help appreciate the distinction between air pollution and air pollutant, the air pollution can be thought of as the total, cumulative stock in the atmosphere, while the air pollutant, can be thought of as the flow that changes the size of the total stock. Given this relationship, it is not surprising that the Administrator is defining the air pollutant similar to the air pollution; while the air pollution is the concentration (e.g., stock) of the well-mixed greenhouse gases in the atmosphere, the air pollutant is the same combined grouping of the well-mixed greenhouse gases, the emissions of which are analyzed for contribution (e.g., the flow into the stock).

Thus, the Administrator is defining the air pollutant as the aggregate group of the same six long-lived and directly-emitted greenhouse gases: Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. As noted above, this definition of a single air pollutant made up of these well-mixed greenhouse gases is similar to definitions of other air pollutants that are comprised of substances that share common attributes with similar effects on public health or welfare (e.g., particulate matter and volatile organic compounds).

The common attributes shared by these six greenhouse gases are discussed in detail in Section IV.A of these Findings, where the Administrator defined the "air pollution" for purposes of the endangerment finding. These same common attributes support the Administrator grouping these six greenhouse gases for purposes of defining a single air pollutant as well. These attributes include the fact that they are all greenhouse gases that are directly emitted (i.e., they are not formed through secondary processes in the atmosphere from precursor emissions); they are sufficiently long-lived in the atmosphere such that, once emitted, concentrations of each gas become well mixed throughout the entire global atmosphere; and they exert a climate warming effect by trapping outgoing, infrared heat that would otherwise escape to space. Moreover, the radiative forcing effect of these six greenhouse gases is well understood.

Furthermore, these six greenhouse gases are currently the common focus of climate science and policy. For example, the UNFCCC, signed and ratified by the U.S. in 1992, requires its signatories to "develop, periodically update, publish and make available * * * national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol[33], using comparable methodologies * * *"[34] To date, the focus of UNFCCC actions and discussions has been on the six greenhouse gases that are the same focus of these findings. As a Party to the UNFCCC, EPA annually submits the Inventory of U.S. Greenhouse Gas Emissions and Sinks to the Convention, which reports on national emissions of anthropogenic emissions of the well-mixed greenhouse gases. International discussions about a post-Kyoto agreement also focus on the well-mixed greenhouse gases.

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[33] The Montreal Protocol covers ozone-depleting substances which may also share physical attributes of the six key greenhouse gases in this action, but they do not share other attributes such as being the focus of climate science and policy. See section * * *.

[34] UNFCCC Art. 4.1(b).

As noted above, grouping of many substances with common attributes as a single pollutant is common practice under the CAA. Thus, doing so here is not novel. Indeed CAA section 302(g) defines air pollutant as "any air pollutant agent or combination of such agents, * * * " CAA § 302(g) (emphasis added). Thus, it is clear that the term "air pollutant" is not limited to individual chemical compounds. In determining that greenhouse gases are within the scope of this definition, the Supreme Court described section 302(g) as a "sweeping" and "capacious" definition that unambiguously included greenhouse gases, that are "unquestionably 'agents' of air pollution." ***Massachusetts v. EPA***, 549 U.S. at 528, 532, 529 n.26. Although the Court did not interpret the term "combination of" air pollution agents, there is no reason this phrase would be interpreted any less broadly. Congress used the term "any", and did not qualify the kind of combinations that the agency could define as a single air pollutant. Congress provided EPA broad discretion to determine appropriate combinations of compounds that should be treated as a single air pollutant.[35]

For the same reasons discussed in Section IV.A above, at this time, only carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride share all of these common attributes and thus they are the only substances that the Administrator finds to meet the definition of "well-mixed greenhouse gas" at this time.[36] Also as noted above, if in the future other substances are shown to meet the same criteria they may be added to the definition of this single air pollutant.

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[35] Indeed, the greenhouse gases hydrofluorocarbons and perfluorocarbons each are already a combination of multiple compounds.

The Administrator is aware that CAA section 202(a) source categories do not emit all of the substances meeting the definition of well-mixed greenhouse gases. But that does not change the fact that all of these greenhouse gases share the attributes that make grouping them as a single air pollutant reasonable. As discussed further below, the reasonableness of this grouping does not turn on the particular source category being evaluated in a contribution finding.

B. The Administrator's Finding Regarding Whether Emissions of the Air Pollutant From Section 202(a) Source Categories Cause or Contribute to the Air Pollution That May Be Reasonably Anticipated To Endanger Public Health and Welfare

The Administrator finds that emissions of the well-mixed greenhouse gases from new motor vehicles contribute to the air pollution that may reasonably be anticipated to endanger public health and welfare. This contribution finding is for all of the CAA section 202(a) source categories and the Administrator considered emissions from all of these source categories. The relevant mobile sources under CAA section 202 (a)(1) are "any class or classes of new motor vehicles or new motor vehicle engines, * * *." CAA section 202(a)(1) (emphasis added). The new motor vehicles and new motor vehicle engines (hereinafter "CAA section 202(a) source categories") addressed are: Passenger cars, light-duty trucks, motorcycles, buses, and medium and heavy-duty trucks. Detailed combined greenhouse gas emissions data for CAA section 202(a) source categories are presented in Appendix B of the TSD.[37]

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[36] The term "well-mixed greenhouse gases" is based on one of the shared attributes discussed above-these greenhouse gases are sufficiently long-lived in the atmosphere such that, once emitted, concentrations of each gas become well mixed throughout the entire global atmosphere. Defining the air pollutant to be the combination of these six well-mixed greenhouse gases is based in part on this attribute-after the gases are emitted, they are sufficiently long-lived in the atmosphere to become well mixed as part of the air pollution.

The Administrator reached her decision after reviewing emissions data on the contribution of CAA section 202(a) source categories relative to both global greenhouse gas emissions and U.S. greenhouse gas emissions. Given that CAA section 202(a) source categories are responsible for about 4 percent of total global greenhouse gas emissions, and for just over 23 percent of total U.S. greenhouse gas emissions, the Administrator finds that both of these comparisons, independently and together, support a finding that CAA section 202(a) source categories contribute to the air pollution that may be reasonably anticipated to endanger public health and welfare. The Administrator is not placing primary weight on either approach; rather she finds that both approaches clearly establish that emissions of the well-mixed greenhouse gases from section 202(a) source categories contribute to air pollution with may reasonably be anticipated to endanger public health and welfare. As the Supreme Court noted, "[j]udged by any standard, U.S. motor-vehicle emissions make a meaningful contribution to greenhouse gas concentrations and hence, * * * to global warming." *Massachusetts v. EPA*, 549 U.S. at 525.[38]

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[37] For section 202(a) source categories, only the hydrofluorocarbon emissions related to passenger compartment cooling are included. Emissions from refrigeration units that may be attached to trucks are considered emissions from nonroad engines under CAA section 213.

1. Administrator's Approach in Making This Finding

Section 202(a) of the CAA source categories consist of passenger cars, light-duty trucks, motorcycles, buses, and heavy- and medium-duty trucks. As noted in the Proposed Findings, in the past the requisite contribution findings have been proposed concurrently with proposing emission standards for the relevant mobile source category. Thus, prior contribution findings often focused on a subset of the CAA section 202(a) (or other section) source categories. This final cause or contribute finding, however, is for all of the CAA section 202(a) source categories. The Administrator is considering emissions from all of these source categories in the determination.

Section 202(a) source categories emit the following well-mixed greenhouse gases: carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. As the basis for the Administrator's determination, EPA analyzed historical data of emissions of the well-mixed greenhouse gases for motor vehicles and motor vehicle engines in the United States from 1990 to 2007.

The Proposed Findings discussed a number of possible ways of assessing cause or contribute and the point was made that no single approach is required by the statute or has been used exclusively in previous determinations under the CAA. The Administrator also discussed how, consistent with prior cause or contribute findings and the science, she is using emissions as a proxy for contributions to atmospheric concentrations. This approach is reasonable for the well-mixed greenhouse gases, because cumulative emissions are responsible for the cumulative change in the concentrations in the atmosphere. Similarly, annual emissions are a perfectly reasonable proxy for annual incremental changes in atmospheric concentrations.

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[38] Because the Administrator is defining the air pollutant as the combination of well-mixed greenhouse gases, she is not issuing a final contribution finding based on the alternative definition discussed in the proposed findings (*e.g.*, each greenhouse gas as an individual air pollutant).

In making a judgment about the contribution of emissions from CAA section 202(a) source categories, the Administrator focused on making a reasoned overall comparison of emissions from the CAA section 202(a) source categories to emissions from other sources of greenhouse gases. This allows a determination of how the CAA section 202(a) source categories compare to all of the other sources that together as a group make up the total emissions contributors to the air pollution problem. The relative importance of the CAA section 202(a) source categories is central to making the contribution determination. Both the magnitude of these emissions and the comparison of these emissions to other sources provide the basis to determine whether the CAA section 202(a) source categories may reasonably be judged as contributing to the air pollution problem.

In many cases EPA makes this kind of comparison of source categories by a simple percentage calculation that compares the emissions from the source category at issue to a larger total group of emissions. Depending on the circumstances, a larger percentage often means a greater relative impact from that source category compared to the other sources that make up the total of emissions, and vice versa. However, the actual numerical percentages may have little meaning when viewed in isolation. The context of the comparison is needed to ensure the information is useful in evaluating the relative impact of one source compared to others. For example, the number of sources involved and the distribution of emissions across all of the sources can make a significant difference when evaluating the results of a percentage calculation. In some cases a certain percentage might mean almost all other sources are larger or much larger than the source at issue, while in other circumstances the same percentage could mean that the source at issue is in fact one of the larger contributors to the total.

The Administrator therefore considered the totality of the circumstances in order to best understand the role played by CAA section 202(a) source categories. This is consistent with Congress' intention for EPA to consider the cumulative impact of all sources of pollution. In that context, the global nature of the air pollution problem and the breadth of countries and sources emitting greenhouse gases means that no single country and no single source category dominate or are even close to dominating on a global scale. For example, the United States as a country is the second largest emitter of greenhouse gases, and emits approximately 18 percent of the world's total greenhouse gases. The total emissions of greenhouse gases worldwide are from numerous sources and countries, with each country and each source category contributing a relatively small percentage of the total emissions. That means that the relative ranking of countries or sources is not at all obvious from the magnitude of the percentage by itself. A country or a source may be a large contributor, in comparison to other countries or sources, even though its percentage contribution may appear relatively small.

In this situation, addressing a global air pollution problem may call for many different sources and countries to address emissions even if none by itself dominates or comes close to dominating the global inventory. A somewhat analogous situation can be found in the ozone air pollution problem in the United States. Emissions of NO_X and volatile organic compounds (VOCs) often come from numerous small sources, as well as certain large source categories. We have learned that successful ozone control strategies often need to take this into account, and address both the larger sources of NO_X and VOCs as well as the many smaller sources, given the breadth of sources that as a group lead to the total inventory of VOCs and NO_X.

The global aspects of the greenhouse gas air pollution problem amplify this kind of situation many times over, where no single country or source category dominates or comes close to dominating the global inventory of greenhouse gas emissions. These unique, global aspects of the climate change problem tend to support consideration of contribution at lower percentage levels of emissions than might otherwise be considered appropriate when addressing a more typical local or regional air pollution problem. In this situation it is quite reasonable to consider emissions from source categories that are more important in relation to other sources, even if their absolute contribution initially may appear to be small.

In addition, the Administrator is aware of the fact that the United States is the second largest emitter of well-mixed greenhouse gases in the world. As the

United States evaluates how to address climate change, the Administrator will analyze the various sources of emissions and the source's share of U.S. emissions. Thus, when analyzing whether a source category that emits well-mixed greenhouse gases in the United States contributes to the global problem, it is appropriate for the Administrator to consider how that source category fits into the larger picture of U.S. emissions. This ranking process within the United States allows the importance of the source category to be seen compared to other U.S. sources, informing the judgment of the importance of emissions from this source category in any overall national strategy to address greenhouse gas emissions.

It is in this broader context that EPA considered the contribution of CAA section 202(a) sources. This provides useful information in determining the importance that should be attached to the emissions from the CAA section 202(a) sources.

In reaching her determination, the Administrator used two simple and straightforward comparisons to assess cause or contribute for CAA section 202(a) source categories: (1) As a share of total current global aggregate emissions of the well-mixed greenhouse gases; and (2) as a share of total current U.S. aggregate emissions of the well-mixed greenhouse gases.

Total well-mixed greenhouse gas emissions from CAA section 202(a) source categories were compared to total global emissions of the well-mixed greenhouse gases. The total air pollution problem, as already discussed, is the elevated and climbing levels of the six greenhouse gas concentrations in the atmosphere, which are global in nature because these concentrations are globally well mixed (whether they are emitted from CAA section 202(a) source categories or any other source within or outside the United States). In addition, comparisons were also made to U.S. total well-mixed greenhouse gases emissions to appreciate how CAA section 202(a) source categories fit into the larger U.S. contribution to the global problem. It is typical for the Administrator to consider these kinds of comparisons of emissions of a pollutant in evaluating contribution to air pollution, such as the concentrations of that same pollutant in the atmosphere (e.g., the Administrator analyzes PM2.5 emissions to determine if a source category contributes to PM2.5 air pollution). When viewed in the circumstances discussed above, both of these comparisons provide useful information in determining whether these source categories should be judged as contributing to the total air pollution problem.

a. Section 202(a) of the CAA-Share of Global Aggregate Emissions of the Well-Mixed Greenhouse Gases

Global emissions of well-mixed greenhouse gases have been increasing, and are projected to continue increasing unless the major emitters take action to reduce emissions. Total global emissions of well-mixed greenhouse gases in 2005 (the most recent year for which data for all countries and all greenhouse gases are available)[39] were 38,726 teragrams of CO2 -

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[39] The source of global greenhouse gas emissions data, against which comparisons are made, is the Climate Analysis Indicators Tool of the World Resources Institute (WRI) (2007). Note that for global comparisons, all emissions are from the year 2005, the most recent year for which data for all greenhouse gas emissions and all countries are available. WRI (2007) Climate Analysis

equivlant (TgCO2 eq.)[40] This represents an increase in global greenhouse gas emissions of about 26 percent since 1990 (excluding land use, land use change and forestry). In 2005, total U.S. emissions of well-mixed greenhouse gases were responsible for 18 percent of global emissions, ranking only behind China, which was responsible for 19 percent of global emissions of well-mixed greenhouse gases.

In 2005 emissions of the well-mixed greenhouse gas pollutant from CAA section 202(a) source categories represented 4.3 percent of total global well-mixed greenhouse gas emissions and 28 percent of global transport well-mixed greenhouse gas emissions (Table 1 of these Findings). If CAA section 202(a) source categories' emissions of well-mixed greenhouse gas were ranked against total well-mixed greenhouse gas emissions for entire countries, CAA section 202(a) source category emissions would rank behind only China, the United States as a whole, Russia, and India, and would rank ahead of Japan, Brazil, Germany and every other country in the world. Indeed, countries with lower emissions than the CAA section 202(a) source categories are members of the 17 "major economies" "that meet to advance the exploration of concrete initiatives and joint ventures

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Indicators Tool (CAIT). Available at http://cait.wri.org. Accessed August 5, 2009.

[40] One teragram (Tg) = 1 million metric tons. 1 metric ton = 1,000 kg = 1.102 short tons = 2,205 lbs. Long-lived greenhouse gases are compared and summed together on a CO-T22 equivalent basis by multiplying each gas by its Global Warming Potential (GWPs), as estimated by IPCC. In accordance with UNFCCC reporting procedures, the U.S. quantifies greenhouse gas emissions using the 100-year time frame values for GWPs established in the IPCC Second Assessment Report.

that increase the supply of clean energy while cutting greenhouse gas emissions." *See* http://www.state.gov/g/oes/climate/mem/. It would be anomalous, to say the least, to consider Japan and these other countries as major players in the global climate change community and an integral part of the solution, but not find that CAA section 202(a) source category emissions contribute to the global problem. Thus, the Administrator finds that emission of well-mixed greenhouse gases from CAA section 202(a) source categories contribute to the air pollution of well-mixed greenhouse gases.

Table 1-Comparison to Global Greenhouse Gas (GHG) Emissions (Tg CO2e)

	2005	Sec 202(a) share (percent)
All U.S. GHG emissions	7,109	23.5
Global transport GHG emissions	5,968	28.0
All global GHG emissions	38,726	4.3

b. Section 202(a) of the CAA-Share of U.S. Aggregate Emissions of the Well-Mixed Greenhouse Gases

The Administrator considered compared total emissions of the well-mixed greenhouse gases from CAA section 202(a) source categories to total U.S. emissions of the well-mixed greenhouse gases as an indication of the role these sources play in the total

U.S. contribution to the air pollution problem causing climate change.[41]

In 2007, U.S. well-mixed greenhouse gas emissions were 7,150 $TgCO_2$ eq. The dominant gas emitted was carbon dioxide, mostly from fossil fuel combustion. Methane was the second largest well-mixed greenhouse gas, followed by N_2O, and the fluorinated gases (HFCs, PFCs, and SF6). Electricity generation was the largest emitting sector (2,445 $TgCO_2$ eq or 34 percent of total U.S. greenhouse gas emissions), followed by transportation (1,995 $TgCO_2$ eq or 28 percent) and industry (1,386 $TgCO_2$ eq or 19 percent). Emissions from the CAA section 202(a) source categories constitute the major part of the transportation sector. Land use, land use change, and forestry offset almost 15 percent of total U.S. emissions through net sequestration. Total U.S. well-mixed greenhouse gas emissions have increased by over 17 percent between 1990 and 2007. The electricity generation and transportation sectors have contributed the most to this increase.

In 2007 emissions of well-mixed greenhouse gases from CAA section 202(a) source categories collectively were the second largest emitter of well-mixed greenhouse gases within the United States (behind the electricity generating sector), emitting 1,663 $TgCO_2$ eq and representing 23 percent of total U.S. emissions of well-mixed greenhouse gases (Table 2 of these Findings). The Administrator is keenly aware that the United States is the second largest emitter of well-mixed greenhouse gases. Part of analyzing wheth[illegible] a sector within the United States contributes to the [illegible]bal problem is to see how those emissions fit into the contribution from the United States as a whole. This informs her judgment as to the importance of emissions from this source category in any overall national strategy to address greenhouse gas emissions. Thus, it is relevant that CAA section 202(a) source categories are the second largest emitter of well-mixed greenhouse gases in the country. This is part of the Administrator looking at the totality of the circumstances. Based on this the Administrator finds that emission of well-mixed greenhouse gases from CAA section 202(a) source categories contribute to the air pollution of well-mixed greenhouse gases.

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[41] Greenhouse gas emissions data for the United States in this section have been updated since the Proposed Findings to reflect EPA's most up-to-date information, which includes data for the year 2007. The source of the U.S. greenhouse gas emissions data is the Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007, published in 2009 (hereinafter "U.S. Inventory").

Table 2-Sectoral Comparison to Total U.S. Greenhouse Gas (GHG) Emissions (Tg CO2e)

U.S. Emissions	1990	1995	2000	2005	2006	2007
Section 202(e) GHG emissions	1231.9	1364.4	1568.1	1670.5	1665.7	1663.1
Share of U.S. (%)	20.2%	21.1%	22.4%	23.5%	23.6%	23.3%
Electricity Sector emissions	1859.1	1989.0	2329.3	2429.4	2375.5	2445.1
Share of (U.S.)	30.5%	30.8%	33.2%	34.2%	33.7%	34.2%
Industrial Sector emissions	1496.0	1524.5	1467.5	1364.9	1388.4	1386.3

Share of U.S. (%)	24.5%	23.6%	20.9%	19.2%	19.7%	19.4%
Total U.S. GHG emissions	6098.7	6463.3	7008.2	7108.6	7051.1	7150.1

C. Response to Key Comments on the Administrator's Cause or Contribute Finding

EPA received numerous public comments regarding the Administrator's proposed cause or contribute finding. Below is a brief discussion of some of the key comments. Responses to comments on this issue are also contained in the Response to Comments document, Volume 10.

1. The Administrator Reasonably Defined the "Air Pollutant" for the Cause or Contribute Analysis

a. The Supreme Court Held that Greenhouse Gases Fit Within the Definition of "Air Pollutant" in the CAA

Several commenters reiterate arguments already rejected by the Supreme Court, arguing that greenhouse gases do not fit into the definition of "air pollutant" under the CAA. In particular, at least one commenter contends that EPA must show how greenhouse gases impact or materially change "ambient air" when defining air pollutant and making the endangerment finding. This commenter argues that because carbon dioxide is a naturally occurring and necessary element in the atmosphere, it cannot be considered to materially change air.

These and similar arguments were already rejected by the Supreme Court in *Massachusetts v. EPA*, 549 U.S. 497 (2007). Briefs before the Supreme Court also argued that carbon dioxide is an essential role for life on earth and therefore cannot be considered an air pollutant, and that the concentrations of greenhouse gases that are a potential problem are not in the "ambient air" that people breathe.

The Court rejected all of these and other arguments, noting that the statutory text forecloses these arguments. "The Clean Air Act's sweeping definition of 'air pollutant' includes 'any air pollution agent or combination of such agents, including any physical, chemical * * * substance or matter which is emitted into or otherwise enters the ambient air . * * *' § 7602(g) (emphasis added). On its face, the definition embraces all airborne compounds of whatever stripe, and underscores that intent through the repeated use of the word 'any.' Carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons are without a doubt 'physical [and] chemical * * * substance[s] which [are] emitted into * * * the ambient air.' The statute is unambiguous."

547 U.S. at 529-30 (footnotes omitted); *see* also *id.* at 530, n26 (the distinction regarding ambient air, however, finds no support in the text of the statute, which uses the phrase "the ambient air" without distinguishing between atmospheric layer.). Thus, the question of whether greenhouse gases fit within the definition of air pollutant under the CAA has been decided by the Supreme Court and is not being revisited here.

b. The Definition of Air Pollutant May Include Substances Not Emitted by CAA Section 202(a) Sources

Many commenters argue that the definition of "air pollutant"-here well-mixed greenhouse gases-cannot include PFCs and SF6 because they are not emitted by CAA section 202(a) motor vehicles and hence, cannot be part of any "air pollutant" emitted by such sources. They argue that by improperly defining "air pollutant" to include substances that are not present in motor vehicle emissions, the Agency has exceeded its statutory authority under CAA section 202(a). Commenters contend that past endangerment findings under CAA section 202(a) demonstrate EPA's consistent approach of defining "air pollutant(s)" in accordance with the CAA's clear direction, to include only those pollutants emitted from the relevant source category (citing Notice of Proposed Rulemaking for Heavy-Duty Engine and Vehicle Standards finding that "emissions of NO_x, VOCs, SO_x, and PM from heavy-duty trucks can reasonably be anticipated to endanger the public health or welfare." (65 FR 35436, June 2, 2000). Commenters argue that EPA itself is inconsistent in the Proposed Findings, sometimes referring

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RECORD
AND
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Supreme Court of the United States

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Petitioners,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the
United States Court of Appeals for the
District of Columbia Circuit

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Requirements for Preparation, Adoption and Submittal of Implementation Plans, 45 Fed. Reg. 52676 (Aug. 7, 1980) (excerpt) (D.C. Cir. No. 10-1073 JA0057-0129) 1399

Requirements for Preparation, Adoption and Submittal of SIPs, 44 Fed. Reg. 51924 (Sept. 5, 1979) (excerpt) (D.C. Cir. No. 10-1167 JA0033-0069) 1413

Part 52—Approval and Promulgation of State Implementation Plans, 43 Fed. Reg. 26388 (June 19, 1978) (excerpt) (D.C. Cir. No. 10-1073 JA0034-0056) 1418

Part 51—Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 43 Fed. Reg. 26380 (June 19, 1978) (D.C. Cir. No. 10-1073 JA0026-0033) 1496

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PROPOSED RULES

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Chapter I
[EPA-HQ-OAR-2008-0318; FRL-8694-2]
RIN 2060-AP12

Regulating Greenhouse Gas Emissions Under the Clean Air Act

Wednesday, July 30, 2008

AGENCY: Environmental Protection Agency (EPA).

ACTION: Advance Notice of Proposed Rulemaking.

SUMMARY: This advance notice of proposed rulemaking (ANPR) presents information relevant to, and solicits public comment on, how to respond to the U.S. Supreme Court's decision in *Massachusetts v. EPA*. In that case, the Supreme Court ruled that the Clean Air Act (CAA or Act) authorizes regulation of greenhouse gases (GHGs) because they meet the definition of air pollutant under the Act. In view of the potential ramifications of a decision to regulate GHGs under the Act, the notice reviews the various CAA provisions that may be applicable to regulate GHGs, examines the issues that regulating GHGs under those provisions may raise, provides information regarding potential regulatory approaches and technologies for reducing GHG emissions, and raises issues relevant to possible legislation and the potential for overlap between legislation and CAA regulation. In addition, the notice describes and solicits comment on petitions the Agency has received to regulate GHG emissions from ships, aircraft and nonroad vehicles such as farm and construction equipment. Finally, the notice discusses several other actions concerning stationary sources for which EPA

has received comment regarding the regulation of GHG emissions.

The implications of a decision to regulate GHGs under the Act are so far-reaching that a number of other federal agencies have offered critical comments and raised serious questions during interagency review of EPA's ANPR. Rather than attempt to forge a consensus on matters of great complexity, controversy, and active legislative debate, the Administrator has decided to publish the views of other agencies and to seek comment on the full range of issues that they raise. These comments appear in the Supplemental Information, below, followed by the June 17 draft of the ANPR preamble prepared by EPA, to which the comments apply. None of these documents represents a policy decision by the EPA, but all are intended to advance the public debate and to help inform the federal government's decisions regarding climate change.

DATES: Comments must be received on or before November 28, 2008.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2008-0318, by one of the following methods:

- www.regulations.gov: Follow the on-line instructions for submitting comments.
- E-mail: a-and-rDocket@epa.gov.
- Fax: 202-566-9744.
- Mail: Air and Radiation Docket and Information Center, Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave., N.W., Washington,

DC 20460. In addition, please mail a copy of your comments on the information collection provisions to the Office of Information and Regulatory Affairs, Office of Management and Budget (OMB), Attn: Desk Officer for EPA, 725 17th St., N.W., Washington, DC 20503.

- Hand Delivery: EPA Docket Center, EPA West Building, Room 3334, 1301 Constitution Ave., NW. Washington DC, 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2008-0318. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at http://www.epa.gov/epahome /dockets.htm. For additional instructions on submitting comments, go to Section VII, Public Participation, of the SUPPLEMENTARY INFORMATION section of this document.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in www.regulations.gov or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., N.W., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Joe Dougherty, Office of Air and Radiation, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (202) 564-1659; fax number: (202) 564-1543; e-mail address: Dougherty.Joseph-J@epa.gov.

SUPPLEMENTARY INFORMATION:

Preface From the Administrator of the Environmental Protection Agency

In this Advanced Notice of Proposed Rulemaking (ANPR), the Environmental Protection Agency (EPA) seeks comment on analyses and policy alternatives regarding greenhouse gas (GHG) effects and regulation under the Clean Air Act. In particular, EPA seeks comment on the document entitled "Advanced Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act" and observations and issues raised by other federal agencies. This notice responds to the U.S. Supreme Court's decision in *Massachusetts v. EPA* and numerous petitions related to the potential regulation of greenhouse gas emissions under the Clean Air Act.

EPA's analyses leading up to this ANPR have increasingly raised questions of such importance that the scope of the agency's task has continued to expand. For instance, it has become clear that if EPA were to regulate greenhouse gas emissions from motor vehicles under the Clean Air Act, then regulation of smaller stationary sources that also emit GHGs–such as apartment buildings, large homes, schools, and hospitals–could also be triggered. One point is clear: The potential regulation of greenhouse gases under any portion of the Clean Air Act could result in an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land.

This ANPR reflects the complexity and magnitude of the question of whether and how greenhouse gases could be effectively controlled under the Clean Air Act. This document summarizes much of EPA's work and lays out concerns raised by other federal agencies during their review of this work. EPA is publishing this notice today because it is impossible to simultaneously address all the agencies' issues and respond to our legal obligations in a timely manner.

I believe the ANPR demonstrates the Clean Air Act, an outdated law originally enacted to control regional pollutants that cause direct health effects, is ill-suited for the task of regulating global greenhouse gases. Based on the analysis to date, pursuing this course of action would inevitably result in a very complicated, time-consuming and, likely, convoluted set of regulations. These rules would largely pre-empt or overlay existing programs that help control greenhouse gas emissions and would be relatively ineffective at reducing greenhouse gas concentrations given the potentially damaging effect on jobs and the U.S. economy.

Your input is important. I am committed to making the data and models EPA is using to form our policies transparent and available to the public. None of the views or alternatives raised in this notice represents Agency decisions or policy recommendations. It is premature to do so. Rather, I am publishing this ANPR for public comment and review. In so doing, I am requesting comment on the views of other federal agencies that are presented below including important legal questions regarding endangerment. I encourage the public to (1) understand the magnitude and complexity of the Supreme Court's direction in *Massachusetts v. EPA* and (2) comment on the many questions raised in this notice.

BILLING CODE 6560-50-P

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

ADMINISTRATOR
OFFICE OF
INFORMATION AND
REGULATORY AFFAIRS

July 10, 2008

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Administrator Johnson:

I am writing with regard to the draft Advance Notice of Proposed Rulemaking (ANPR) "Regulating Greenhouse Gas Emissions Under the Clean Air Act," submitted to the Office of Management and Budget (OMB) on June 17, 2008 pursuant to Executive Order 12866. The issues raised during interagency review are so significant that we have been unable to reach interagency consensus in a timely way, and as a result, this staff draft cannot be considered Administration policy or representative of the views of the Administration. However, given the Administration's commitment to respond to the Supreme Court's decision in *Massachusetts v. EPA*, we have determined in this case that consensus is not necessary in order for EPA to seek public comment on the wide-ranging issues raised by the draft regarding the potential regulation of greenhouse gases under the Clean Air Act. Thus, as we have discussed, you are withdrawing the draft from review under Executive Order 12866, and I am waiving the requirement for review due to the extraordinary circumstances presented here. Of course, given the significance of any actions to address greenhouse gas emissions under the Clean Air Act, any future notice would be subject to interagency review under Executive Orders 12866 and 13342.

The enclosed letter from the Secretaries of Agriculture, Commerce, Transportation, and Energy, along with summaries of issues raised by their departments, and letters from the Chairman of the Council on Environmental Quality, the Director of the Office of Science and Technology Policy and the Chairman of the Council of Economic Advisors, and the Chief Counsel for Advocacy at the Small Business Administration identify important concerns. As reflected in these letters, there is strong disagreement with many of the legal, analytical, economic, science and policy interpretations in the draft; however, these letters do reflect agreement with you that the Clean Air Act is a deeply flawed and unsuitable vehicle for reducing greenhouse gas emissions. Interagency reviewers concluded upon reading the draft that trying to address greenhouse gas emissions through the existing provisions of the Clean Air Act will not only harm the U.S. economy, but will fail to provide an effective response to the global challenge of climate change.

As the President observed in April:

> Decisions with such far-reaching impact should not be left to unelected regulators and judges. Such decisions should be debated openly [and] made by the elected representatives of the people they affect.

EPA should seek public comment on the issues raised in the attached letters and should address these issues before it considers, and before OMB reviews, a notice of proposed rulemaking under the Clean Air Act.

The draft sets out a hypothetical roadmap outlining ways in which different provisions of the Clean Air Act could be applied to address greenhouse gas emissions. Following such a regulatory roadmap could result in the piecemeal application of command-and-control regulation—based on EPA staff determinations of the availability and suitability of a wide range of technology—covering both U.S. manufacturing activity and a broad range of commercial and household activities to an extent well beyond the scope of current regulation. To illustrate:

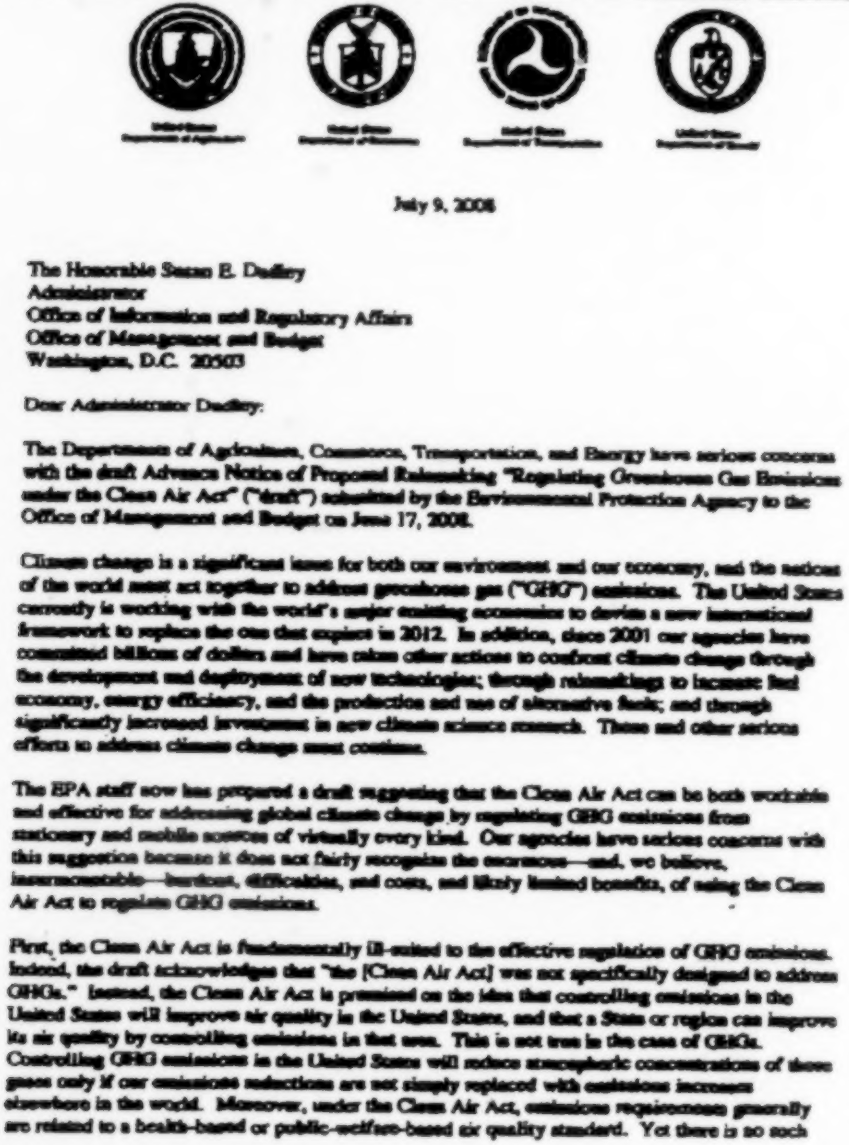
- The draft observes that regulation under almost any section of the Act would trigger the prevention of significant deterioration (PSD) program, which could require case-by-case EPA permitting covering building design for large office and residential buildings, hotels, retail stores and other similarly-sized projects;
- The draft discusses potential requirements that would regulate the design of plants in the U.S. manufacturing sector to increase energy efficiency;
- The draft discusses various technologies to achieve greenhouse gas emission reductions in the trucking industry, including devices to limit vehicle speed;
- In the agricultural sector, the draft discusses animal feeding operations, agricultural soil management, and fire management practices as a source of greenhouse gas emissions;
- The draft discusses approaches to reduce greenhouse gas emissions from households, for example, it notes that it "could require a different unit of measure tied to [a] machine's mission or output—such as grams per kilogram of cuttings from a 'standard' lawn for lawnmowers";
- The draft suggests reducing greenhouse gases from shipping through both ship design and marine operations, including redesigning ship hulls, limiting ship speed, using less ballast, and regulating route planning and port management. (It notes that "innovative strategies for reducing hull friction include coatings with textures similar to marine animals…").

To mitigate the far reaching and potentially harmful effects of regulating greenhouse gases under the Clean Air Act, the draft offers several untested legal propositions for "flexible" interpretations of the Act. In the case of PSD permitting, which could capture thousands of small sources never before regulated under the Clean Air Act, the draft specifically acknowledges that these novel theories violate the plain meaning of the Act, but suggests "the plain meaning of legislation is not conclusive…" The draft also relies on untested legal theories to suggest that some Clean Air Act provisions could be adapted to provide economic incentives to reduce greenhouse gas emissions. For example, it suggests that a regulatory program based on National Ambient Air Quality Standards might permit the adoption of a nationwide cap-and-trade program. Even if this regulatory approach legally could support economic incentives, it would likely be narrowly focused to cover a limited set of activities, and would not successfully engage the ingenuity and creativity of American citizens so that future generations can continue to enjoy both prosperity and environmental quality.

Addressing greenhouse gas emissions may be the most significant environmental policy decision of our generation, and I respect that you are engaging public debate on the appropriateness of relying on the Clean Air Act, written decades ago to address different air quality concerns, to guide these policies. I appreciate that EPA will publish in the *Federal Register* this letter along with the enclosed letters from your Cabinet and other colleagues in addition to the June 17th EPA draft in order to facilitate public understanding of, and public comment on, the issues associated with regulating greenhouse gases under the Clean Air Act.

Sincerely,

Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget



July 9, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Dear Administrator Dudley:

The Departments of Agriculture, Commerce, Transportation, and Energy have serious concerns with the draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act" ("draft") submitted by the Environmental Protection Agency to the Office of Management and Budget on June 17, 2008.

Climate change is a significant issue for both our environment and our economy, and the nations of the world must act together to address greenhouse gas ("GHG") emissions. The United States currently is working with the world's major emitting economies to devise a new international framework to replace the one that expires in 2012. In addition, since 2001 our agencies have committed billions of dollars and have taken other actions to confront climate change through the development and deployment of new technologies; through rulemakings to increase fuel economy, energy efficiency, and the production and use of alternative fuels; and through significantly increased investment in new climate science research. These and other serious efforts to address climate change must continue.

The EPA staff now has prepared a draft suggesting that the Clean Air Act can be both workable and effective for addressing global climate change by regulating GHG emissions from stationary and mobile sources of virtually every kind. Our agencies have serious concerns with this suggestion because it does not fairly recognize the enormous—and, we believe, insurmountable—burdens, difficulties, and costs, and likely limited benefits, of using the Clean Air Act to regulate GHG emissions.

First, the Clean Air Act is fundamentally ill-suited to the effective regulation of GHG emissions. Indeed, the draft acknowledges that "the [Clean Air Act] was not specifically designed to address GHGs." Instead, the Clean Air Act is premised on the idea that controlling emissions in the United States will improve air quality in the United States, and that a State or region can improve its air quality by controlling emissions in that area. This is not true in the case of GHGs. Controlling GHG emissions in the United States will reduce atmospheric concentrations of these gases only if our emissions reductions are not simply replaced with emissions increases elsewhere in the world. Moreover, under the Clean Air Act, emissions requirements generally are related to a health-based or public-welfare-based air quality standard. Yet there is no such standard for GHGs in the Act or elsewhere, and thus the draft seems to take the approach of seeking emissions reductions with no precise idea of exactly what goal is being pursued or what GHG concentration-level objective is to be achieved.

Second, the use of the Clean Air Act to regulate GHG emissions unilaterally as envisioned in the draft would harm America's international competitiveness. Applying Clean Air Act regulations to U.S. businesses in order to address global climate change—outside of any international framework that brings together all of the world's major economies, both developed and developing—would simply export economic activity and emissions to less-regulated countries and might not generate any net reduction in worldwide GHG emissions. According to the Energy Information Administration, carbon dioxide emissions in non-OECD (Organization for Economic Cooperation and Development) nations already surpass those of OECD nations and are estimated to exceed them by 72 percent in 2030. The draft does not take account of these realities, and instead builds a regime that would impose enormous costs on U.S. consumers, workers, and businesses without addressing the fundamental shift in emissions growth from the developed world to the developing world.

Third, while acknowledging that "the complexity and interconnections inherent in [Clean Air Act] regulation of GHGs" has caused EPA staff to "not believe that all aspects of the Act are well designed for establishing the kind of comprehensive GHG regulatory program that could most effectively achieve the GHG emission reductions that may be needed over the next several decades," the draft nevertheless suggests that regulating GHGs under the Clean Air Act would be workable. We disagree. The draft offers a number of legal constructs to support its position, but there is no certainty of how those theories will work in actuality, or whether they would be upheld by the courts. Such legal uncertainty simply emphasizes the risk to the Nation's energy, economic, and environmental security of seeking to shoehorn a GHG regulatory program into the Clean Air Act. Moreover, some might read the draft's discussion of an array of GHG regulatory constructs to prejudge the question of endangerment, even though there are critical open issues that must be addressed and resolved in making that legal determination and which must be decided before GHG emissions can be regulated under the Clean Air Act.

Even if the Act could support all of the legal theories outlined in the draft, the suggested permitting regimes would be extraordinarily intrusive and burdensome. In fact, the draft recognizes that regulation of GHG emissions under the Clean Air Act would likely extend permitting requirements and emissions controls to many sources not previously subject to Clean Air Act regulation, such as large buildings heated by natural gas. This could lead to EPA exercising de facto zoning authority through control over thousands of what formerly were local or private decisions, impacting the construction of schools, hospitals, and commercial and residential development.

Fourth, although the draft sets forth data and analysis that could be useful in the overall debate about GHGs, our agencies disagree with many of the assumptions in the draft about the costs of controlling GHGs, the technologies currently available and potentially available in the future, the timeline for the development of some of those technologies, and the potential harm from and benefits of controlling GHG emissions from specific sources. Moreover, there are important differences between the draft and the peer-reviewed reports recently issued by the U.S. Climate Change Science Program—an interagency program in which EPA has been a key participant.

Finally, the draft suggests approaches to control GHG emissions that would needlessly duplicate newly passed laws and effectively ignore regulatory initiatives currently underway. For example, the Department of Transportation is already conducting a rulemaking to update fuel economy standards for light trucks and automobiles, pursuant to the recently enacted Energy Independence and Security Act of 2007. The draft suggests the possibility of an overlapping regulatory mandate using the Clean Air Act, potentially creating inconsistent regulatory mandates and uncertainty for U.S. industries and consumers, with minimal if any improvements in U.S. greenhouse gas emissions.

In sum, global climate change presents a serious challenge, and a workable and meaningful approach must be crafted to address that challenge. Unfortunately, using the Clean Air Act is not such an approach, as the draft sometimes acknowledges, but does not realistically address. In the enclosures with this letter, our respective agencies have provided brief analyses of some of the key technical, economic, and analytical difficulties with the draft, and our agencies may supplement these comments at a later date.

Sincerely,

Edward T. Schafer
Secretary
U.S. Department of Agriculture

Carlos M. Gutierrez
Secretary
U.S. Department of Commerce

Mary E. Peters

Mary E. Peters
Secretary
U.S. Department of Transportation

Samuel W Bodman

Samuel W. Bodman
Secretary
U.S. Department of Energy

Enclosures

U.S. Department of Transportation
U.S. Department of Energy
U.S. Department of Commerce
U.S. Department of Agriculture

Department of Transportation

The Department of Transportation ("the Department" or "DOT") hereby submits the following preliminary comments on the Environmental Protection Agency ("EPA") staff's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft"). In view of the very short time the Department has had to review the document, DOT will offer a longer, more detailed response by the close of the comment period.

Department of Transportation

The Department of Transportation ("the Department" or "DOT") hereby submits the following preliminary comments on the Environmental Protection Agency ("EPA") staff's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft"). In view of the very short time the Department has had to review the document, DOT will offer a longer, more detailed response by t

General Considerations

In response to *Massachusetts v. EPA* and multiple rulemaking petitions, the EPA must consider whether or not greenhouse gases may reasonably be anticipated to endanger public health or welfare, within the meaning of the Clean Air Act. Such a determination requires the resolution of many novel questions, such as whether global or only U.S. effects should be considered, how imminent the anticipated endangering effects are, and how greenhouse gases are to be quantified, to name just a few. Without resolving any of these questions, let alone actually making an endangerment finding, the June 17 draft presents a detailed discussion of regulatory possibilities. In other words, the draft suggests an array of specific regulatory constructs in the transportation sector under the Clean Air Act without the requisite determinations that greenhouse gas emissions endanger public health or welfare and that regulation is feasible and appropriate. In fact, to propose specific regulations prejudices those critical determinations and reveals a predilection for regulation that may not be justified.

Policymakers and the public must consider a broader question: even if greenhouse gas regulation using a law designed for very different environmental challenges is legally permissible, is it desirable? We contend that it is not. We are concerned that attempting to regulate greenhouse gases under the Clean Air Act will harm the U.S. economy while failing to actually reduce global greenhouse gas emissions. Clean Air Act regulation would necessarily be applied unevenly across sources, sectors, and emissions-causing activities, depending on the particular existing statutory language in each section of the Act. Imposing Clean Air Act regulations on U.S. businesses, without an international approach that involves all of the world's major emitters, may well drive U.S. production, jobs, and emissions overseas, with no net improvement to greenhouse gas concentrations.

The Department believes that the Nation needs a well-considered and sustainable domestic climate change policy that takes into account the best climatological, technical and economic information available. That policy–as with any significant matter involving Federal law and regulation–should also reflect a national consensus that the actions in question are justified and effective, and do not bring with them substantial unintended consequences or unacceptable economic costs. Reducing greenhouse gas emissions across the various sectors of our economy is an enormous challenge that can be met effectively only through the setting of priorities and the efficient allocation of resources in accordance with those priorities.

It is an illusion to believe that a national consensus on climate policy can be forged via a Clean Air Act rulemaking. Guided by the provisions of a statute conceived for entirely different purposes–and unconstrained by any calculation of the costs of the specific regulatory approaches it contemplates–such a rulemaking is unlikely to produce that consensus.

Administrator Johnson of the EPA said in a recent speech, "now is the time to begin the public debate and upgrade [the Clean Air Act's] components." Administrator Johnson has called for fundamental changes to the Clean Air Act "to consider benefits, costs, risk tradeoffs and feasibility in making decisions about how to clean the air." This, of course, is a criticism of the Clean Air Act's ability to address its intended purposes, let alone purposes beyond those Congress contemplated. As visualized in the June 17 draft, the U.S. economy would be subjected to a complex set of new regulations administered by a handful of people with little meaningful public debate and no ability to consider benefits, costs, risk tradeoffs and feasibility. This is not the way to set public policy in an area critical to our environment and to our economy.

As DOT and its fellow Cabinet departments argue in the cover letter to these Comments, using the Clean Air Act as a means for regulating greenhouse gas emissions presents insurmountable obstacles. For instance, Clean Air Act provisions that refer to specific pollutants, such as sulfur dioxide, have been updated many times over the past three decades. In contrast, the language referring to unspecified pollutants, which would apply to greenhouse gases, retains, in fossil form, the 1970s idea that air pollution is a local and regional scale problem, with pollution originating in motor vehicles and a few large facilities, for which "end of pipe" control technologies exist or could be invented at acceptable cost. Greenhouse gas emissions have global scale consequences, and are emitted from millions of sources around the world. If implemented, the actions that the draft contemplates would significantly increase energy and transportation costs for the American people and U.S. industry with no assurance that the regulations would materially affect global greenhouse gas atmospheric concentrations or emissions.

Transportation-Related Considerations

As the Nation's chief transportation regulatory agency, the Department has serious concerns about the draft's approach to mobile sources, including, but not limited to, the autos, trucks, and aircraft that Section VI of the draft considers regulating.

Title II of the Clean Air Act permits the use of technology-forcing regulation of mobile sources. Yet Section VI of the draft appears to presume an endangerment finding with respect to emissions from a variety of mobile sources and then strongly suggests the EPA's intent to regulate the transportation sector through an array of source-specific regulations. Thus, much of Section VI is devoted to describing and requesting information appropriate to setting technology-forcing performance standards for particular categories of vehicles and engines based on an assessment of prospective vehicle and engine technology in each source category.

In its focus on technology and performance standards, the draft spends almost no effort on assessing how different regulatory approaches might vary in their effectiveness and compliance costs. This despite the fact that picking an efficient, effective, and relatively unintrusive regulatory scheme is critically important to the success of any future program—and far more important at this stage than identifying the cost-effectiveness of speculative future technologies.

The draft fails to identify the market failures or environmental externalities in the transportation sector that regulation might correct, and, in turn, what sort of regulation would be best tailored to correcting a specific situation. Petroleum accounts for 99 percent of the energy use and greenhouse gas emissions in the transportation sector. Petroleum prices have increased fivefold since 2002. Rising petroleum prices are having a powerful impact on airlines, trucking companies, marine operators, and railroads, and on the firms that supply vehicles and engines to these industries. Petroleum product prices have doubled in two years, equivalent to a carbon tax of $200 per metric ton, far in excess of the cost of any previously contemplated climate change measure. Operators are searching for every possible operating economy, and capital equipment manufacturers are fully aware that fuel efficiency is a critical selling point for new aircraft, vehicles, and engines. At this point, regulations could provide no more powerful incentive for commercial operators than that already provided by fuel prices. Badly designed performance standards would be at best non-binding (if private markets demand more efficiency than the regulatory standard) or would actually undermine efficient deployment of fuel efficient technologies (if infeasible or non-cost-effective standards are required).

Light Duty Vehicles

On December 19, 2007, the President signed the Energy Independence and Security Act ("EISA"), which requires the Department to implement a new fuel economy standard for passenger cars and light trucks. The Department's National Highway Traffic Safety Administration ("NHTSA") has moved swiftly to comply with this law, issuing a Notice of Proposed Rulemaking ("NPRM") on April 22, 2008. The comment period for this NPRM closed on July 1, 2008. If finalized in its present form, the rule would reduce U.S. carbon dioxide emissions by an estimated 521 million metric tons over the lifetime of the regulated vehicles.

This NPRM is only the latest in a series of NHTSA Corporate Average Fuel Economy ("CAFE") program rules proposed or implemented during this Administration. Indeed, these proposals together represent the most aggressive effort to increase the fuel economy (and therefore to reduce the emissions) of the U.S. fleet since the inception of the CAFE program in 1975.

In enacting EISA, Congress made careful and precise judgments about how standards are to be set for the purpose of requiring the installation of technologies that reduce fuel consumption. Although almost all technologies that reduce carbon dioxide emissions do so by reducing fuel consumption, the EPA staff's June 17 draft not only ignores those congressional judgments, but promotes approaches inconsistent with those judgments.

The draft includes a 100-page analysis of a tailpipe carbon dioxide emissions rule that has the effect of undermining NHTSA's carefully balanced approach under EISA. Because each gallon of gasoline contains approximately the same amount of carbon, and essentially all of the carbon in fuel is converted to carbon dioxide, a tailpipe carbon dioxide regulation and a fuel economy regulation are essentially equivalent: they each in effect regulate fuel economy.

In the draft's analysis of light duty vehicles, the external benefits of reducing greenhouse gas emissions account for less than 15 percent of the total benefits of improving vehicle efficiency, with the bulk of the benefits attributable to the market value of the gasoline saved. Only rather small marginal reductions in fuel consumption or greenhouse gas emissions would be justified by external costs in general, and climate change benefits in particular. Thus, the draft actually describes fuel economy regulations, which generate primarily fuel savings benefits, under the rubric of environmental policy.

Though it borrows an analytical model provided by NHTSA, the draft uses differing assumptions and calculates the effects of the Agency's standard differently than does the rule NHTSA proposed pursuant to EISA. The draft conveys the incorrect impression that the summary numbers such as fuel savings, emission reductions, and economic benefits that are presented in the draft are comparable with those presented in NHTSA's NPRM, when in fact the draft's numbers are calculated differently and, in many cases, using outdated information.

The draft does not include the provisions of EISA or past, current, or future CAFE rulemakings in its baseline analysis of light duty vehicle standards. Thus, the draft inflates the apparent benefits of a Clean Air Act light duty vehicle rulemaking when much of the benefits are already achieved by laws and regulations already on the books. The draft fails to ask whether additional regulation of light duty vehicles is necessary or desirable, nor gives any serious consideration how Clean Air Act and EISA authorities might be reconciled.

The draft comprehensively mischaracterizes the available evidence on the relationship between safety and vehicle weight. In the draft, EPA asserts that the safety issue is "very complex," but then adds that it disagrees with the views of the National Academy of Sciences (NAS) and NHTSA's safety experts, in favor of the views of a two-person minority on the NAS panel and a single, extensively criticized article.

Much of the text of this portion of the draft is devoted to a point-by-point recitation and critique of various economic and technological assumptions that NHTSA, the Office of Management and Budget, and other Federal agencies—among them EPA—painstakingly calculated over the past year, but that EPA now unilaterally revises for this draft. It is not clear why it is necessary or desirable to use one set of analytical assumptions, while the rest of the Federal Government uses another.

The public interest is ill-served by having two competing proposals, put forth by two different agencies, both purporting to regulate the same industry and the same products in the same ways but with differing stringencies and enforcement mechanisms, especially during a time of historic volatility in the auto industry and mere months after Congress passed legislation tasking another agency with regulation in this area. The detailed analysis of a light duty vehicle rule in the draft covers the same territory as does NHTSA's current rulemaking–and is completely unnecessary for the purposes of an endangerment finding or for seeking comment on the best method of regulating mobile source emissions.

Setting Air Quality Standards

The discussion of the process for setting National Ambient Air Quality Standards ("NAAQS") and development of state/Federal implementation plans for greenhouse gases is presented as an option for regulating stationary sources, and is placed in the discussion of stationary sources. The draft describes a scenario in which the entire country is determined to be in nonattainment.

Such a finding would reach beyond power plants and other installations to include vital transportation infrastructure such as roads, bridges, airports, ports, and transit lines. At a time when our country critically needs to modernize our transportation infrastructure, the NAAQS that the draft would establish–and the development of the implementation plans that would follow–could seriously undermine these efforts. Because the Clean Air Act's transportation and general conformity requirements focus on local impacts, these procedures are not capable of assessing and reducing impacts of global pollutants without substantial disruption and waste.

If the entire Nation were found to be in nonattainment for carbon dioxide or multiple greenhouse gases, and transportation and general conformity requirements applied to Federal activities, a broad range of those activities would be severely disrupted. For example, application of transportation conformity requirements to all metropolitan area transportation plans would add layers of additional regulations to an already arduous Federal approval process and expand transportation-related litigation without any assurance that global greenhouse gas emissions would be reduced. Indeed, needed improvements to airports, highways and transit systems that would make the transportation system more efficient, and thus help reduce greenhouse gas and other emissions, could be precluded due to difficulties in demonstrating conformity. Though the potential for such widespread impact is clear from even a cursory reading of the draft, it ignores the issue entirely.

For these reasons, we question the practicality and value of establishing NAAQS for greenhouse gases and applying such a standard to new and existing transportation infrastructure across the Nation.

Heavy Duty Vehicles

The draft contemplates establishing a greenhouse gas emissions standard for heavy duty vehicles such as tractor-trailers. The draft's discussion of trucks makes no mention of the National Academy of Sciences study required by Section 108 of EISA that would evaluate technology to improve medium and heavy-duty truck fuel efficiency and costs and impacts of fuel efficiency standards that may be developed under 49 U.S.C. Section 32902(k), as amended by section 102(b) of EISA. This section directs DOT, in consultation with EPA and DOE, to determine test procedures for measuring and appropriate procedures for expressing fuel efficiency performance, and to set standards for medium- and heavy-duty truck efficiency. DOT believes that it is premature to review potential greenhouse gas emission standards for medium-and heavy-duty trucks in light of this study and anticipated future standard-setting action under EISA, and, in any event, that it is problematic to do so with no accounting of the costs that these standards might impose on the trucking industry.

In the case of light duty vehicles, it can be argued that consumers do not accurately value fuel economy, and regulation can correct this failure. Heavy-duty truck operators, on the other hand, are acutely sensitive to fuel costs, and their sensitivity is reflected in the product offerings of engine and vehicle manufacturers. The argument for fuel economy or tailpipe emissions regulation is much harder to make than in the case of light duty vehicles.

The medium and heavy truck market is more complex and diverse than the light duty vehicle market, incorporating urban delivery vans, on-road construction vehicles, work trucks with power-using auxiliaries, as well as the ubiquitous long-haul truck-trailer combinations. Further, a poorly designed performance standard that pushes operators into smaller vehicles may result in greater and not fewer of the emissions the draft intends to reduce. Because freight-hauling performance is maximized by matching the vehicle to the load, one large, high horsepower truck will deliver a large/heavy load at a lower total and fuel cost than the same load split into two smaller, low horsepower vehicles.

Railroads

The Clean Air Act includes a special provision for locomotives, Section 213(a) (5), which permits EPA to set emissions standards based on the greatest emission reduction achievable through available technology. The text of the draft suggests that EPA may consider such standards to include hybrid diesel/electric locomotives and the application of dynamic braking.

As in other sectors, it is hard to imagine how a technology-forcing regulation can create greater incentives than provided by recent oil prices. And sensible public policy dictates caution against imposing unrealistic standards or mandating technology that is not cost-effective, not reliable, or not completely developed.

Marine Vessels

The International Maritime Organization ("IMO") sets voluntary standards for emissions from engines used in ocean-going marine vessels and fuel quality through the MARPOL Annex VI (International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto ("MARPOL"), Annex VI, Prevention of Air Pollution from Ships). Member parties apply these voluntary standards through national regimes. The IMO is also working to consider ways to address greenhouse gas emissions from vessels and marine transportation, including both vessel-based and operational measures. The U.S. is a participant in these discussions. We believe that the discussion of ways to reduce greenhouse gas emissions from vessels and marine transportation should reference the IMO voluntary measures and discussions, and need not address detailed technological or operational measures.

Aviation

The draft includes a lengthy discussion of possible methods by which to regulate the greenhouse gas emissions of aircraft. For all its detail, however, the draft does not provide adequate information (and in some instances is misleading) regarding aviation emissions related to several important areas: (1) The overwhelming market pressures on commercial airlines to reduce fuel consumption and therefore carbon dioxide emissions and the general trends in aviation emissions growth; (2) expected technology and operational improvements being developed under the interagency Next Generation Air Transportation System ("NextGen") program; (3) the work and role of the International Civil Aviation Organization ("ICAO") in aviation environmental matters; (4) limits on EPA's ability to impose operational controls on aviation emission; and (5) the scientific uncertainty regarding greenhouse gas emissions from aircraft.

First, the draft does not provide the public an accurate picture of aviation emissions growth. Compared to 2000, U.S. commercial aviation in 2006 moved 12 percent more passengers and 22 percent more freight while burning less fuel, thereby reducing carbon output. Further, the draft's projections of growth in emissions are overstated because they do not reflect technology improvements in aircraft or air traffic operations and apparently do not take into account the industry's ongoing contraction or even the sustained increase in aviation jet fuel prices in 2007 and 2008. That increase (in 2008, U.S. airlines alone will spend $60 billion for fuel, compared to $16 billion in 2000) provides an overwhelming economic incentive for a financially troubled industry to reduce fuel consumption. Because reduction of a gallon of jet fuel displaces about 21 pounds of carbon dioxide, that incentive is the single most effective tool for reducing harmful emissions available today. Yet the draft makes no note of the trend.

Second, the draft does not adequately address the multi-agency NextGen program, one of whose principal goals is to limit or reduce the impact of aviation emissions on the global climate. This includes continued reduction of congestion through modernization of the air traffic control system, continued research on aircraft technologies and alternative fuels, and expanded deployment of operational advances such as Required Navigation Performance that allow aircraft to fly more direct and efficient routes in crowded airspace. Through NextGen, the Department's Federal Aviation Administration (FAA), in cooperation with private sector interests, is actively pursuing operational and technological advances that could result in a 33 percent reduction in aircraft fuel burn and carbon dioxide emissions.

Third, the draft gives short shrift to the Administration's efforts to reduce aviation emissions through a multilateral ICAO process, and it contemplates regulatory options either never analyzed by EPA or the aviation community for aircraft ("fleet averaging"[1]) or previously rejected by ICAO itself (flat carbon dioxide standards). The FAA has worked within the ICAO process to develop guidance for market-based measures, including adoption at the 2007 ICAO Assembly of guidance for emissions trading for international aviation. ICAO has established a Group on International Aviation and Climate Change that is developing further recommendations to address the aviation impacts of climate change.[2] The FAA's emphasis on international collaboration is compelled by the international nature of commercial aviation and the fact that performance characteristics of engines and airframes–environmental and otherwise–work best when they maximize consistency among particular national regulations.[3]

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[1] The concept of "fleet averaging," though used for automobiles, has never been applied to aviation or considered by either ICAO or FAA as a basis for standard setting. The draft offers little indication of why the concept would be worth serious consideration, and it is difficult to understand how that could be, given that manufacturers turn out only several hundred commercial airplanes for "averaging" annually, compared to over a million light duty vehicles per year built by large manufacturers. In any event, if further analysis supports the viability of fleet averaging, the appropriate venue for pursuing this would be through ICAO–so that aviation experts from around the world can assess the concept.

Fourth, the draft invites comments on potential aviation operational controls that might have emissions benefits. But proposals for changes to airspace or air traffic operational procedures usurp the FAA's responsibility as the Nation's aviation safety regulator and air traffic manager. It is inappropriate for the EPA to suggest operational controls without consideration of the safety implications that the FAA is legally required to address.

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[2] In this context, we note that the draft invites comment on proposals in the European Union regarding an emissions trading scheme to be imposed by the EU on all Europe-connected commercial operations. The U.S. Government, led by the Department of State, has repeatedly argued that any of these proposals, if enacted, would violate international aviation law and has made clear its opposition to the proposals in ICAO and other international fora. It is curious that the EPA would solicit comments on the benefits of proposals that the United States (along with numerous other nations) opposes as unlawful and unworkable.

[3] The draft is potentially misleading in suggesting that the fuel flow rate data reported for the ICAO landing and takeoff cycle engine emissions certification process, and the carbon dioxide emissions concentrations data collected for calculation and calibration purposes may be used as the basis for a carbon dioxide standard.

Finally, the draft does not accurately present the state of scientific understanding of aviation emissions and contains misleading statements about aviation emissions impacts. The report of the Intergovernmental Panel on Climate Change (cited in the draft but often ignored) more clearly conveys cautions about underlying uncertainties associated with regulating aviation emissions. For instance, the IPCC specifically concludes that water vapor is a small contributor to climate change, yet the draft focuses on condensation trails produced by water vapor and includes an inaccurate statement that carbon dioxide and water vapor are "the major compounds from aircraft operations that are related to climate change." Further, the draft does not convey the significant scientific uncertainty associated with measuring particulate matter (PM) emissions from aircraft engines. That understanding needs to be significantly improved before any "tailpipe" PM standard could sensibly be considered.

Conclusion

The EPA has made an enormous effort in assembling the voluminous data that contributed to the draft as published today. However, because the draft does not adequately identify or discuss the immense difficulties and burdens, and the probable lack of attendant benefits, that would result from use of the Clean Air Act to regulate GHG emissions, DOT respectfully submits these preliminary comments to point out some of the problematic aspects of the draft's analysis regarding the transportation sector. We anticipate filing additional comments before the close of the comment period.

Department of Energy

I. Introduction

The U.S. Department of Energy (Department or DOE) strongly supports aggressively confronting climate change in a rational manner that will achieve real and sustainable reductions in global greenhouse gas (GHG) emissions, promote energy security, and ensure economic stability. In support of these goals, DOE believes that the path forward must include a comprehensive public discussion of potential solutions, and the foreseeable impacts of those proposed solutions–including impacts on energy security and reliability, on American consumers, and on the Nation's economy.

The Department supports the actions taken by the United States to date to address global climate change and greenhouse gas emissions, and believes these efforts should be continued and expanded. These actions have included a broad combination of market-based regulations, large increases in funding for climate science, new government incentives for avoiding, reducing or sequestering GHG emissions, and enormous increases in funding for technology research. The Department has played a significant role in implementing many of these initiatives, including those authorized by the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007.

The Department believes that an effective and workable approach to controlling GHG emissions and addressing global climate change should not simply consist of a unilateral and extraordinarily burdensome Clean Air Act (CAA or the Act) regulatory program being layered on top of the U.S. economy, with the

Federal Government taking the position that energy security and indeed the American economy will just have to live with whatever results such a program produces. Rather, the United States can only effectively address GHG emissions and global climate change in coordination with other countries, and by addressing how to regulate GHG emissions while considering the effect of doing so on the Nation's energy and economic security. Considering and developing such a comprehensive approach obviously is enormously difficult.

Unfortunately, and no doubt due in part to the limitations of the Clean Air Act itself, the draft Advance Notice of Proposed Rulemaking prepared by the staff of the Environmental Protection Agency (EPA) does not take such an approach. That draft Notice, entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act" ("draft"), which was submitted to the Office of Management and Budget on June 17, 2008, instead seeks to address global climate change through an enormously elaborate, complex, burdensome and expensive regulatory regime that would not be assured of significantly mitigating global atmospheric GHG concentrations and global climate change. DOE believes that once the implications of the approach offered in the draft are fully explained and understood, it will make one thing clear about controlling GHG emissions and addressing global climate change–unilaterally proceeding with an extraordinarily burdensome and costly regulatory program under the Clean Air Act is not the right way to go.

DOE has had only a limited opportunity to review the June 17 EPA staff draft, and therefore anticipates providing additional comments at a later date. Based on the limited review DOE has been able to conduct so far, it is apparent that the draft reflects extensive work and includes valuable information, analyses and data that should help inform the public debate concerning global climate change and how to address GHG emissions.

However, DOE has significant concerns with the draft because it lacks the comprehensive and balanced discussion of the impacts, costs, and possible lack of effectiveness were the United States, through the EPA, to use the CAA to comprehensively but unilaterally regulate GHG emissions in an effort to address global climate change. The draft presents the Act as an effective and appropriate vehicle for regulating GHG emissions and addressing climate change, but we believe this approach is inconsistent with the Act's overarching regulatory framework, which is based on States and local areas controlling emissions of air pollutants in order to improve U.S. air quality. Indeed, the Act itself states that Congress has determined "air pollution prevention * * * and air pollution control at its source is the primary responsibility of States and local governments," CAA § 101(a)(3); that determination is reflected in the Act's regulatory structure. The CAA simply was not designed for establishing the kind of program that might effectively achieve global GHG emissions controls and emissions reductions that may be needed over the next decades to achieve whatever level of atmospheric GHG concentration is determined to be appropriate or necessary.

Although the draft recognizes that the CAA does not authorize "economy-wide" cap and trade programs or emission taxes, it in essence suggests an elaborate regulatory regime that would include economy-wide approaches and sector and multi-sector trading programs and potentially other mechanisms yet to be conceived. The draft has the overall effect of suggesting that under the CAA, as it exists today, it would be possible to develop a regulatory scheme of trading programs and other mechanisms to regulate GHG emissions and thus effectively address global climate change. It is important to recognize, however, that such programs have not yet been fully conceived, in some cases rely on untested legal theories or applications of the Act, would involve unpredictable but likely enormous costs, would be invasive into virtually all aspects of the lives of Americans, and yet would yield benefits that are highly uncertain, are dependent on the actions of other countries, and would be realized, if at all, only over a long time horizon.

The draft takes an affirmative step towards the regulation of stationary sources under the Act–and while it is easy to see that doing so would likely dramatically increase the price of energy in this country, what is not so clear is how regulating GHG emissions from such sources would actually work under the CAA, or whether doing so would effectively address global climate change. Other countries also are significant emitters of GHGs, and "leakage" of U.S. GHG emissions could occur–that is, reduced U.S. emissions simply being replaced with increased emissions in other countries–if the economic burdens on U.S. GHG emissions are too great. In that regard, CAA regulation of GHG emissions from stationary sources would significantly increase costs associated with the operation of power plants and industrial sources, as well as increase costs associated with direct energy use (e.g., natural gas for heating) by sources such as schools, hospitals, apartment buildings, and residential homes.

Furthermore, in many cases the regulatory regime envisioned by the draft would result in emission controls, technology requirements, and compliance costs being imposed on entities that have never before been subject to direct regulation under the CAA. Before proceeding down that path, EPA should be transparent about, and there should be a full and fair discussion about, the true burdens of this path–in terms of its monetary cost, in terms of its regulatory and permitting burden, and in terms of exactly who will bear those costs and other burdens. These impacts are not adequately explored or explained in the draft. What should be crystal clear, however, is that the burdens will be enormous, they will fall on many entities not previously subject to direct regulation under the Act, and all of this will happen even though it is not clear what precise level of GHG emissions reduction or atmospheric GHG concentration level is being pursued, or even if that were decided, whether the CAA is a workable tool for achieving it.

In the limited time DOE has had to review the draft, DOE primarily has focused on the extent to which the draft addresses stationary sources and the energy sector. Based on DOE's review, we briefly discuss below (1) the inadequacy of CAA provisions for controlling greenhouse gas emissions from stationary sources as a method of affecting global GHG concentrations and addressing global climate change; (2) the potential costs and effects of CAA regulation of GHG emissions on the U.S. electric power sector; and (3) considerations for U.S. action to address GHG emissions from stationary sources in the absence of an effective global approach for addressing climate change and worldwide GHG emissions.

II. The Ineffectiveness and Costs Associated with CAA Regulation of Greenhouse Gas Emissions from Stationary Sources

The draft states that it was prepared in response to the decision of the United States Supreme Court in *Massachusetts v. EPA*, 549 U.S. ———, 127 S. Ct. 1438 (2007). In that case, the Court held that EPA has the authority to regulate GHG emissions from new motor vehicles because GHGs meet the Clean Air Act's definition of an "air pollutant." *Id.* at 1460. As a result, under section 202(a) of the Act, the EPA Administrator must decide whether, "In his judgment," "the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines" "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." If the EPA Administrator makes a positive endangerment finding, section 202(a) states that EPA "shall by regulation prescribe * * * standards applicable to the emission of" the air pollutant with respect to which the positive finding was made.

The Supreme Court stated that it did not "reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding." Instead, the Court said that when exercising the "judgment" called for by section 202(a) and in deciding how and when to take any regulatory action, "EPA must ground its reasons for action or inaction in the statute."

As a result, and based on the text of section 202(a) of the Clean Air Act, any EPA "endangerment" finding must address a number of issues that involve interpretation of statutory terms and the application of technical or scientific data and judgment. For example, an endangerment determination must involve, among other things, a decision about the meaning of statutory terms including "reasonably be anticipated to," "cause, or contribute to," "endanger," and "public health or welfare." Moreover, because the Act refers to "air pollutant" in the singular, presumably EPA should make any endangerment finding as to individual greenhouse gases and not as to all GHGs taken together, but this also is a matter that EPA must address and resolve. There are other issues that must be resolved as well, such as: whether the "public health and welfare" should be evaluated with respect to the United States alone or, if foreign impacts can or should or must be addressed as well, what the statutory basis is for doing so and for basing U.S. emissions controls on foreign impacts; what time period in the future is relevant for purposes of determining what is "reasonably anticipate[d]"; whether and if so how EPA must evaluate any beneficial impacts of GHG emissions in the United States or elsewhere in making an endangerment determination; and whether a particular volume of emissions or a particular effect from such emissions from new motor vehicles must be found before EPA may make a "cause or contribute" finding, since the Act explicitly calls for the EPA Administrator to exercise his "judgment," and presumably that judgment involves more than simply a mechanistic calculation that one or more molecules will be emitted.

If EPA were to address these issues and resolve them in favor of a positive endangerment finding under section 202(a) of the Act with respect to one or more greenhouse gases and in favor of regulating GHG emissions from new motor vehicles, then the language similarities of various sections of the CAA likely would require EPA also to regulate GHG emissions from stationary sources. A positive endangerment finding and regulation of GHGs from new motor vehicles likely would immediately trigger the prevention of significant deterioration (PSD) permit program which regulates stationary sources that either emit or have the potential to emit 250 tons per year of a regulated pollutant or, if they are included on the list of source categories, at least 100 tons per year of a regulated pollutant. Because these thresholds are extremely low when considered with respect to GHGs, thousands of new sources likely would be swept into the PSD program necessitating time consuming permitting processes, costly new investments or retrofits to reduce or capture GHG emissions, increasing costs, and creating vast areas of uncertainty for businesses and commercial and residential development.

In addition to the PSD program, it is widely acknowledged that a positive endangerment finding could lead to three potential avenues of stationary source regulation under the CAA: (1) The setting of national ambient air quality standards (NAAQS) under sections 108 and 109; (2) the issuance of new source performance standards (NSPS) under section 111; and/or (3) the listing of one or more greenhouse gases as hazardous air pollutants (HAP) under section 112. Each of these approaches, and their associated deficiencies with respect to GHG emissions and as a method of addressing global climate change, are briefly discussed below.

a. Sections 108-109: NAAQS

Section 108 of the CAA requires EPA to identify and list air pollutants that "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." For such pollutants, EPA promulgates "primary" and "secondary" NAAQS. The primary standard is defined as the level which, in the judgment of the EPA Administrator, based on scientific criteria, and allowing for an adequate margin of safety, is requisite to protect the public health. The secondary standard is defined as the level which is requisite to protect the public welfare. Within one year of EPA's promulgation of a new or revised NAAQS, each State must designate its regions as non-attainment, attainment, or unclassifiable. Within three years from the NAAQS promulgation, States are required to adopt and submit to EPA a State implementation plan (SIP) providing for the implementation, maintenance, and enforcement of the NAAQS.

At least three major difficulties would be presented with respect to the issuance by EPA of a NAAQS for one or more greenhouse gases: (1) The determination of what GHG concentration level is requisite to protect public health and welfare; (2) the unique nature of GHGs as pollutants dispersed from sources throughout the world and that have long atmospheric lifetimes; and (3) GHG concentrations in the ambient air are virtually the same throughout the world meaning that they are not higher near major emissions sources than in isolated areas with no industry or major anthropogenic sources of GHG emissions.

While much has been said and written in recent years about the need to reduce greenhouse gas emissions to address climate change, there is far less agreement on the acceptable or appropriate atmospheric concentration level of CO_2 or other GHGs. As the draft states, "[d]etermining what constitutes 'dangerous anthropogenic interference' is not a purely scientific question; it involves important value judgments regarding what level of climate change may or may not be acceptable." While the Department agrees with this statement, the courts have held that when setting a NAAQS, EPA cannot consider important policy factors such as cost of compliance. This limitation inhibits a rational balancing of factors in determining and setting a GHG NAAQS based on the science available, the availability and cost of emission controls, the resulting impact on the U.S. economy, the emissions of other nations, etc.

Unlike most pollutants where local and regional air quality, and local and regional public health and welfare, can be improved by reducing local and regional emissions, GHGs originate around the globe, and are mixed and dispersed such that there is a relatively uniform atmospheric GHG concentration level around the world. There is little or nothing that a single State or region can do that will appreciably alter the atmospheric GHG concentration level in that particular State or region. Thus, it is hard to see how a GHG NAAQS, which required States to take action to reduce their emissions to meet a particular air quality standard, would actually work. A GHG NAAQS standard would put the entire United States in either attainment or non-attainment, and it would be virtually impossible for an individual State to control or reduce GHG concentrations in its area and, thus, to make significant strides towards remaining in or reaching attainment with the NAAQS.

Whatever level EPA might eventually establish as an acceptable NAAQS for one or more GHGs, EPA's setting of such a level would immediately implicate further issues under the NAAQS regime, including the ability of States and localities to meet such a standard. If the GHG NAAQS standard for one or more gases is set at a level below the current atmospheric concentration, the entire country would be in nonattainment. All States then would be required to develop and submit State Implementation Plans (SIPs) that provide for meeting attainment by the specified deadline. And yet, as the draft states, "it would appear to be an inescapable conclusion that the maximum 10-year horizon for attaining the primary NAAQS is ill-suited to pollutants such as greenhouse gases with long atmospheric residence times * * * [t]he long atmospheric lifetime of * * * greenhouse gases * * * means that atmospheric concentrations will not quickly respond to emissions reduction measures * * * in the absence of substantial cuts in worldwide emissions, worldwide concentrations of greenhouse gases would continue to increase despite any U.S. emission control efforts. Thus, despite active control efforts to meet a NAAQS, the entire United States would remain in nonattainment for an unknown number of years."

As the draft also recognizes, if the NAAQS standard for GHGs is set at a level above the current atmospheric concentration, the entire country would be in attainment. In a nationwide attainment scenario, the PSD and new source review (NSR) permitting regimes would apply and States would have to submit SIPs for the maintenance of the primary NAAQS and to prevent interference with the maintenance by other States of the NAAQS; tasks, that as applied to GHGs, are entirely superfluous given the inability of any single State to change through its own unilateral action the global or even local concentration level of GHGs.

As the difficult choices and problematic results outlined above demonstrate, the inability of a single State to appreciably change atmospheric GHG concentrations in its own area through its own emission reduction efforts is inconsistent with a fundamental premise of the Clean Air Act and of the NAAQS program–that States and localities are primarily responsible for air pollution control and maintaining air quality, and that State and local governments can impose controls and permitting requirements that will allow the State to maintain or attain air quality standards through its own efforts.

b. Section 111: NSPS

Section 111 of the CAA requires the EPA Administrator to list categories of stationary sources if such sources cause or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare. The EPA must then issue new source performance standards (NSPS) for such sources categories. An NSPS reflects the degree of emission limitation achievable through the application of the "best system of emission reduction" which the EPA determines has been adequately demonstrated. EPA may consider certain costs and non-air quality health and environmental impact and energy requirements when establishing NSPS. Where

EPA also has issued a NAAQS or a section 112 maximum achievable control technology (MACT) standard for a regulated pollutant, NSPS are only issued for new or modified stationary sources. Where no NAAQS has been set and no section 112 MACT standard issued, NSPS are issued for new, modified, and existing stationary sources.

Regulation of GHGs under section 111 presents at least two key difficulties. First, EPA's ability to utilize a market system such as cap and trade has not been confirmed by the courts. EPA's only attempt to establish a cap and trade program under section 111, the "Clean Air Mercury Rule," was vacated by the U.S. Court of Appeals for the District of Columbia Circuit, though on grounds unrelated to EPA's authority to implement such a program under section 111. DOE believes EPA does have that authority, as EPA previously has explained, but there is legal uncertainty about that authority, which makes a GHG market-oriented program under section 111 uncertain.

Second, EPA's regulation of small stationary sources (which account for a third of all stationary source emissions) would require a burdensome and intrusive regulatory mechanism unlike any seen before under the CAA. If EPA were to determine that it cannot feasibly issue permits to and monitor compliance for all of these sources, a section 111 system presumably would cover only large stationary sources, which would place the compliance burden completely on electric generators and large industrial sources, and reduce any overall effect from the GHG control regime.

However, there are questions about whether it would be permissible for EPA to elect not to regulate GHG emissions from small stationary sources. Section

111(b)(1) indicates that the Administrator must list a category of sources if, in his judgment, it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health and welfare. Given the volume of greenhouse gases that are emitted from small stationary sources in the aggregate, it is uncertain whether, if EPA makes a positive endangerment finding for emissions of one or more GHGs from new motor vehicles, EPA could conclude that small stationary sources do not cause "or contribute significantly" to air pollution that endangers the public health or welfare. This might well turn on the interpretation and application of the terms in CAA section 202(a), noted above. Regardless, it is uncertain whether, and if so where, EPA could establish a certain GHG emission threshold for determining what sources or source categories are subject to GHG regulations under section 111. What does seem clear is that regulating GHG emissions under section 111 would entail implementation of an enormously complicated, costly, and invasive program.

c. *Section 112: HAP*

Section 112 contains a list of hazardous air pollutants subject to regulation. A pollutant may be added to the list because of adverse health effects or adverse environmental effects. DOE believes it would be inappropriate for greenhouse gases to be listed as HAPs given, among other things, EPA's acknowledgment that ambient GHG concentrations present no health risks. Nevertheless, if one or more GHGs were listed under section 112, EPA would have to list all categories of "major sources" (defined as sources that emit or potentially emit 10 tons per year of any one HAP or 25 tons per year of any combination of HAPs). For each major source category, EPA must then set a maximum available control technology (MACT) standard.

It is entirely unclear at this point what sort of MACT standard would be placed on which sources for purposes of controlling GHG emissions, what such controls would cost, and whether such controls would be effective. However, complying with MACT standards with respect to GHG emission controls likely would place a significant burden on States and localities, manufacturing and industrial facilities, businesses, power plants, and potentially thousands of other sources throughout the United States. As the draft explains, section 112 "appears to allow EPA little flexibility regarding either the source categories to be regulated or the size of sources to regulate * * * EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources * * * we believe that small commercial or institutional establishments and facilities with natural gas fired furnaces would exceed this major source threshold; indeed, a large single family residence could exceed this threshold if all appliances consumed natural gas."

Compliance with the standards under section 112 is required to be immediate for most new sources and within 3-4 years for existing sources. Such a strict timeline would leave little to no time for emission capture and reduction technologies to emerge, develop, and become cost-effective.

d. Effects of CAA Regulation of GHGs on the U.S. Energy Sector

While the Department has general concerns about the portrayal of likely effects of proposals to regulate

GHGs under the CAA on all sectors of the U.S. economy, DOE is particularly concerned about the effects of such regulation on the energy sector. The effects of broad based, economy-wide regulation of GHGs under the CAA would have significant adverse effects on U.S. energy supplies, energy reliability, and energy security.

Coal is used to generate about half of the U.S. electricity supply today, and the Energy Information Administration (EIA) projects this trend to continue through 2030. (EIA AEO 2008, at 68) At the electricity generating plant itself, conventional coal-fired power stations produce roughly twice as much carbon dioxide as a natural gas fired power station per unit of electricity delivered. Given this reality, the effect of regulating emissions of GHGs from stationary sources under the CAA could force a drastic shift in the U.S. power sector. As Congressman John D. Dingell, Chairman of the U.S. House of Representatives Committee on Energy and Commerce, explained in a statement issued on April 8, 2008:

"As we move closer to developing policies to limit and reduce emissions, we must be mindful of the impact these policies have on the price of all energy commodities, particularly natural gas. What happens if efforts to expand nuclear power production and cost-effectively deploy carbon capture and storage for coal-fired generation are not successful? You know the answer. We will drive generation to natural gas, which will dramatically increase its price tag. We don't have to look too far in the past to see the detrimental effect that high natural gas prices can have on the chemical industry, the fertilizer industry, and others to know that we must be conscious of this potential consequence."

Chairman Dingell's view is supported by studies of the climate bill recently considered by the United States Senate. EIA's analysis of the Lieberman-Warner bill stated that, under that bill, and without widespread availability of carbon capture and storage (CCS) technology, natural gas generation would almost double by 2030. See Energy Information Administration, Energy Market and Economic Impacts of S. 2191, the Lieberman-Warner Climate Security Act of 2007 at 25.[4]

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[4] DOE's Energy Information Administration (EIA) prepared an analysis of the proposed Lieberman-Warner Climate Security Act of 2007 and projected that if new nuclear, renewable and fossil plans with carbon capture and sequestration are not developed and deployed in a time frame consistent with emissions reduction requirements, there would be increased natural gas use to offset reductions in coal generation, resulting in markedly higher delivered prices of natural gas. See Energy Market and Economic Impacts of S. 2191, the Lieberman-Warner Climate Security Act of 2007 (EIA, April 2008) EIA estimated price increases from 9.8 cents per kilowatthour in 2020 to 14.5 cents per kilowatthour in 2030, ranging from 11 to 64 percent higher by 2030. Id., p. 27, Figure 16. EPA's analysis of the proposed legislation similarly projected electricity prices to increase 44% in 2030 and 26% in 2050 assuming the growth of nuclear, biomass or carbon capture and storage technologies. See EPA Analysis of the Lieberman-Warner Climate Security Act of 2008 (March 14, 2008), pp. 3, 57. If the growth of nuclear, biomass, or carbon capture and storage technologies was constrained, EPA projected that electricity prices in 2030 would be 79% higher and 2050 prices would be 98% higher than the reference scenario prices. Other analyses of the legislation also projected substantial increases in energy costs for consumers. See, e.g. Analysis of the Lieberman-Warner Climate Security Act (S. 2191) Using the National Energy Modeling System (A Report by the American Council for Capital Formation and the National Associate of Manufacturers, conducted by Science Applications International Corporation (SAIC))(study finding increases in energy prices for residential consumers by 26% to 36% in 2020, and 108% to 146% in 2030 for natural gas,

If CAA regulation of GHG emissions from stationary sources forces or encourages a continued move toward natural gas fired electric generating units, there will be significantly increased demand for natural gas. Given the limitations on domestic supplies, including the restrictions currently placed on the production of natural gas from public lands or from areas on the Outer Continental Shelf, much of the additional natural gas needed likely would have to come from abroad in the form of liquefied natural gas (LNG). This LNG would have to be purchased at world prices, currently substantially higher than domestic natural gas prices and generally tied to oil prices (crude or product). To put this into perspective, natural gas closed on June 27, 2008, at about $13.20/mcf for August delivery, about twice as high as last year at this time, despite increasing domestic natural gas production. The reason is that unlike last year, the U.S. has been able to import very little LNG this year, even at these relatively high domestic prices. United States inventories of natural gas in storage currently are about 3% below the five year average, and are 16% below last year at this time. Among other effects, a large policy-forced shift towards increased reliance on imported LNG would raise energy security and economic concerns by raising domestic prices for

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and 28% to 33% in 2020, and 101% to 129% in 2030 for electricity). Further, in its analysis o the bill the Congressional Budge Office estimated that costs of private sector mandates associated with the legislation would amount to more than $90 billion each year during the 2012-2016 period, most of which cost would ultimately be passed on to consumers in the form of higher prices for energy and energy-intensive goods and services. See Congressional Budget Office Cost Estimate, S. 2191 (April 10, 2008), pp. 2, 19.See EPA Analysis of the Lieberman-Warner Climate Security Act consumers (including electricity prices) and increasing U.S. reliance on foreign sources of energy.

In order for coal to remain a viable technology option to help meet the world's growing energy demand while at the same time not addressing GHG emissions, CCS technologies must be developed and widely deployed. While off-the-shelf capture technologies are available for coal power plant applications, current technologies are too costly for wide scale deployment for both new plant construction and retrofit of the existing fleet of coal-fired power plants. DOE studies (e.g., DOE/NETL Report: "Cost and Performance Baseline for Fossil Energy Plants," May 2007) show that capturing and sequestering CO_2 with today's technology is expensive, resulting in electricity cost increases on the order of 30%-90% above the cost of electricity produced from new coal plants built without CCS.

The impact of a policy that requires more production of electricity from natural gas will be felt not just in the United States but in worldwide efforts to reduce GHG emissions. Unless U.S. policy supports rapid development of CCS technologies to the point that they are economically deployable (i.e., companies are not forced to switch to natural gas fired electric generating facilities), CCS will not be installed as early as possible in the China or other developing nations. In a global climate sense, most of the benefit from new technology installation will come from the developing countries, and much of the international benefit would come from providing countries like China and India with reasonable-cost CCS options for development of their massive coal resources, on which we believe they will continue to rely.

III. Energy Policy Considerations for Addressing Climate Change

The Department is concerned that the draft does not properly acknowledge collateral effects of using CAA regulation to address global climate change, particularly in the absence of a regime that actually will effectively address global climate change by addressing global GHG emissions. DOE strongly supports efforts to reduce GHG emissions by advancing technology and implementing policies that lower emissions, but doing so in a manner that is conscious of and that increases, rather than decreases, U.S. energy security and economic security. With these goals in mind, DOE believes policymakers and the public should be mindful of the considerations briefly described below as the United States seeks to effectively address the challenge of global climate change.

Secretary Bodman has stated that "improving our energy security and addressing global climate change are among the most pressing challenges of our time." This is particularly true in light of the estimate by the International Energy Agency that the world's primary energy needs will grow by over 50% by 2030.

In order to address these challenges simultaneously and effectively, the United States and other countries must make pervasive and long-term changes. Just as the current energy and environmental situation did not develop overnight, neither can these challenges be addressed and resolved immediately.

To ensure that we both improve energy security and reduce GHG emissions, rather than address one at significant cost to the other, DOE believes that a number of actions must be taken. None of these actions is sufficient in itself, and none of these actions can be pursued to the exclusion of the others.

Specifically, the United States and other nations must: Bring more renewable energy online; aggressively deploy alternative fuels; develop and use traditional hydrocarbon resources, and do so in ways that are clean and efficient; expand access to safe and emissions-free nuclear power, while responsibly managing spent nuclear fuel and reducing proliferation risks; and significantly improve the efficiency of how we use energy. In all of these things, the Department believes that technological innovation and advancement is the key to unlocking the future of abundant clean energy and lower GHG emissions. Therefore, this innovation and advancement–through government funding, private investment, and public policies that promote both of these–should be the cornerstone of any plan to combat global climate change.

In recent years, DOE has invested billions of dollars to advance the development of technologies that advance these objectives. For example, in 2007 DOE funded the creation of three cutting-edge bioenergy research facilities. These facilities, which are already showing progress, will seek to advance the production of biofuels that have significant potential for both increasing the Nation's energy security and reducing GHG emissions. Since the start of 2007, DOE has invested well over $1 billion to spur the growth of a robust, sustainable biofuels industry in the United States.

DOE also has promoted technological advancement and deployment in other renewable energy areas such as wind, solar and geothermal power, and these advancements and policies are producing results. For example, in 2007, U.S. cumulative wind energy capacity reached 16,818 megawatts–more than 5,000 megawatts of wind generation were installed in 2007 alone. The United States has had the fastest growing wind power capacity in the world for the last three years in a row. In addition, DOE recently issued a solicitation offering up to $10 billion in federal loan guarantees, under the program authorized by Title XVII of the Energy Policy Act of 2005, to incentivize the commercial deployment of new or significantly improved technologies in projects that will avoid, reduce or sequester emissions of GHGs or other air pollutants.

DOE strongly believes that nuclear power must play an important role in any effective program to address global climate change. Indeed, we believe that no serious effort to effectively control GHG emissions and address climate change can exclude the advancement and development of nuclear power. DOE continues to seek advancements in nuclear power technology, in the licensing of new nuclear power facilities, and in responsibly disposing of spent nuclear fuel. With respect to new nuclear power plants, DOE has put in place a program to provide risk insurance for the developers of the first new facilities, and recently issued a solicitation offering up to $18.5 billion in federal loan guarantees for new nuclear power plants.

Significant advancements have been made in recent years toward the development of new nuclear facilities. There now are pending at the Nuclear Regulatory Commission several applications, all of which have been filed in 2007 or 2008, to license new nuclear generating facilities. DOE views the filing of these applications and the interest in licensing and building new nuclear power facilities as very positive developments from the perspectives of the Nation's electric reliability and energy security, as well as the effort to control greenhouse gas emissions. But there still is much to be done, and it will take a sustained effort both by the private sector and by federal, State and local governments, to ensure that these facilities are licensed, built and placed into service.

As noted above, DOE believes that coal can and must play an important role in this Nation's energy future. Moreover, regardless what decisions about coal U.S. policy officials may wish to make, it seems clear that coal will continue to be used by other countries to generate electricity for decades to come. It has been noted that China is building new coal power plant capacity at the incredible rate of one per week. As a result, it is critically important that we develop and deploy cost-effective carbon capture and sequestration technology, both to ensure that we can take advantage of significant energy resources available in the United States, but also to help enable the control of emissions in other countries as well.

DOE believes that cost effective CCS technology must be developed over the next 10-15 years that could be deployed on new plants built to meet increasing demand and to replace retiring capital stock, and retrofitted on existing plants with substantial remaining plant life. DOE is helping to develop technologies to capture, purify, and store CO_2 in order to reduce GHG emissions without significant adverse effects on energy use or on economic growth. DOE's primary CCS research and development objectives are: (1) Lowering the cost and energy penalty associated with CO_2 capture from large point sources; and (2) improving the understanding of factors affecting CO_2 storage permanence, capacity, and safety in geologic formations and terrestrial ecosystems.

Once these objectives are met, new and existing power plants and fuel processing facilities in the U.S. and around the world will have the potential to deploy CO_2 capture technologies. Roughly one third of the United States' carbon emissions come from power plants and other large point sources. To stabilize and ultimately reduce atmospheric concentrations of CO_2, it will be necessary to employ carbon sequestration—carbon capture, separation and storage or reuse. The availability of advanced coal-fired power plants with CCS to provide clean, affordable energy is essential for the prosperity and security of the United States.

The DOE carbon sequestration program goal is to develop at R&D scale by 2012, fossil fuel conversion systems that offer 90 percent CO_2 capture with 99 percent storage permanence at less than a 10 percent increase in the cost of energy services from new plants. For retrofits of existing facilities, the task will be much harder, and the penalties in terms of increased cost of power production from those plants likely will be much higher. We expect that these integrated systems for new plants will be available for full commercial deployment–that is, will have completed the demonstration and early deployment phase–in the 2025 timeframe. Of course, there are inherent uncertainties in these projections and long-term research, development, demonstration and deployment goals.

In line with the Department's CCS R&D goals, DOE is working with regional carbon sequestration partnerships to facilitate the development of the infrastructure and knowledge base needed to place carbon sequestration technologies on the path to commercialization. In addition, DOE recently restructured its FutureGen program to accelerate the near-term deployment of advanced clean coal technology by equipping new integrated gasification combined cycle (IGCC) or other clean coal commercial power plants with CCS technology. By funding multiple projects, the restructured FutureGen is expected to at least double the amount of CO_2 sequestered compared to the concept that previously had been announced in 2003. The restructured FutureGen approach also will focus on the challenges associated with avoidance and reduction of carbon emissions and criteria pollutants through sequestration.

In order to reduce the demand on our power sector and the associated emissions of GHGs and other pollutants, we must continue to support expanded efforts to make our society more efficient, from major power plants to residential homes. DOE has helped lead this effort with, among other things, its Energy Star program, a government-backed joint effort with EPA to establish voluntary efficiency standards that help businesses and individuals protect the environment and save money through greater energy efficiency. By issuing higher efficiency standards for an increasing number of products, the Energy Star program helps consumers make fully-informed and energy-conscious decisions that result in reduced emissions of GHGs and other pollutants. Last year alone, with the help of the Energy Star program, American consumers saved enough energy to power 10 million homes and avoid GHG emissions equivalent to the emissions from 12 million cars–all while saving $6 billion in energy costs.

IV. Conclusion

The Department believes the draft does not address and explain in clear, understandable terms the extraordinary costs, burdens and other adverse consequences, and the potentially limited benefits, of the United States unilaterally using the Clean Air Act to regulate GHG emissions. The draft, while presenting useful analysis, seems to make a case for the CAA being the proper vehicle to meaningfully combat global climate change, but we believe it understates the potential costs and collateral adverse effects of attempting to regulate GHG emissions and address climate change through a regulatory scheme that is forced into the Clean Air Act's legal and regulatory mold.

Any effective and workable approach to controlling GHG emissions and addressing global climate change should not simply consist of a unilateral and extraordinarily burdensome CAA regulatory program that is placed on top of the U.S. economy with all other existing mandates, restrictions, etc. simply remaining in place and the Government taking the position that U.S. energy security and indeed the American economy will just have to live with whatever results the GHG control program produces. Rather, the Nation can only effectively address GHG emissions and global climate change in coordination with other countries, and by addressing how to regulate GHG emissions while considering the effect of doing so on the Nation's energy and economic security. Considering and developing such a comprehensive approach obviously will be very difficult. But what seems clear is that it would be better than the alternative, if the alternative is unilaterally proceeding with the enormously burdensome, complex and costly regulatory program under the Clean Air Act discussed in the draft, which in the end might not even produce the desired climate change benefits.

U.S. Department of Commerce

Analysis of Draft Advanced Notice of Proposed Rulemaking

"Regulating Greenhouse Gas Emissions Under the Clean Air Act"

Overview: This analysis reviews some of the implications of regulating greenhouse gas (GHG) emissions under the Clean Air Act (CAA) as outlined in the draft Advance Notice of Proposed Rulemaking submitted to the Office of Management and Budget on June 17, 2008 (the draft). The Department of Commerce's fundamental concern with the draft's approach to using the CAA to regulate GHGs is that it would impose significant costs on U.S. workers, consumers, and producers and harm U.S. competitiveness without necessarily producing meaningful reductions in global GHG emissions.

Impact on U.S. Competitiveness and Manufacturing: The draft states that competitiveness is an important policy consideration in assessing the application of CAA authorities to GHG emissions. It also acknowledges the potential unintended consequences of domestic GHG regulation, noting "[t]he concern that if domestic firms faced significantly higher costs due to regulation, and foreign firms remained unregulated, this could result in price changes that shift emissions, and possibly some production capacity, from the U.S. to other countries."[5] This is a real issue for any domestic regulation implemented without an international agreement involving the world's major emitters.

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[5] EPA draft, pg. 36.

However, the draft does not detail the shift in global emissions that is currently taking place. As the chart below shows, the emissions of countries outside of the Organization of Economic Cooperation and Development (OECD) already exceed those of OECD countries. By 2030, non-OECD emissions are projected to be 72 percent higher than those of their OECD counterparts.[6]

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Any climate change regulation must take this trend into account. Greenhouse gas emissions are a global phenomenon, and, as documented in the draft, require reductions around the world in order to achieve lower concentrations in the atmosphere. However, the costs of emissions reductions are generally localized and often borne by the specific geographic area making the reductions. As a result, it is likely that the U.S. could experience significant harm to its international competitiveness if GHGs were regulated under the CAA, while at the same time major sources of emissions would continue unabated absent an international agreement.

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[6] EIA International Energy Outlook 2008, http://www.eia.doe.gov/oiaf/ieo/highlights.html.

Because the draft does not specify an emissions target level, the implications of national regulation for the U.S. economy as a whole and for energy price-sensitive sectors in particular are difficult to forecast. However, recent analysis of emissions targets similar to those cited in the draft provides a guide to the estimated level of impacts.

In April 2008, the Energy Information Administration (EIA) released an analysis of legislation that set emission reduction targets of 30 percent below 2005 levels by 2030 and 70 percent below 2005 levels by 2050. The EIA estimated that in the absence of international offsets and with limited development of alternatives, achieving those emission targets would reduce manufacturing employment by 10 percent below currently projected levels in 2030. Under the same scenario, the EIA estimate indicated the emission targets would reduce the output of key energy-intensive manufacturing industries, such as food, paper, glass, cement, steel, and aluminum, by 10 percent and the output of non-energy intensive manufacturing industries by nine percent below currently projected levels in 2030.[7]

The European Union's experience with implementation of its cap-and- trade system is also instructive from a competitiveness standpoint. Key energy intensive industries in Europe have raised concerns about the competitiveness impacts of the emissions trading system (ETS), arguing that the ETS would force them to relocate outside of Europe. EU leaders have responded to these concerns by considering the possibility of awarding free emissions permits to certain industries, provided the industries also agreed to reduce emissions.[8] This illustrates one of the challenges of crafting an effective national or regional solution to a global problem.

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[7] Energy Market and Economic Impacts of S. 2191, Figure 28 & 29, http://www.eia.doe.gov/oiaf/servicerpt/s2191/economic.html.

International Trade: In order to address the concern that GHG regulation in the United States will lead to emissions leakage and movement of certain sectors to countries without strict carbon regulations, the draft requests comment on "trade-related policies such as import tariffs on carbon or energy content, export subsidies, or requirements for importers to submit allowances to cover the carbon content of certain products."[9]

Applying tariffs to imports from countries without carbon regulations would have a number of significant repercussions. In addition to exposing the United States to World Trade Organization challenges by our trading partners, unilateral U.S. carbon tariffs could spark retaliatory measures against U.S. exporters, the brunt of which would fall on U.S. workers, consumers, and businesses. For example, a World Bank study found that carbon tariffs applied to U.S. exports to Europe "could result in a loss of about 7 percent in U.S. exports to the EU. The energy intensive industries, such as steel and cement * * * could suffer up to a 30 percent loss."[10]

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[8] Financial Times, "Brussels softens line on carbon permits," Andrew Bounds, Jan. 22, 2008.

[9] EPA draft, pg. 37.

Moreover, carbon tariffs would actively undermine existing U.S. trade policy. The U.S. Government has consistently advocated for reducing tariffs, non-tariff barriers, and export subsidies. Introducing new tariffs or export subsidies for carbon or energy content would undermine those efforts with respect to clean energy technologies specifically and U.S. goods and services more broadly, as well as invite other countries to expand their use of tariffs and subsidies to offset costs created by domestic regulations.

Two examples of U.S. efforts to reduce tariffs or enhance exports in this area: The United States Trade Representative is actively engaged in trade talks to specifically reduce tariffs on environmental technologies, which will lower their costs and encourage adoption, while the Department of Commerce's International Trade Administration is currently planning its third "Clean Energy" trade mission to China and India focused on opening these rapidly developing economies to U.S exporters of state-of-the-art clean technologies. Rather than raising trade barriers, the U.S. Government should continue to advocate for the deployment of clean energy technologies through trade as a way to address global GHG emissions

The issue of emissions leakage and the potential erosion of the U.S. industrial base are real concerns with any domestic GHG regulation proposal outside of an international framework. Accordingly, the proper way to address this concern is through an international agreement that includes emission reduction commitments from all the major emitting economies, not by unilaterally erecting higher barriers to trade.

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[10] The World Bank, International Trade and Climate Change: Economic, Legal, and Institutional Perspectives, 2008, pg. 12.

Realistic Goals for Reducing Carbon Emissions: Establishing a realistic goal of emissions reduction is an essential aspect of designing policies to respond to climate change. Although the draft does not "make any judgment regarding what an appropriate [greenhouse gas] stabilization goal may be," the document cites, as an example, the Intergovernmental Panel on Climate Change's projection that global CO2 emissions reductions of up to 60 percent from 2000 levels by 2050 are necessary to stabilize global temperatures slightly above pre-industrial levels[11].

To provide context, it is useful to note that a 60 percent reduction in U.S. emissions from 2000 levels would result in emissions levels that were last produced in the United States during the 1950s (see chart on next page). In 1950, the population in the United States was 151 million people--about half the current size–and the Gross Domestic Product was $293 billion.[12] Without the emergence of technologies that dramatically alter the amount of energy necessary for U.S. economic output, the reduction of energy usage necessary to achieve this goal would have significant consequences for the U.S. economy.

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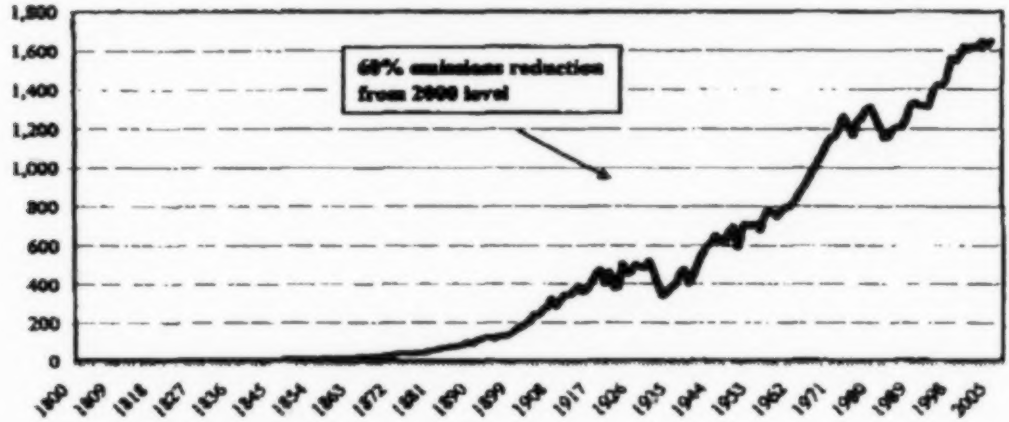
[11] EPA draft, pg. 14.

[12] U.S. Census Bureau, 1950 Decennial Census; Bureau of Economic Analysis, National Income and Product Accounts Table.

United States Total Fossil Fuel CO2 Emissions
Million Metric Tons of Carbon



Source: Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, August 17, 2007 (http://cdiac.ornl.gov/ftp/trends/emissions/usa.dat).

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Moreover, as the draft acknowledges, initial emissions reductions under the CAA or other mechanism "may range from only [a] few percent to 17% or more in some cases. Clearly, more fundamental technological changes will be needed to achieve deeper reductions in stationary source GHG emissions over time."[13] But the inability, at this time, to identify either a realistic emissions target or the technical feasibility of achieving various levels of reduction is one of the major flaws of using the draft to assess policy changes of this magnitude.

The draft also notes that "[a]n economy-wide, market-oriented environmental regulation has never been implemented before in the U.S."[14] This point is worth underscoring: The CAA has never been applied to every sector in the U.S. economy. Instead, the CAA is generally applied to specific sectors (such as the power sector) or sources of emissions, and it has included initiatives to address regional and multi-state air quality issues. While these examples clearly provide valuable experience in addressing air pollution issues across state boundaries, using the CAA to regulate GHGs is significantly more ambitious in scope than anything previously attempted under the CAA.

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[13] EPA draft, pg. 209.

[14] EPA draft, pg. 32.

Accountability and Public Input: The draft contemplates a dramatic regulatory expansion under the CAA. However, climate policies of this magnitude are best addressed through legislative debate and scrutiny. Examining these issues in the legislative context would ensure that citizens, through their elected representatives, have ample opportunity to make their views known and to ensure accountability for the decisions that are made.

Economic Implications of Applying CAA Authorities: The draft noted numerous issues of economic significance in analyzing the potential application of the CAA to stationary sources of GHGs. The Department of Commerce highlights below some of the most important issues raised in the draft that could impact U.S. competitiveness, innovation, and job creation.

Compliance Costs of Multiple State Regulations Under the CAA: The draft describes the various authorities under the CAA that could be applied to GHGs. One such mechanism involves the development of individual state implementations plans (SIPs) in order to meet a national GHG emissions reduction standard. As the draft notes, "[t]he SIP development process, because it relies in large part on individual states, is not designed to result in a uniform national program of emission controls."[15] The draft also raises the potential implications of this approach: "[u]nder the traditional SIP approach, emissions controls on specific source categories would flow from independent state-level decisions, and could result in a patchwork of regulations requiring different types and levels of controls in different states."[16] If this were the result, it could undermine the benefit of having a national standard and significantly raise compliance costs. The implications of this approach should be examined further.

Viability of Technological Alternatives: The draft notes that some of the authorities in the CAA could impose requirements to use technology that is not commercially viable. For example, when discussing Standards of Performance for New and Existing Sources, the draft notes that "the systems on which the standard is based need only be 'adequately demonstrated' in EPA's view * * * The systems, and corresponding emission rates, need not be actually in use or achieved in practice at potentially regulated sources or even at a commercial scale."[17] Similarly, in examining the potential application of the New Source Review program to nonattainment areas, the draft outlines the program's required use of the Lowest Available Emissions Rate (LAER) technology which "does not allow consideration of the costs, competitiveness effects, or other related factors associated with the technology * * * New and modified sources would be required to apply the new technology even if it is a very expensive technology that may not necessarily have been developed for widespread application at numerous smaller sources, and even if a relatively small emissions improvement came with significant additional cost."[18]

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[15] EPA draft, pg. 181.

[16] EPA draft, pg. 187.

[17] EPA draft, pg. 196.

If CAA requirements such as these were used to regulate GHGs, it would impose significant costs on those required to adopt the technology.

Expanding CAA Regulation to Cover Small Businesses and Non-Profits: The draft notes that the use of some CAA authorities could extend regulation to small and previously unregulated emissions sources. For example, the draft states that the use of one authority under the CAA could result in the regulation of "small commercial or institutional establishments and facilities with natural gas-fired furnaces."[19] This could include large single family homes, small businesses, schools, or hospitals heated by natural gas. If the CAA was applied in ways that extended it beyond those traditionally regulated under the Act, it could have significant economic impacts, and the costs of such an application should be further analyzed. To put this potential expansion in context, in 2003 there were 2.4 million commercial non-mall buildings in the United States that used natural gas, and an estimated 54 percent of these buildings were larger than 5,000 square feet.[20] According to the EIA's 2003 Commercial Building Energy Consumption Survey, a building between 5,001 to 10,000 square feet consumes 408,000 cubic feet of natural gas per year.[21] Based on preliminary calculations using the EPA's Greenhouse Gas Equivalencies Calculator, this translates into annual CO_2 emissions of 21 metric tons, which would exceed the allowable threshold under one provision of the CAA.[22]

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[18] EPA draft, pg. 232.

[19] EPA draft, pg. 215.

[20] Energy Information Agency, 2003 Commercial Buildings Energy Consumption Survey-Overview of Commercial Buildings Characteristics, Table C23

The table below taken from the EIA's 2003 Commercial Building Energy Consumption Survey shows the number and size of U.S. buildings, providing more detail on the type of structures that could be regulated if the CAA was applied to GHGs. Based on the estimate of 21 metric tons of annual emissions from a building 5,000-10,000 square feet in size, it is likely that schools, churches, hospitals, hotels, and police stations heated by natural gas could be subject to the CAA. Clearly, the costs and benefits of such an approach should be examined in greater detail.

Non-Mall Buildings Using Natural Gas

[Number and Floorspace by Principal Building Activity, 2003]

	Number of buildings (thousand)	Total floorspace (million sq ft)	Mean square feet per building (thousand)
All Buildings	2,391	43.468	18.2

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[21] 2003 Commercial Buildings Energy Consumption Survey.

[22] Calculation done by converting cubic feet of gas consumed to therms, and the number of therms then inserted into the EPA calculator. According to the EPA draft (pg. 214): If GHGs were listed as a Hazardous Air Pollutant (HAP) under the CAA, the

Education	213	7,045	33.1
Food Sales	98	747	7.6
Food Service	226	1,396	6.2
Health Care	72	2,544	35.5
Inpatient	7	1,805	257.0
Outpatient	65	739	11.4
Lodging	86	4,256	49.7
Mercantile	245	2,866	11.7
Office	488	8,208	16.8
Public Assembly	146	2,723	18.6
Public Order and Safety	36	637	17.7
Religious Worship	220	2,629	11.9
Service	281	2,496	8.9
Warehouse and Storage	187	5,494	29.4
Other	45	1,252	27.9
Vacant	49	1,176	24.2

Source: from Energy Information Administration, 2003 Commercial Buildings Energy Consumption Survey, Table C23. (http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed—tables—2003/2003set11/2003excel/c23.xls)

Cost of CAA Permitting: As the draft states, "the mass emissions [of CO_2] from many source types are orders of magnitude greater than for currently regulated pollutants," which could result in the application of the CAA's preconstruction permitting requirements for modification or new construction to large office buildings, hotels, apartment building and large retail facilities.[23] The draft also notes the potential time impacts (i.e., the number of months necessary to receive a CAA permit) of applying new permit requirements to projects and buildings like those noted above that were not previously subject to the CAA.[24] The potential economic costs of applying the CAA permitting regimes to these areas of the economy, such as small businesses and commercial development, merit a complete assessment of the costs and benefits of such an approach.

Conclusion: Climate change presents real challenges that must be addressed through focused public policy responses. However, the draft raises serious concerns about the use of the CAA to address GHG emissions. The CAA is designed to reduce the concentration of pollutants, most of which have a limited lifetime in the air, while climate change is caused by GHG emissions that linger in the atmosphere for years. The CAA uses regulations that are often implemented at the state and regional level, while climate change is a global phenomenon. The CAA is designed to regulate major sources of traditional pollutants, but applying those the standards to GHGs could result in Clean Air Act regulation of small businesses, schools, hospitals, and churches.

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[23] EPA draft, pg. 224, 225.

[24] EPA draft, pg. 227.

Using the CAA to address climate change would likely have significant economic consequences for the United States. Regulation of GHG emissions through the CAA would mean that the United States would embrace emissions reductions outside of an international agreement with the world's major emitters. This would put U.S. firms at a competitive disadvantage by raising their input costs compared to foreign competitors, likely resulting in emissions leakage outside of the United States and energy-intensive firms relocating to less regulated countries. Such an outcome would not be beneficial to the environment or the U.S. economy.

Department of Agriculture

Americans enjoy the safest, most abundant, and most affordable food supply in the world. Our farmers are extraordinarily productive, using technology and good management practices to sustain increased yields that keep up with growing populations, and they are good stewards of the land they depend upon for their livelihoods. Because of their care and ingenuity, the United States is projecting an agricultural trade surplus of $30 billion in 2008.

Unfortunately, the approach suggested by the Environmental Protection Agency ("EPA") staff's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean Air Act," which was submitted to the Office of Management and Budget on June 17, 2008 ("June 17 draft" or "draft ANPR"), threatens to undermine this landscape. If EPA were to exercise a full suite of the Clean Air Act ("CAA") regulatory programs outlined in the draft

ANPR, we believe that input costs and regulatory burden would increase significantly, driving up the price of food and driving down the domestic supply. Additionally, the draft ANPR does not sufficiently address the promise of carbon capture and sequestration, and how a Clean Air Act regulatory framework could address these issues.

Input Costs

Two of the more significant components of consumer food prices are energy and transportation costs, and as these costs rise, they will ultimately be passed on to consumers in the form of higher food prices. As the past several months have demonstrated to all Americans, food prices are highly sensitive to increased energy and transportation costs. From May 2007 to May 2008, the price of crude oil has almost doubled, and the price consumers in the United States paid for food has increased by 5.1%.

We do not attempt here to address the effects on energy and transportation costs that would likely flow from a Clean Air Act approach to regulating greenhouse gases. The expert agencies–the Department of Energy and the Department of Transportation–have each included their own brief assessments of such effects. Our analysis begins with the assumption that these input costs would be borne by agricultural producers.

United States commercial agriculture is a highly mechanized industry. At every stage–field preparation, planting, fertilization, irrigation, harvesting, processing, and transportation to market–modern agriculture is dependent on technically complex machinery, all of which consume energy. Direct energy consumption in the agricultural sector includes use of gas, diesel, liquid petroleum, natural gas, and electricity. In addition, agricultural production relies on energy indirectly through the use of inputs such as nitrogen fertilizer, which have a significant energy component associated with their production.

Crop and livestock producers have been seeing much higher input prices this year. From June 2007 to June 2008, the prices paid by farmers for fertilizer are up 77%, and the prices paid for fuels have risen 61%. The prices paid by farmers for diesel fuel alone have increased by 72% over the past year. In practical terms, these figures mean that it is becoming far more costly for the producer to farm. Currently, USDA forecasts that expenditures for fertilizers and lime, petroleum fuel and oils, and electricity will exceed $37 billion in 2008, up 15% from 2007.

Depending on the extent to which the Clean Air Act puts further pressure on energy prices, input costs for indispensible items such as fuel, feed, fertilizer, manufactured products, and electricity will continue to rise. A study conducted by USDA's Economic Research Service (Amber Waves, April 2006) found the impact of energy cost changes on producers depends on both overall energy expenditures and, more importantly, energy's share of production costs, with the potential impacts on farm profits from changes in energy prices greatest for feed grain and wheat producers. The study also found that variation in the regional distribution of energy input costs suggests that changes in energy prices would most affect producers in regions where irrigation is indispensable for crop production. Less use of irrigation could mean fewer planted acres or lower crop yields, resulting in a loss of production. In addition to potential financial difficulties, farmers fear that future tillage practices could be mandated and livestock methane management regulated.

However, the impact of higher energy prices on farmers is only part of the story. Only 19% of what consumers paid for food in 2006 went to the farmer for raw food inputs. The remaining 81% covered the cost of transforming these inputs into food products and transporting them to the grocery store shelf. Of every $1 spent on U.S.-grown foods, 3.5 cents went toward the costs of electricity, natural gas, and other fuels used in food processing, wholesaling, retailing, and food service establishments. An additional 4 cents went toward transportation costs. This suggests that for every 10 percent increase in energy costs, retail food prices could increase by as much as 0.75 percent if fully passed onto consumers. The resulting impact to the consumer of higher energy prices will be much higher grocery bills. More important, however, will be the negative effect on our abundant and affordable food supply.

Regulatory Burden on Agriculture

In its draft ANPR, EPA contemplates regulating agricultural greenhouse gas (GHG) emissions under the three primary CAA programs—National Ambient Air Quality Standards ("NAAQS"), New Source Performance Standards ("NSPS"), or Hazardous Air Pollutant ("HAP") standards. Like the Act itself, these programs were neither designed for, nor are they suitable to, regulation of greenhouse gases from agricultural sources. If agricultural producers were covered under such complex regulatory schemes, most (except perhaps the largest operations) would be ill-equipped to bear the costly burdens of compliance, and many would likely cease farming altogether.

The two common features of each CAA program are permitting and control requirements:

Permitting: Operators who are subject to Title V permitting requirements–regardless of which CAA program is applicable–are required to obtain a permit in order to operate. These Title V permits are subject to a public notice and comment period and contain detailed requirements for emission estimation, monitoring, reporting, and recordkeeping. Title V permits may also contain control requirements that limit the operation of a facility. If a producer desired, or were compelled by changed circumstances (e.g., changing market demand, weather events, or pest infestation) to modify his operational plans, he would be required to first seek a permit modification from EPA or the State.

If GHG emissions from agricultural sources are regulated under the CAA, numerous farming operations that currently are not subject to the costly and time-consuming Title V permitting process would, for the first time, become covered entities. Even very small agricultural operations would meet a 100-tons-per-year emissions threshold. For example, dairy facilities with over 25 cows, beef cattle operations of over 50 cattle, swine operations with over 200 hogs, and farms with over 500 acres of corn may need to get a Title V permit. It is neither efficient nor practical to require permitting and reporting of GHG emissions from farms of this size. Excluding only the 200,000 largest commercial farms, our agricultural landscape is comprised of 1.9 million farms with an average value of production of $25,589 on 271 acres. These operations simply could not bear the regulatory compliance costs that would be involved.

Control: Unlike traditional point sources of concentrated emissions from chemical or manufacturing industries, agricultural emissions of greenhouse gases are diffuse and most often distributed across large open areas. These emissions are not easily calculated or controlled. Moreover, many of the emissions are the result of natural biological processes that are as old as agriculture itself. For instance, technology does not currently exist to prevent the methane produced by enteric fermentation associated with the digestive processes in cows and the cultivation of rice crops; the nitrous oxide produced from the tillage of soils used to grow crops; and the carbon dioxide produced by soil and animal agricultural respiratory processes. The only means of controlling such emissions would be through limiting production, which would result in decreased food supply and radical changes in human diets.

The NAAQS program establishes national ambient concentration levels without consideration of specific emission sources. The determination of which source is required to achieve emission reductions and how to achieve those reductions is specified in the State Implementation Plans ("SIPs") developed by each State. Under a NAAQS regulatory program, agricultural sources may need to employ Reasonably Available Control Measures ("RACM") or, at a minimum, include the use of Reasonably Available Control Technologies ("RACT"). In the past, such control measures were established with a national focus for typical industrial sources. In previously regulated sectors, these control measures and technologies have typically been associated with improved engineering or chemical processes; however, agriculture is primarily dependent upon biological processes which are not readily re-engineered. Given the nature of many agricultural source emissions, RACM and RACT may not exist or may be cost prohibitive.

The NSPS program regulates specific pollutants emitted from industrial categories for new, modified, or reconstructed facilities. EPA, rather than individual States, determines who is regulated, the emission reductions that must be achieved, and the associated control technologies and compliance requirements. Should EPA choose to regulate agriculture under NSPS, control requirements would be established at the national level using a "one-size-fits-all" approach. Differences in farming practices make it difficult to comply with this approach, as variability exists between types of operations and between similar operations located in different regions of the United States.

In addition, regulation of the agricultural sector under a NSPS program would likely trigger the added challenge of compliance with the pre-construction permitting process under the Prevention of Significant Deterioration ("PSD") program. Triggering pre-construction permits could result in a requirement to utilize Best Available Control Technologies ("BACT") or technologies that achieve the Lowest Available Emission Reductions ("LAER"). Given the state of available control methods for agricultural area sources, compliance with these requirements may not currently be achievable in many instances. Should BACT or LAER technologies exist, the ability to utilize them across the variety of farming operations is questionable, and the costs to employ these technologies would be high since they would be relatively new technologies.

Similar to the NSPS program, the HAP program focuses on industrial categories. EPA must list for regulation all categories of major sources that emit one or more HAP at levels that are very low (i.e., 10 tons per year of a single HAP or 25 tons per year of a combination of HAP). Under a HAP program, EPA can regulate both major sources and smaller (*i.e.*, area) sources. In addition to the Title V permit requirement, this program would result in emission control requirements for all agricultural sources regardless of the size of the operation. These requirements are driven by the best-performing similar sources, with EPA determining the similarity between sources. This approach does not lend itself to compliance by agricultural sources whose practices vary farm-by-farm and locality-by-locality. In addition, the cost of controls used by the best-performing sources would increase the operating expenses for all farms regardless of size.

While this discussion only begins to address the practical difficulties that agricultural producers will face if EPA were to regulate GHGs under the CAA, these questions have not been raised in the draft ANPR in the context of agriculture. USDA believes that these issues must be thoroughly considered before a rule is finalized.

Capture and Sequestration

The draft ANPR does not sufficiently address the promise of carbon capture and sequestration, or how a Clean Air Act regulatory framework could address these issues. In describing emissions by sector, the draft ANPR does contain the following brief introductory statement:

> Land Use, Land-Use Change, and Forestry: Land use is not an economic sector per se but affects the natural carbon cycle in ways that lead to GHG emissions and sinks. Included in this category are emissions and sequestration of CO_2 from activities such as deforestation, afforestation, forest management and management of agricultural soils. Emissions and sequestration depend on local conditions, but overall land use in the United States was a net sink in 2006 equivalent to 12.5 percent of total GHG emissions.

Thus, the United States Government, as well as private landowners throughout the country, possess land resources that hold potentially tremendous economic and environmental value in a carbon-limited environment.

Unfortunately, in the draft ANPR's extensive discussion of regulatory alternatives, the EPA staff does not even attempt to make the case that the Clean Air Act could or should be used to ensure that a regulatory scheme maximizes opportunities and incentives for carbon capture and sequestration. Had the draft ANPR raised these issues, it would become evident that there are substantial questions as to whether the CAA could provide an effective vehicle to account for such beneficial actions.

Additionally, any regulatory program should avoid needless duplication and conflict with already existing efforts. The recently enacted Food, Conservation and Energy Act of 2008 ("Farm Bill") requires the Secretary of Agriculture to establish technical guidelines to create a registry of environmental services benefits from conservation and land management activities, including carbon capture and sequestration. USDA is including EPA and other Federal agencies as participants in this process, which we believe holds substantial promise.

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Executive Office of the President
Council of Economic Advisers

Executive Office of the President
Office of Science and Technology Policy

July 10, 2008

The Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, D.C. 20503

Subject: Environmental Protection Agency's Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clear Air Act"

Dear Administrator Dudley:

The Council of Economic Advisers and Office of Science and Technology Policy would like to offer our views on the science and economics that relate to EPA's ANPR entitled "Regulating Greenhouse Gas Emissions under the Clean Air Act." Our comments are divided into two parts. In the first, we address complexities associated with the phenomenon of anthropogenic climate change that distinguish it from traditionally regulated phenomena and that significantly increase the technical difficulty of regulation. In the second, we address the likely consequences for public welfare of various proposals for mitigating greenhouse gas (GHG) emissions.

Part I: Implications of the Complex Nature of Anthropogenic Climate Change

According to the Intergovernmental Panel on Climate Change (IPCC), "Warming of the climate system is unequivocal," "...Most of the observed increase in global average temperatures...is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" and "...evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases" (IPCC Fourth Assessment). These straightforward and widely accepted scientific conclusions cover a huge range in the diversity, timing, and severity of climate change impacts on the public welfare that greatly complicate their analysis. While it is true, as the ANPR authors point out, that "The exact benefits and costs of virtually every environmental regulation are at least somewhat uncertain," (p 39) the authors nevertheless acknowledge that "In the case of climate change, the uncertainty inherent in most economic analyses of environmental regulations is magnified by the long-term and global scale of the problem and the resulting uncertainties regarding socioeconomic futures, corresponding GHG emissions, climate responses to emissions changes, the bio-physical and economic impacts associated with changes in climate, and the costs of reducing GHG emissions." The ability to assess potential costs and benefits of a particular regulatory mechanism is critical to informed policymaking. However, the long-term nature and global scale of climate change and the nature of the associated uncertainties, such as those raised in the ANPR and listed above, is such as to overwhelm the capability of existing technical means to trace public welfare impacts to specific regulated activities.

GHG emissions, especially of CO_2, arise from a very wide variety of natural, domestic, and industrial activities, nearly all of which are beneficial to society. Because the geographical and temporal patterns of emissions vary with technology and market-driven human choices, a regulatory approach to the mitigation of GHGs that is based on an assortment of activity-specific regulatory mechanisms, such as those described in the ANPR, must necessarily be responsive on relatively short time-scales to the changing emissions picture. No reliable model of technical innovation exists to forecast how these patterns are likely to change even in the immediate future. Current rapid changes in transportation and energy production and use, for example, came as a surprise to economists and markets around the world. In the absence of much more accurate forecasting for the array of CO_2 emitting activities, the regulatory process will be continually out of step with reality unless it can be designed to adjust itself on realistic time scales. Historical time scales for environmental regulation in the U.S. suggest that this will be impossible, especially for the very large array of interconnected activities that would need to be regulated to mitigate CO_2 emissions.

This technical complexity is indeed one of the reasons why economists and policy-makers favor broad market-oriented frameworks such as carbon taxes, technology-neutral subsides, or carbon trading schemes for GHG mitigation. The widespread support for such schemes is itself evidence for the impracticality of the array of regulatory mechanisms on which the ANPR seeks comment.

The diversity and complex distribution in space and time of GHG sources combine with intrinsic features of relevant climate phenomena to multiply further the obstacles to traditional regulation. Anthropogenically driven climate impacts are in nearly every case indistinguishable from naturally occurring phenomena. The anthropogenic contribution is apparent primarily in retrospective statistical analyses, and its adverse impacts cannot be readily distinguished from impacts that would have occurred in the absence of anthropogenic warming. Although few deny that anthropogenic causes underlie much of the general observed patterns, it is not the case that all "new" impacts exceeding historical means can be attributed to anthropogenic warming. The individual phenomena causing the impacts show strong regional variation and differing sensitivity to human behavior. Hurricane impacts, for example, are linked to coastal development patterns and to long term ocean circulation trends that occur with and without anthropogenic warming. Efforts to identify and evaluate specific localized adverse impacts uniquely associated with activities that lend themselves to regulation are nearly impossible under such circumstances. Tracing climate change causes to effects invariably requires simulations of the entire climate system. Such simulations are feasible for broad measures such as global and annually averaged surface temperatures, on whose link to GHG emissions there is broad agreement among scientists. The success of these simulations depends on thorough mixing of GHGs from all sources, so the individual characteristics and global distribution of different sources can be ignored. This same feature renders attribution of public welfare impacts to specific regulated activities subject entirely to elaborate schemes for accounting and allocating emissions on a global basis. Such attributions cannot be accomplished based on U.S. data alone. And the global atmospheric CO_2 budget is not simply the sum of all emissions – the Earth "breathes" seasonally in a striking pattern whose details depend on a mix of human behaviors (*e.g.* deforestation) and natural causes (e.g. volcanic activity). Consequently a useful model for assessing significance and attributing share of public welfare impacts will necessarily be extremely complicated. As the ANPR authors note: "Quantifying the *exact* (emphasis added) nature and timing of impacts due to climate change over the next few decades and beyond, and across all vulnerable elements of U.S. health, society and the environment, is currently not possible." Nor is it currently possible to quantify impacts even to a *less exact* standard that is needed to regulate GHGs through the Clean Air Act.

Overarching all these complexities is the unprecedented temporal quality of global climate change. Activities currently proposed for regulation will have no impact on public welfare for decades (except for possible beneficial side effects on traditional pollutants). Consequently, all approaches to the assessment of impacts necessarily involve forecasts. While the physical phenomena involved in anthropogenically induced global climate change are reasonably well understood, despite their complexity, the social phenomena that influence GHG producing activities are not at all well understood, which creates huge uncertainties in climate projections. All current forecasts of global warming that extend beyond roughly a decade are based on scenarios that assume a pattern of human behavior. These scenarios vary widely, but probably not widely enough given the very weak ability of science to predict how nations, markets, and individuals respond to their environments. Within its continually expanding limits, science can estimate the implications of social scenarios for anthropogenic global warming, but it has little power to assess the validity of the scenarios themselves.

Of all the effects that complicate the scientific analysis of GHG regulation, none is more profound and less tractable than the unpredictability of human behavior. Because the largest sources of anthropogenic CO_2 are linked to the use and production of energy, and because energy is an essential ingredient of all economically productive activity, GHG producing activities cannot be simply extracted from the tightly woven matrix of any economy. And economic globalization ensures that the matrix of anthropogenic climate influence is global. Regulation of specific GHG producing activities to achieve a specific target entails an analytical framework that gives some assurance that the targets can be reasonably met. No credible framework exists for this purpose. This fact seems to have been appreciated by political leaders who have endeavored to forge broad international agreements to reduce GHG emissions. As President Bush noted when launching a new U.S. policy for limiting emissions earlier this year, "The Clean Air Act, the Endangered Species Act, and the National Environmental Policy Act were never meant to regulate global climate." Given the long-term nature and global scale of climate change and the nature of the uncertainties inherent in its associated impacts, the machinery of the Acts' regulatory frameworks are clearly not adequate to the task.

Part II: Consequences of Proposed Remedies

Any attempt to use the Clean Air Act to regulate greenhouse gases efficiently is fraught with difficulties, for two reasons. First, the EPA, which is charged with overseeing the Clean Air Act, is unlikely to have the statutory authority to implement economically neutral approaches such as a carbon tax, a cap-and-trade with a safety valve, and/or technology-neutral subsidies. Such approaches, which are typically the centerpiece of economic mechanisms to GHG regulation, allow markets to choose the best and most cost-effective way to deal with GHGs and do the least harm to the economy. Limitations on authority are mentioned in EPA's Advanced Notice of Proposed Rule-Making (ANPR). Second, and perhaps as a consequence of such limitations, the regulations considered by the authors of the ANPR are a cumbersome set of rules and restrictions that are in some cases excessive, inadequate, redundant, inordinately burdensome to the economy, and almost certain to fail to produce the desired climate results. Because of specific limitations in the law, the Clean Air Act does not permit the EPA to attain economic efficiency while reducing GHG emissions, even in the narrow context of emissions by the United States. It is even less effective when viewed in the global context appropriate for greenhouse gases. We detail some of our concerns in what follows.

First, the Clean Air Act would result in excessive regulation. Under one likely scenario, the same standard for GHG emissions would be required from each state in the country, which might force the EPA to regulate GHGs much too stringently in some situations. To obtain economic efficiency, it is necessary to equalize marginal abatement costs across sources, which is extremely unlikely to occur if states are required to meet the same standard. Consequently, some states would be required to reduce emissions in an extremely expensive manner, while others that are better able to reduce emissions cheaply would have little incentive to do so. The consequence would be higher costs to the economy than necessary, borne disproportionately by specific industries, workers and consumers. Ann Klee, former General Counsel for the EPA, stated in her Senate testimony of April 24, 2007:

> "Although the argument could be made that CO_2 meets the statutory threshold for designation and regulation as a criteria pollutant, it is evident that this would make little sense from a regulatory perspective. If the standard were set at a level intended to force reductions in emissions, i.e., at some atmospheric concentration below current levels (approximately 370-380 parts per million CO_2), then the entire country would be designated as being in nonattainment. This would trigger the regulatory mechanisms of the NAAQS program … This should be of concern to States that face potentially significant penalties for persistent nonattainment."

An alternative scenario under the Clean Air Act would regulate GHG emissions by requiring every source to meet some average emissions standard, irrespective of costs. This means that each sector would be required to reduce emissions to a point that is considered technologically achievable rather than economically efficient.

The Clean Air Act also makes it very difficult to loosen constraints, once regulations have been promulgated. Because the inherent benefits of limiting emissions remain uncertain, it is important to retain the ability to adjust stringency up or down over time.

Second, the Clean Air Act may be inadequate. The ANPR recognizes that the Clean Air Act was designed to protect local and regional air quality by controlling emissions with a limited range of impacts. GHGs however, become relatively evenly distributed through the atmosphere, irrespective of their point of origin. The specific source of emission reduction has little or no bearing on the benefit of reduction, but the cost of reductions may vary greatly by source. However, the Clean Air Act generally precludes decision makers from considering costs, and does not permit regulations to depend on mitigation actions taken by other countries. The failure to allow for contingencies of this sort removes an important tool for inducing other countries to take actions that benefit Americans and the rest of the world.

Third, regulation of GHG through the Clean Air Act will prove inordinately burdensome. For instance, one section of the Act specifies threshold levels, which, for traditional pollutants, captures only the larger polluters. The same thresholds applied to GHGs would increase the number of affected sources by an order of magnitude, implying the regulation of sources that were not previously regulated nor intended to be regulated under the Clean air Act. The statute sets a "major source" threshold value of, at most, 100 tons per year of any air pollutant (or less in non-attainment areas.)[1] Small manufacturing facilities, schools, and shopping centers have potential emissions of 100 tons per year or more. If GHGs are regulated under the Clean Air Act, those sources will become a "major sources" and must undergo full major source permitting and would be required to adhere to EPA regulations.

Fourth, the Clean Air Act entails redundancy. The ANPR acknowledges that even if an economy-wide program were legally possible under the Clean Air Act, it would have to be accompanied by source-specific or sector-based requirements as a result of other Clean Air Act provisions. This could result in multiple, overlapping and perhaps conflicting incentives to reduce GHG emissions.

Finally, any GHG regulation imposed under the Clean Air Act is almost certain to fail. Even an economy-wide system will not be effective unless it is coupled with significant GHG reductions by all major economies. The Clean Air Act is not the appropriate vehicle to accomplish worldwide reductions in GHG emissions. Furthermore, acting in a globally uncoordinated fashion will put the United States at a competitive disadvantage, will induce economic distortions and may actually be counter productive in reducing GHGs. The most obvious example of this involves "leakage," where the U.S. imposes costs on businesses that emit greenhouse gases to which other countries are not subject. If businesses in other countries do not suffer the penalty for emitting GHGs, production has an incentive to move abroad, even when producing in the U.S. would be more economically efficient.

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[1] EPA. Advanced Notice of Proposed Rulemaking. Section VII, Part E.2.

We believe that the Clean Air Act is not the appropriate statutory framework for dealing with climate change. The Clean Air Act was never intended to address issues with the global complexity of GHG emissions. Challenges in addressing climate change under the Clean Air Act are compounded by intrinsic characteristics in both its science and its economics. Instead, Congress needs to examine this issue directly, make the difficult choices that are inherent in any regulatory policy, and come up with an approach that imposes the minimum economic distortion for the maximum climate change benefit.

Edward P. Lazear
Chairman
Council of Economic Advisers

John Marburger

John H. Marburger, III
Director
Office of Science and Technology Policy

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

CHAIRMAN,

July 10, 2008

Honorable Susan E. Dudley
Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget
Washington, DC 20503

Re: Environmental Protection Agency Draft Advance Notice of Proposed Rulemaking

Dear Administrator Dudley,

Thank you for the opportunity to provide comments on the Environmental Protection Agency's Draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gases Under the Clean Air Act" produced by agency staff for interagency review. Regretably, the staff draft and supporting technical documents run several hundred pages in length and we have had a limited period of time to consider the material. Therefore, we are able to provide only a few preliminary and highly general comments, focusing on important areas of inquiry that the draft either does not address or does not adequately address as a basis for seeking public comment during the advanced notice of propose rulemaking stage. In the short time provided, we have not been able to work through specific questions and issues with the Agency, and therefore are not able to support or otherwise endorse the draft document in its present form.

Overarching Comment

In his Rose Garden speech on April 16, 2008, President Bush announced a new national goal for reducing greenhouse gas emissions and outlined the new federal mandates, incentives, and other programs now in place that will help us achieve the goal. Acknowledging that further policies for the power generation sector would be necessary to fully achieve the goal, the President outlined the right way and the wrong way to proceed with any new policies. The EPA staff draft ANPR demonstrates why unaccountable new regulation under the existing Clean Air is the wrong way to accomplish our goals.

The staff draft does not provide a full and meaningful discussion of the broader policy and economic context in which it is considering, in the event of an endangerment finding, triggering the prospect of essentially automatic and immediate regulation over a vast range of community and business activity and an equally vast range of potential discretionary regulations with respect to the same and additional activities. In Massachusetts v. EPA, the Supreme Court reaffirmed that "EPA no doubt has significant latitude as to the manner, timing, content and coordination of its regulations with those of other agencies." 127 S.Ct. 1438.1462 (2007) The staff draft, however, is long on "manner" and "content," and short on "timing," "coordination," and any meaningful sense of context. It myopically focuses on the Clean Air Act and ignores or understates major intended and unintended consequences that would flow from misapplying decades-old regulatory tools applicable to local and regional pollution that were never designed to address greenhouse gas emissions and the global nature of these emissions.

Recycled Paper

The staff draft employs a kitchen sink approach to the innumerable ways in which EPA would use the Clean Air Act to automatically or discretionarily regulate an unprecedented range of activities giving rise to greenhouse gas emissions. Yet the staff draft provides little or no discussion of the extent to which new EPA regulations would duplicate, contradict, or effectivel countermand the numerous mandates, incentives, and public private partnerships that are alread underway and producing real results in addressing greenhouse gas emissions. This concern is particularly acute to the extent EPA action would effectively override the deliberate, bi-partisan decisions of elected federal and state legislatures on certain policies, as well as overriding some of EPA's own successful programs.

For example, less than one year ago, the U.S. Congress passed the Energy Independence and Security Act of 2007 (EISA) which prescribes new mandatory programs and specifies targets for vehicle fuel efficiency, renewable fuels, lighting efficiency, appliance efficiency, and federal government vehicle and building operations. The Department of Transportation, in consultation with other agencies, including EPA, has already proposed an aggressive path to greater vehicle fuel efficiency in accordance with Congress' direction. EPA itself is already working to implement new renewable fuel requirements. And the Department of Energy is working on a new round of appliance efficiency standards and, in accordance with new EISA requirements, is embarking on a new round of standard-setting. These and other EISA requirements will prevent billions of tons of greenhouse gas emissions from entering the atmosphere. In order to better inform and guide appropriate public comment, EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they, intersect with and obviate duplicative or contradictory approaches under the Clean Air Act.

In addition to the EISA mandates, the potential for duplication, conflict, and misplaced prioritization and methods can arise in a number of other contexts, including:

- The parties to the Montreal Protocol recently adopted a proposal advance by the United States and a number of other countries to accelerate the phaseout of HCFCs— producing emission reductions that could exceed those of the Kyoto Protocol. A statutory framework for such emissions is already in place.
- A significant number of states have already enacted renewable portfolio standards carefully tailored to each state's unique energy system and capacity.
- The Department of Energy has produced new model building energy efficiency codes, tailored to different geographic regions and circumstances, and is working constructively with states and localities interested in adopting the relevant model code.
- Through the Energy Policy Act of 2005 and other legislation, Congress has chosen to use an incentive-based, rather than mandatory approach to addressing energy security and greenhouse gas emissions in certain sectors through a broad range and billions of dollars of subsidies for commercial deployment of cleaner, more efficient technologies including, nuclear power, more efficient coal power, renewable power (wind, solar, biomass, etc.), bio-fuels, highly fuel efficient vehicles. And more than 40 billion dollars in loan guarantee authority is being made available this year alone for nuclear power plants, large scale renewable power, carbon capture and storage, and other large scale opportunities to avoid, reduce, or capture greenhouse gas emissions.
- Through its multi-billion dollar conservation programs, the Department of Agriculture is directly subsidizing farmers and other landowners to compete for funding for projects

that will help biologically sequester carbon dioxide emissions. The Department is also providing substantial incentives for biofuel and biomass production facilities.

- DOE's Climate Vision partnership, EPA's Climate Leaders Partnership, and numerous subject specific partnerships such as EPA's Natural Gas Star and the EPA/DOE Energy Star programs are successfully establishing and meeting targets for greenhouse gas mitigation through public-private commitments and programs that are producing measurable results.

These programs, and the numerous others comprising the federal government's comprehensive climate change strategy, should be the starting point for any discussion as to whether further legislation, let alone regulation should be considered. EPA's ANPR should provide a full discussion of these authorities and a preliminary analysis of how they intersect with and obviate duplicative or contradictory approaches under the Clean Air Act in order to better inform and guide appropriate public comment.

Endangerment Finding

EPA should include in the ANPR and the docket the material, analysis, and final agency determinations that formed the basis for the agency's original denial of the petition for rulemaking as to mobile sources of pollution and should take public comment on the implications of that analysis in the agency's decision as to whether it can or should make an endangerment finding at this time. In Massachusetts v. EPA, the Supreme Court did not address the substantive merits of EPA's original analysis ("We need not and do not reach the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding.") 127 S.Ct. at 1463. Instead, the court took issue with EPA reaching a "judgment" not to proceed with regulation without basing the reasons for its decision on the text of the Clean Air Act. The court held "only that EPA must ground its reasons for action or inaction in the statute" –in this case, running the analysis through the prism of the endangerment provisions of the Clean Air Act. (*Id.*). Doing so would seem to be the most immediate and essential response to the Court's remand. In this regard, however, the staff draft omits major elements and in some instances appears to be inconsistent with elements of the prior final agency determinations, signed by the EPA Administrator, concerning the state of the science, which are clearly relevant to the question of endangerment and which were not addressed one way or the other by the court.

EPA should take comment on the issues raised in the recent remarks by the Director of the Office of Science and Technology Policy concerning the current and future capability of the science with respect to predictions and projections of negative and positive climate impacts on a national, regional, and local scale. "Reflections on the Science and Policy of Energy and Climate Change," American Geophysical Union Fall Meeting, December 10, 2007. Any endangerment finding in the context of greenhouse gas emissions must draw from the emerging science of climate impacts. The Director's remarks provide helpful context for how to think through such issues and should be included in the docket.

EPA should take comment on the appropriate scope of activity that should be considered in making an endangerment decision in the context of greenhouse gas emissions. The remand from the Court focused on the issue of endangerment with respect to the relative contribution of emissions from new motor vehicles to associated health or welfare impacts. Yet, the staff draft suggests an unpre[illegible]ented approach of aggregating emissions of all greenhouse gases from all sources as the ba[illegible]n endangerment determination.

EPA should take comment on the extent to which it should subtract from the emissions projections for a source, reductions that are substantially likely to occur as a result of existing mandatory and incentive-based policies. For example, with respect to mobile sources, the 2007 EISA contains new mandates for vehicle fuel efficiency and for renewable fuel, supported by substantial federal budgets incentives that will substantially reduce the greenhouse gas portfolio of such mobile sources.

EPA should also take comment on the extent to which its emissions projections for a source category should account for the problem of carbon leakage, occasioned by the current lack of meaningful and predictable international participation in greenhouse gas mitigation efforts. The IPCC has projected that most of the future increase in emissions will be produced by the major developing countries, whose cumulative emissions will also exceed those of the developed world relatively soon. Accordingly, EPA's assumptions about the relative benefits of reducing greenhouse gas emissions at a certain cost here in the U.S. would need to be offset by reasonable assumptions about 1) the growth in emissions in countries that are not taking comparable steps and 2) the prospect that increased costs in the U.S. will drive a certain amount of production and associated emissions to other countries not taking comparable steps, thereby increasing emissions in those countries. EPA provided relevant analysis when it modeled the impact of S. 2191 earlier this year and found that the economy-wide emissions reductions that would be required by that bill (approx. 70% reductions by covered entities) would have resulted in a miniscule 1-2% change in global greenhouse gas concentrations at a cost of trillions of dollars. The S.2191 analysis and other relevant analysis should be included in the docket.

Regulatory Content

EPA should provide for public comment a much more complete technical, institutional, and economic analysis of the far reaching consequences that will arise from the automatic application of existing regulations that would occur in the event EPA makes an endangerment finding. The existing regulations as to conventional pollutants were never designed for the unique global characteristics and environmental aspects of greenhouse gas emissions. Also, the existing regulations were designed and implemented gradually over the course of more than thirty years, during which time states were able to build the capacity to implement, monitor and enforce an increasingly complex set of regulations, and entities subject to regulations were able to transition their activities to new levels of performance over time. In the event of an endangerment finding with respect to greenhouse gases, however, the cumulative impact of more than thirty years of regulation will immediately be imposed on the states and currently regulated entities in one fell swoop.

To complicate matters, the staff draft downplays the significance of the fact that applying regulations designed for relatively concentrated pollutants to relatively unconcentrated and voluminous emissions such as carbon dioxide will subject tens or even hundreds of thousands of community and business enterprises to Clean Air Act regulation for the first time. The administrative implications and costs of this alone would be daunting for and federal budgets and staff. But the novel, case-by-case application of old regulations to an entirely new set of circumstances and parties foreshadows unrelenting confusion, conflicts over compliance, and decades long litigation windfall for attornies, consultants, and activists, as communities and the courts strive to sort it all out.

Another issue that requires a full and complete analysis is the potential for the unintended consequences of conflicting efforts with respect to possible automatic regulation of substances for which we have existing obligations under the Montreal Protocol. For example, the successful acceleration of the phaseout of HCFCs in developed and developing countries depends on the accessibility of HFCs substitutes with zero-ozone depleting potential but are greenhouse gases. Any additional regulation on HFCs as a greenhouse gas could lead to a delay in the transition away from ozone-depleting compounds, which could increase risk to human health and undermine the significant domestic and global progress in protecting the ozone layer. EPA should give careful consideration and solicit comment on the potential for this consequence.

Yours sincerely,

James L. Connaughton

SBA
Office of Advocacy
www.sba.gov/advo
Advocacy: the voice of small business in government

July 8, 2008

BY ELECTRONIC MAIL

The Honorable Stephen L. Johnson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

The Honorable Susan E. Dudley
Administrator, Office of Information and Regulatory Affairs
Office of Management and Budget
Eisenhower Executive Office Building
725 17th Street, N.W.
Washington, D.C. 20503

RE: Docket ID No. EPA-HQ-OAR-2008-0318, Comments on EPA's draft Advance Notice of Proposed Rulemaking "Regulating Greenhouse Gas Emissions under the Clean *Air Act*"

Dear Administrator Johnson and Administrator Dudley:

The Office of Advocacy of the U.S. Small Business Administration (Advocacy) respectfully submits the following comments in response to the draft Advance Notice of Proposed Rulemaking (ANPR) prepared by the U.S. Environmental Protection Agency (EPA) entitled "Regulating Greenhouse Gas Emissions under the Clean *Air Act*."

Congress established the Office of Advocacy under Pub. L. No. 94-305 to advocate the views of small entities before Federal agencies and Congress. Because Advocacy is an independent body within the U.S. Small Business Administration (SBA), the views expressed by Advocacy do not necessarily reflect the position of the Administration or the SBA.[1]

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[1] 15 U.S.C. § 634a, *et. seq.*

Advocacy has reviewed the draft ANPR, and, based on our initial reading, we have serious concerns with how EPA's regulation of greenhouse gases (GHGs) through the Clean Air Act framework would negatively impact small entities.[2] We believe that the regulatory approaches outlined in the ANPR, taken in part or as a whole, would impose significant adverse economic impacts on small entities throughout the U.S. economy. The draft ANPR acknowledges that using existing Clean Air Act regulatory approaches to control GHGs would subject large numbers of firms to costly and burdensome new requirements.

Expanding the Prevention of Significant Deterioration/New Source Review (PSD/NSR) program to cover carbon dioxide (CO2) emissions, in and of itself, would make many small businesses that have not previously had to deal with the Clean Air Act subject to extensive new clean air requirements. Because relatively small facilities can generate substantial quantities of CO2 and exceed the PSD/NSR regulatory threshold,[3] small entities would be captured by the CO2 PSD/NSR permitting requirement when they are constructed or modified. These small entities would include small businesses operating office buildings, retail establishments, hotels, and other smaller buildings. Buildings owned by small communities and small non-profit organizations like schools, prisons, and private hospitals would also be regulated. It is difficult to overemphasize how potentially disruptive and burdensome such a new regulatory regime would be to small entities. In our view, those costs would likely be imposed on large numbers of small entities with little corresponding environmental benefit in terms of reduced GHG emissions.

I. THE CLEAN AIR ACT REGULATORY FRAMEWORK

The ANPR demonstrates that the Clean Air Act regulatory framework is poorly suited as a mechanism to control GHG emissions. Several key examples illustrate this:

A. Prevention of Significant Deterioration/New Source Review (PSD/NSR). The PSD/NSR program currently requires the owners and operators of major stationary sources of air pollutants[4] to obtain construction permits before they can build or modify their facilities. Issuance of permits to construct or modify these facilities is predicated upon the completion of measures designed to ensure that the facility will not degrade local air quality. Firms seeking PSD/NSR permits must install the most advanced emission controls, meet stringent emission standards, and provide data to show that their emissions will not harm air quality. Currently, obtaining a PSD/NSR permit for a coal-powered source typically requires at least a year of preparation time and costs up to $500,000, not including the cost of purchasing, installing, and maintaining control equipment.

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[2] Under the RFA, small entities are defined as (1) a "small business" under section 3 of the Small Business Act and under size standards issued by the SBA in 13 C.F.R. § 121.201, or (2) a "small organization" that is a not-for-profit enterprise which is independently owned and operated and is not dominant in its field, or (3) a "small governmental jurisdiction" that is the government of a city, county, town, township, village, school district or special district with a population of less than 50,000 persons. 5 U.S.C. § 601.

[3] For PSD, the thresholds are 100 tons per year of pollutant for 28 listed industrial source categories, 250 tons per year for other sources. See 40 C.F.R. §§ 51.166(b)(1) and 52.21(b)(1). For nonattainment NSR, the major source threshold is generally 100 tons per year.

[4] A "major stationary source" for PSD meets or exceeds the annual emission thresholds listed in the note 3, *supra*.

Today, EPA estimates that 200 to 300 of these permits are issued each year by federal, state, and local authorities. Processing PSD/NSR permits represents a major resource commitment for these permitting authorities, as well as for the permit applicant. As EPA has noted, "there have been significant and broad-based concerns about [PSD/NSR] implementation over the years due to the program's complexity and the costs, uncertainty, and construction delays that can sometimes result from the [PSD/NSR] permitting process."[5] This problem would be greatly exacerbated by regulating GHGs under the PSD/NSR program. EPA believes that "if CO2 becomes a regulated NSR pollutant, the number of [PSD/NSR] permits required to be issued each year would increase by more than a factor of 10 (i.e., more than 2,000 – 3,000 permits per year) . . . the additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings,[6] hotels, large retail establishments, and similar facilities."[7] Not only would many more facilities become subject to PSD/NSR permitting requirements, but smaller firms that have never been subject to Clean Air Act permitting requirements would become regulated for the first time. EPA has likely greatly underestimated the large number of sources that would be required to obtain PSD/NSR permits if GHGs were included in the program. Neither EPA nor state and local permitting authorities have the resources to administer such a large volume of PSD/NSR permit applications; as a result, construction and modification activities would virtually come to a standstill. Any marginal reductions in GHGs achieved would not justify the tremendous costs and regulatory burdens imposed. Even if EPA is correct in its estimate, and the increase in businesses that must obtain PSD/NSR permits is only a tenfold increase, and even if the cost and administrative burdens associated with obtaining a PSD/NSR permit were to be dramatically reduced, a substantial number of small entities can be expected to experience a significant adverse economic impact by having to obtain CO2 PSD/NSR permits.

B. Hazardous Air Pollutant (HAP) Standards. Section 112 of the Clean Air Act requires EPA to regulate air pollutants classified as hazardous under section 112(b).[8] While GHGs are not currently listed as hazardous air pollutants (HAPs), EPA has solicited comments on whether GHGs should be regulated as HAPs. Based on Advocacy's experience with rules designed to regulate HAPs, particularly the area source rules that regulate non-major sources of HAPs,[9] many of which are small entities, the section 112 framework would be a poor mechanism for regulating GHGs. Typically, HAPs are emitted at relatively low volumes and are known to have health effects, which are generally localized, at low thresholds. HAP emission rules often require very costly technologies to eliminate relatively small amounts of HAP from being emitted to the air. Because the HAPs are recognized as causing serious health effects, HAP regulations often impose control costs that are much higher on a per ton basis than any other type of air pollutant.

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[5] Draft ANPR (June 17, 2008) at 230.

[6] "Large residential buildings" presumably means homes. According to Office of Advocacy research, 53% of all small businesses are home-based businesses.

[7] Draft ANPR (June 17, 2008) at 225.

[8] 42 U.S.C. § 74129(b).

[9] Area sources are stationary sources of HAPs that emit less than 25 tons per year of any combination of HAPs and less than 10 tons per year of any single HAP. 42 U.S.C. § 112(a)(1),(2).

By contrast, GHGs (and CO2 in particular) are ubiquitous, are distributed uniformly throughout the atmosphere, and have no demonstrated adverse health effects at ordinary atmospheric concentrations. Using section 112 to control GHGs would not be a reasonable regulatory approach. Imposing high per-ton GHG control costs through a HAP standards-type regime would yield small reductions in GHG at enormous cost to sources, especially small entities.

C. Title V Permit Program. EPA also solicits comments on whether and how GHG requirements could be included in Title V operating permits. Based on the cost, complexity, and administrative burdens associated with obtaining Title V operating permits, Advocacy believes that Title V permits should not be required of sources on the basis of GHG emissions. Currently, federal, state, and local permitting authorities issue Title V operating permits to a limited subset of the stationary sources of air pollution in the United States. Applying for and obtaining a Title V permit is time-consuming and expensive. In the late 1990's, for example, many major stationary sources spent more than $100,000 to obtain initial Title V permits, when the cost of hiring consultants and technical personnel is considered. Again, even if EPA were able to dramatically decrease the cost of applying for and complying with GHG Title V permits, the cost and burden would be an enormous new impact, particularly on small entities.

EPA has taken steps to ensure that Title V permits are principally required for larger stationary sources. EPA initially administratively deferred Title V applicability for non-major sources, and, more recently, EPA has allowed area sources of HAPs to satisfy Title V compliance demonstrations through less burdensome means. EPA understands that administering Title V permits is a resource-intensive process for all parties, and that forcing smaller facilities to comply imposes great burden and cost for little commensurate environmental gain. Requiring small firms that would otherwise not be subject to Title V to obtain Title V permits on the basis of GHG emissions would not be worth the cost to companies or the heavy additional load placed on permitting authorities' resources.

D. National Ambient Air Quality Standards. EPA further solicits comments on whether it should develop a National Ambient Air Quality Standard (NAAQS) for CO2 and other GHGs. In Advocacy's view, EPA should not seek to develop a GHG NAAQS. GHGs are fundamentally different than any of the current NAAQS criteria pollutants. CO2, for example, is distributed broadly through the atmosphere and is ubiquitous, rendering geographic determinations useless in mitigating CO2 levels. The wide and uniform distribution of CO2 would mean that the entire country would either be classified as in attainment or out of attainment. Either way, small entities, in turn, would become subject to rigid new "one-size-fits-all" GHG requirements, regardless of local conditions or their actual emissions of GHGs.

Therefore, rather than merely serving as a useful vehicle to administer a national GHG cap and trade program, establishing a GHG NAAQS would set in motion a number of statutory control measures that would be costly, inefficient, and ineffective. Small entities could have to contend with new barriers to construction and expansion, new restrictions on operating cars and trucks, and the potential for having to retrofit their existing buildings with GHG controls or to purchase equivalent credits. These NAAQS control measures would subject vast numbers of small entities across the country to standardized, inflexible GHG control requirements for the very first time. The full impact of these new burdens on these small entities could be devastating.

E. Mobile Source Requirements. EPA also solicits comments on using the Mobile Source provisions of the Clean Air Act to control GHGs. EPA would impose new regulatory requirements on on-highway motor vehicles, as well as non-road vehicles and equipment. These GHG requirements would be imposed in addition to the renewable fuel standards contained in the Energy Independence and Security Act of 2007 (EISA),[10] which requires 36 billion gallons of renewable fuel to be blended into the nation's gasoline and diesel fuel supply by 2022. To a large degree, the goal of EISA was to address GHGs from mobile sources.

In Advocacy's view, using the mobile source provisions of the Clean Air Act to further impose new GHG requirements are likely to have serious adverse impacts on small entities that rely on vehicles and equipment. On-board GHG control measures such as speed limiters would have a major impact on small entities that operate trucks or other vehicle fleets. Other requirements designed to limit the use of vehicles will similarly impact small businesses that depend on being able to pick up and deliver goods, or to travel to and from their clients. These requirements could be a particular hardship for trucking companies, and the numerous small communities that depend entirely on long-haul trucks for delivery of their food supplies and other goods.

II. DISPROPORTIONATE IMPACTS ON SMALL ENTITIES

Our concerns about the advisability of regulating GHGs under a massive and unwieldy new environmental regulatory scheme that will capture hundreds of thousands of small businesses is motivated by our knowledge of how regulations often unfairly impact small entities.

A. Advocacy's Research. An Advocacy-funded report that details the $1.1 trillion cumulative regulatory burden on enterprise in the United States shows how the smallest businesses bear a 45 percent greater burden than their larger competitors.[11] The annual cost per employee for firms with fewer than 20 employees is $7,747 to comply with all federal regulations.[12] That cost is more, on a per-household basis, than what Americans pay for health insurance. When it comes to compliance with environmental requirements, small firms with fewer than 20 employees spend four times more, on a per-employee basis, than do businesses with more than 500 employees.[13]

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[10] Pub. L. No. 110-140 (2007).

[11] W. Mark Crain, *The Impact of Federal Regulations on Small Firms*, funded by the U.S. Small Business Administration, Office of Advocacy (2005).

B. Any GHG Rule Must Be Subject to a SBAR Panel. The owners of small businesses want to comply with applicable environmental rules. However, the growing thicket of clean air, solid waste, water quality, and other environmental requirements emanating from local, state, federal, and global authorities is daunting. If EPA chooses to go forward with plans to use the Clean Air Act to address climate change, the Office of Advocacy will insist that the views of small entities be considered in the pre-proposal stage as required by the Small Business Regulatory Enforcement Fairness Act (SBREFA).[14] The direct involvement of small entities has benefited over 30 EPA rulemakings since President Clinton signed SBREFA in 1996. The "Small Business Advocacy Review" (SBAR) panels required by SBREFA provide EPA with on-the-ground, real world, experienced views from small business representatives who are relied upon to provide practical solutions for regulatory challenges faced by EPA. Nine prior SBAR panels have dealt with planned EPA rules issued under the Clean Air Act and, because small entities were involved, the final rules reflect a better understanding of how the regulations would impact small business. Millions of dollars have been saved because poorly designed approaches and unintended consequences are filtered out of proposed regulations with the help of small entities and government officials.[15] These changes are accomplished without compromising valuable protections for human health and the environment.[16]

C. EPA Should Not Ignore the Impact of GHG Regulation on Small Entities. Unfortunately, EPA has ignored small business input when issuing Clean Air Act regulations in the past. In 1997, for example, EPA determined that the revision of the NAAQS for ozone and particulate matter did not "directly regulate" small entities and was, therefore, exempt from the SBAR panel requirement to consider small entity input. In Advocacy's view, any movement forward by EPA to capture small entities in a reinterpretation of the Clean Air Act designed to address climate change will properly constitute direct EPA regulatory action. Even if EPA were to construct a legal argument that claims GHG regulations do not significantly impact a substantial number of small entities,[17] EPA would be better served by carefully considering the impact of GHG regulations on small businesses, small organizations, and small communities.

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[12] *Id.*

[13] *Id.*

[14] 5 U.S.C. § 609.

[15] See the annual reports of the Regulatory Flexibility Act at: http://www.sba.gov/advo/laws/flex/

[16] 5 U.S.C. § 603 (c) explicitly requires that any alternatives to a regulatory proposal that would minimize the impact on small entities must "accomplish the stated objectives of applicable statutes."

[17] Under 5 U.S.C. § 605(b), EPA is not required to convene a SBAR panel if it certifies that the regulation will not have a significant economic impact on a substantial number of small entities.

We look forward to working with you to ensure that the impact on small entities is seriously considered prior to EPA moving ahead on regulating greenhouse gas emissions. Please do not hesitate to call me or Assistant Chief Counsel Keith Holman (keith.holman@sba.gov or (202) 205-6936) if we can be of further assistance.

Sincerely,

Thomas M. Sullivan
Chief Counsel for Advocacy

General Information

What Should I Consider as I Prepare My Comments for EPA?

A. Submitting CBI

Do not submit this information to EPA through www.regulations.gov or e-mail. Clearly mark the part or all of the information that you claim to be confidential business information (CBI). For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

B. Tips for Preparing Your Comments

When submitting comments, remember to:

- Explain your views as clearly as possible.
- Describe any assumptions that you used.
- Provide any technical information and/or data you used that support your views.
- If you estimate potential burden or costs, explain how you arrived at your estimate.
- Provide specific examples to illustrate your concerns.
- Offer alternatives.

- Make sure to submit your comments by the comment period deadline identified.

- To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It would also be helpful if you provided the name, date, and Federal Register citation related to your comments.

Outline of This Preamble

I Introduction

II. Background Information

III. Nature of Climate Change and Greenhouse Gases and Related Issues for Regulation

IV. Clean Air Act Authorities and Programs

V. Endangerment Analysis and Issues

VI. Mobile Source Authorities, Petitions and Potential Regulation

VII. Stationary Source Authorities and Potential Regulation

VIII. Stratospheric Ozone Protection Authorities, Background, and Potential Regulation

I. Introduction

Climate change is a serious global challenge. As detailed in section V of this notice, it is widely recognized that greenhouse gases (GHGs) have a climatic warming effect by trapping heat in the atmosphere that would otherwise escape to space. Current atmospheric concentrations of GHGs are significantly higher than pre-industrial levels as a result of human activities. Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. Future projections show that, for most scenarios assuming no additional GHG emission reduction policies, atmospheric concentrations of GHGs are expected to continue climbing for most if not all of the remainder of this century, with associated increases in average temperature. Overall risk to human health, society and the environment increases with increases in both the rate and magnitude of climate change.

Today's notice considers the potential use of the CAA to address climate change. In April 2007, the Supreme Court concluded in *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007), that GHGs meet the CAA definition of "air pollutant," and that section 202(a)(1) of the CAA therefore authorizes regulation of GHGs subject to an Agency determination that GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. The Court also ruled that in deciding whether to grant or deny a pending rulemaking petition regarding section 202(a)(1), EPA must decide whether new motor vehicle GHG emissions meet that endangerment test, or explain why scientific uncertainty is so profound that it prevents making a reasoned judgment on such a determination. If EPA finds that new motor vehicle GHG emissions meet the endangerment test, section

202(a)(1) of the CAA requires the Agency to set motor vehicle standards applicable to emissions of GHGs.

EPA is also faced with the broader ramifications of any regulation of motor vehicle GHG emissions under the CAA in response to the Supreme Court's decision. Over the past several months, EPA has received seven petitions from states, localities, and environmental groups to set emission standards under Title II of Act for other types of mobile sources, including nonroad vehicles such as construction and farm equipment, ships and aircraft. The Agency has also received public comments seeking the addition of GHGs to the pollutants covered by the new source performance standard (NSPS) for several industrial sectors under section 111 of the CAA. In addition, legal challenges have been brought seeking controls for GHG emissions in preconstruction permits for several coal-fired power plants.

The interrelationship of CAA authorities and the broad array of pending and potential CAA actions concerning GHGs make it prudent to thoroughly consider how the various CAA authorities would or could work together if GHG controls were established under any provision of the Act. Since regulation of one source of GHG emissions would or could lead to regulation of other sources of GHG emissions, the Agency should be prepared to manage the consequences of CAA regulation of GHGs in the most effective and efficient manner possible under the Act.

Today's notice discusses our work to date in response to the Supreme Court's decision regarding an endangerment finding and vehicle standards under section 202 of the Act. It also includes a comprehensive examination of the potential effects of using various authorities under the Act to regulate other sources of

GHG emissions. In addition, this notice examines and seeks public comment on the petitions the Agency has received for GHG regulation of additional mobile source categories. In light of the interrelationship of CAA authorities and the pending CAA actions concerning GHGs, the notice identifies and discusses possible approaches for controlling GHG emissions under the Act and the issues they raise.

Today's notice is also part of broader efforts to address the climate change challenge. Since 2001, President Bush has pursued a broad climate change agenda that has improved our understanding of climate change and its effects, spurred development of needed GHG control technologies, increased our economy's energy efficiency, and engaged other nations in efforts to foster sensible solutions to the global challenge of climate change. Building on that success, the President recently announced a new national goal: to stop the growth of U.S. GHG emissions by 2025. New actions will be necessary to meet this goal.

The President has identified several core principles for crafting any new GHG-specific legislation. EPA believes these principles are also important in considering GHG regulation under the CAA, to the extent allowed by law. These principles include addressing GHG emissions in a manner that does not harm the U.S. economy; encouraging the technological development that is essential to significantly reducing GHG emissions; and recognizing that U.S. efforts to reduce GHG emissions could be undermined if other countries with significant GHG emissions fail to control their emissions and U.S. businesses are put at a competitive disadvantage relative to their foreign competitors. Throughout this notice we discuss and seek comment on whether and how these principles can inform decisions regarding GHG regulation under the CAA.

In Congress, both the House and Senate are considering climate change legislation. A number of bills call for reducing GHG emissions from a wide variety of sources using a "cap-and-trade" approach. Many of the sources that would be subject to requirements under the bills are already subject to numerous CAA controls. Thus, there is potential for overlap between regulation under the CAA and new climate change legislation.

This ANPR performs five important functions that can help inform the legislative debate:

- First, in recognition of the Supreme Court's decision that GHGs are air pollutants under the CAA, the ANPR outlines options that may need to be exercised under the Act.
- Second, this notice provides information on how the GHG requirements under the CAA might overlap with control measures being considered for climate change legislation.
- Third, the notice discusses issues and approaches for designing GHG control measures that are useful in developing either regulations or legislation to reduce GHG emissions.
- Fourth, the ANPR illustrates the complexity and interconnections inherent in CAA regulation of GHGs. These complexities reflect that the CAA was not specifically designed to address GHGs and illustrate the opportunity for new legislation to reduce regulatory complexity. However,

unless and until Congress acts, the existing CAA will be applied in its current form.

- Fifth, some sections of the CAA are inherently flexible and thus more capable of accommodating consideration of the President's principles. Other sections may not provide needed flexibility, raising serious concerns about the results of applying them. EPA believes that the presentation in this notice of the various potential programs of the CAA will help inform the legislative debate.

EPA is following the Supreme Court's decision in *Massachusetts v. EPA* by seriously considering how to apply the CAA to the regulation of GHGs. In light of the CAA's interconnections and other issues explored in this notice, EPA does not believe that all aspects of the Act are well designed for establishing the kind of comprehensive GHG regulatory program that could most efficiently achieve the GHG emission reductions that may be needed over the next several decades. EPA requests comment on whether well-designed legislation for establishing a broad GHG regulatory framework has the potential for achieving greater environmental results at lower cost for many sectors of the economy, with less concern about emissions leakage and more effective, clearer incentives for development of technology, than a control program based on the CAA alone.

II. Background Information

A. Background on the Supreme Court Opinion

On October 20, 1999, the International Center for Technology Assessment (ICTA) and 18 other environmental and renewable energy industry organizations filed a petition with EPA seeking regulation of GHGs from new motor vehicles under section 202 (a)(1) of the CAA. The thrust of the petition was that four GHGs–carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbons (HFCs)–are air pollutants as defined in CAA section 302(g), that emissions of these GHGs contribute to air pollution which is reasonably anticipated to endanger public health or welfare, that these GHGs are emitted by new motor vehicles, and therefore that EPA has a mandatory duty to issue regulations under CAA section 202(a) addressing GHGs from these sources.

EPA denied the petition in a notice issued on August 8, 2003. The Agency concluded that it lacked authority under the CAA to regulate GHGs for purposes of global climate change. EPA further decided that even if it did have authority to set GHG emission standards for new motor vehicles, it would be unwise to do so at this time. More specifically, EPA stated that CAA regulation of CO_2 emitted by light-duty vehicles would interfere with fuel economy standards issued by the Department of Transportation (DOT) under the Energy Policy and Conservation Act (EPCA), because the principal way of reducing vehicle CO_2 emissions is to increase vehicle fuel economy. The Agency also noted in the 2003 notice that there was significant scientific uncertainty regarding the cause, extent and effects of climate change that ongoing studies would reduce. EPA further stated that regulation of climate change using the CAA would be inappropriate given the President's comprehensive climate change policies, concerns about piecemeal regulation, and implications for foreign policy.

EPA's denial of the ICTA petition was challenged in a petition for review filed in the U.S. Court of Appeals for the D.C. Circuit. Petitioners included 12 states, local governments, and a variety of environmental organizations. Intervenors in support of respondent EPA included 10 states and several industry trade associations.

The D.C. Circuit upheld EPA's denial of the petition in a 2-1 opinion (*Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir. 2005)). The majority opinion did not decide but assumed, for purposes of argument, that EPA had statutory authority to regulate GHGs from new motor vehicles and held that EPA had reasonably exercised its discretion in denying the petition.

In a 5-4 decision, the Supreme Court reversed the D.C. Circuit's decision and held that EPA had improperly denied ICTA's petition (*Massachusetts v. EPA*, 127 S. Ct. 1438 (2007)). The Court held that GHGs are air pollutants under the CAA, and that the alternative denial grounds provided by EPA were "divorced from the statutory text" and hence improper.

Specifically, the Court held that CO_2, CH_4, N_2O, and HFCs fit the CAA's definition of "air pollutant" because they are " 'physical [and] chemical * * * substances which [are] emitted into * * * the ambient air.' " Id. at 1460. The Court rejected the argument that EPA could not regulate new motor vehicle emissions of the chief GHG, CO_2, under CAA section 202 because doing so would essentially regulate vehicle fuel economy, which is the province of DOT under EPCA. The Court held that EPA's mandate to protect public health and welfare is "wholly independent of DOT's mandate to promote energy efficiency," even if the authorities may overlap. *Id*. at 1462. The Court stated that "there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency." *Id.*

Turning to EPA's alternative grounds for denial, the Court held that EPA's decision on whether to grant the petition must relate to "whether an air pollutant 'causes, or contributes to, air pollution which may reasonably be anticipated to endanger public health or welfare.' " *Id.* Specifically, the Court held that generalized concerns about scientific uncertainty were insufficient unless "the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming." *Id.* at 1463. The Court further ruled that concerns related to piecemeal regulation and foreign policy objectives were unrelated to whether new motor vehicle GHG emissions contribute to climate change and hence could not justify the denial.

The Court remanded the decision to EPA but was careful to note that it was not dictating EPA's action on remand, and was not deciding whether EPA must find there is endangerment. Nor did the Court rule on "whether policy concerns can inform EPA's actions in the event that it makes such a finding." Id. The Court also observed that under CAA section 202(a), "EPA no doubt has significant latitude as to the manner, timing, content, and coordination of its regulations with those of other agencies." The Supreme Court sent the case back to the D.C. Circuit, which on September 14, 2007, vacated and remanded EPA's decision denying the ICTA petition for further consideration by the Agency consistent with the Supreme Court's opinion.

B. Response to the Supreme Court's Decision to Date

1. The President's May 2007 Announcement and Executive Order

In May 2007, President Bush announced that he was "directing the EPA and the Departments of Transportation and Energy (DOT and DOE) to take the first steps toward regulations that would cut gasoline consumption and GHG emissions from motor vehicles, using my 20-in-10 plan as a starting point." The 20-in-10 plan refers to the President's legislative proposal, first advanced in his 2007 State of the Union address, to reduce domestic gasoline consumption by 20% by 2017 through the use of renewable and alternative fuels and improved motor vehicle fuel economy.

On the same day, President Bush issued Executive Order (EO) 13432 "to ensure the coordinated and effective exercise of the authorities of the President and the heads of the [DOT], the Department of Energy, and [EPA] to protect the environment with respect to greenhouse gas emissions from motor vehicles, nonroad vehicles, and nonroad engines, in a manner consistent with sound science, analysis of benefits and costs, public safety, and economic growth."

In response to the Supreme Court's Massachusetts decision and the President's direction, EPA immediately began work with DOT and the Departments of Energy and Agriculture to develop draft proposed regulations that would reduce GHG emissions from motor vehicles and their fuels. In particular, EPA and DOT's National Highway Traffic Safety Agency (NHTSA) worked together on a range of issues related to setting motor vehicle GHG emission standards under the CAA and corporate average fuel economy (CAFE) standards under EPCA. As a prerequisite to taking action under the CAA, the Agency also compiled and reviewed the available scientific information relevant to deciding whether GHG emissions from motor vehicles, and whether GHG emissions from the use of gasoline and diesel fuel by motor vehicles and nonroad engines and equipment, cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

Sections V and VI of this notice provide further discussion and detail about EPA's work to date on an endangerment finding and new motor vehicle regulation under section 202 of the CAA.

2. Passage of a New Energy Law

At the same time as EPA was working with its federal partners to develop draft proposed regulations for reducing motor vehicle and fuel GHG emissions, Congress was considering broad new energy legislation that included provisions addressing the motor vehicle fuel economy and fuel components of the President's 20-in-10 legislative plan. By the end of 2007, Congress passed and the President signed the Energy Independence and Security Act (EISA). Title II of EISA amended the CAA provisions requiring a Renewable Fuels Standard (RFS) that were first established in the Energy Policy Act of 2005. EISA also separately amended EPCA with regard to the DOT's authority to set CAFE standards for vehicles.

With regard to the RFS, Congress amended section 211(o) of the CAA to increase the RFS from 7.5 billion gallons in 2012 to 36 billion gallons in 2022. There are a number of significant differences between the RFS provisions of EISA and the fuels program EPA was developing under the President's Executive Order. As a result, EPA is undertaking substantial new analytical work as part of its efforts to develop the regulations needed to implement the new RFS requirements. These regulations are subject to tight statutory deadlines.

With regard to motor vehicle regulations, EISA did not amend CAA section 202, which contains EPA's general authority to regulate motor vehicle emissions. However, EISA did substantially alter DOT's authority to set CAFE standards under EPCA. The legislation directs the Department to set CAFE standards that achieve fleet-wide average fuel economy of at least 35 miles per gallon by 2020 for light-duty vehicles, and for the first time to establish fuel economy standards for heavy-duty vehicles after a period of study.

In view of this new statutory authority, EPA and DOT have reviewed the previous regulatory activities they had undertaken pursuant to the President's May 14 directive and EO 13432. While EPA recognizes that EISA does not change the Agency's obligation to respond to the Supreme Court's decision in *Massachusetts v. EPA* or the scientific basis for any decision, the new law has changed the context for any action EPA might take in response to the decision by requiring significant improvements in vehicle fuel economy that will in turn achieve substantial reductions in vehicle emissions of CO2.[25]

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[25] The Current Unified Agenda and Regulatory Plan (Regulatory Plan) available in May 2008 reflects that EPA is addressing its response to *Massachusetts v. EPA* as part of today's

3. Review of CAA Authorities

As part of EPA's efforts to respond to the Supreme Court's decision, the Agency conducted a thorough review of the CAA to identify and assess any other CAA provisions that might authorize regulation of GHG emission sources. That review made clear that a decision to control any source of GHG emissions could or would impact other CAA programs with potentially far-reaching implications for many industrial sectors. In particular, EPA recognized that regulation of GHG emissions from motor vehicles under section 202(a)(1) or from other sources of GHG emissions under many other provisions of the Act would subject major stationary sources to preconstruction permitting under the CAA. As discussed later in this notice, the Prevention of Significant Deterioration (PSD) program established in Part C of Title I of the Act requires new major stationary sources and modified stationary sources that significantly increase their emissions of regulated air pollutants to apply for PSD permits and put on controls to reduce emissions of those pollutants that reflect the best available control technology (BACT). Because CO2 is typically emitted in much larger quantities relative to traditional air pollutants, CAA regulation of CO2 would potentially extend PSD requirements to many stationary sources not previously subject to the PSD program, including large buildings heated by natural gas or oil, and add new PSD requirements to sources already subject to the program. This and other CAA implications of

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notice. The latest Regulatory Plan also contains a new entry for the renewable fuels standard program EPA is undertaking pursuant to Title II of EISA (RIN 2060-AO81). The current Regulatory Plan is available at http:// www.reginfo.gov/public/do/eAgendaMain.

regulation of GHG emissions under the Act are explored later in this notice.

C. Other Pending GHG Actions Under the CAA

1. Additional Mobile Source Petitions

Since the Supreme Court's Massachusetts decision, EPA has received seven additional petitions requesting that the Agency make the requisite endangerment findings and undertake rulemaking under CAA sections 202(a)(3), 211, 213 and 231 to regulate GHG emissions[26] from (1) fuels and a wide array of mobile sources including ocean-going vessels; (2) all other types of nonroad engines and equipment, such as locomotives, construction equipment, farm tractors, forklifts, harbor crafts, and lawn and garden equipment; (3) aircraft; and (4) rebuilt heavy-duty highway engines. The petitioners represent state and local governments, environmental groups, and nongovernmental organizations. Copies of these seven petitions can be found in the docket for this notice.

These petitions have several common elements. First, the petitioners state that climate change is occurring and is driven by increases in GHG emissions; that the mobile sources described in the petitions account for a significant and growing portion of these emissions; and that those mobile sources must therefore be regulated under the CAA. Second, the petitioners assert that EPA should expeditiously regulate GHG emissions from those mobile sources because they are already harming the petitioners' health and welfare and further delay by the Agency will only increase the severity of future harms to public health and welfare. Lastly, the petitioners contend that technology is currently available to reduce GHG emissions from the mobile sources for which regulation is sought.

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[26] While petitioners vary somewhat in their definition of GHGs, taken together they seek regulation of CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6, water vapor, and soot or black carbon.

Section VI of this notice provides a brief discussion of these petitions. The section also summarizes information on the GHG emissions of each of the three mobile source categories, technologies and other strategies for reducing GHG emissions from those categories, and potential approaches for EPA to address their emissions. We request comment on all issues raised by the petitioners.

2. New Source Performance Standards

The Massachusetts decision also impacts several stationary source rulemakings. A group of state and local governments and environmental organizations petitioned the U.S. Court of Appeals for the D.C. Circuit to review a 2006 decision by EPA not to regulate the GHG emissions of several types of steam generating units when the Agency conducted the periodic review of the new source performance standard (NSPS) for those units as required by CAA section 111. EPA based its decision on the position it announced in denying the ICTA petition that the CAA does not authorize regulation of GHG emissions. After the Supreme Court ruled that the CAA does provide authority for regulating GHG emissions, the Agency filed a request with the D.C. Circuit to have the NSPS rule remanded to us for further actions consistent with the Supreme Court's opinion. Our motion was granted, and this ANPR represents the next step in our efforts to evaluate and respond to the court's decision.

Another NSPS affected by the Supreme Court's decision is the standard applicable to petroleum refineries. Pursuant to a consent decree deadline, EPA proposed revisions to the NSPS on April 30, 2007, less than one month following the Supreme Court decision. During the comment period for the review, EPA received comments calling for the NSPS to be revised to include limits on GHG emissions. In our final rule on April 30, 2008, we declined to adopt standards for GHGs at that time. First, we noted that, in the context of statutorily mandated 8-year reviews for NSPS, EPA has discretion regarding the adoption of standards for pollutants not previously covered by an NSPS. We also explained that the significant differences between GHGs and the other air pollutants for which we have previously established standards under section 111 require a more thorough and deliberate process to identify and fully evaluate the implications of a decision to regulate under this and other provisions of the CAA before deciding how to regulate GHGs under the Act. We pointed to this notice as the means for providing that process. We further noted that the time period available for proposing NSPS was too short for EPA to evaluate and develop proposed standards in light of the Massachusetts decision.

EPA also recently issued proposed revisions of the Portland cement NSPS in accordance with the schedule of a consent decree. In its May 30, 2008 notice, EPA decided not to propose adding GHG emission requirements to the Portland cement NSPS for essentially the same reasons the Agency gave in deciding against adding GHG controls to the refinery NSPS.

3. Prevention of Significant Deterioration Permitting

As noted previously, the CAA's PSD program requires new major stationary sources and modified major stationary sources that significantly increase emissions to obtain air pollution permits before construction can begin. As part of the permit issuance process, the public can comment on drafts of these permits. Since the Massachusetts decision, the number and scope of issues raised by public comments on draft permits has increased.[27] The main issue that has been raised is whether EPA should be establishing facility-specific emission limits for CO2 in these permits as a result of the Court's decision. EPA's interpretation, discussed in more detail later in this notice, is that CO2 is not a regulated pollutant under the Act and that we therefore currently lack the legal authority to establish emission limits for this pollutant in PSD permits. That interpretation has been challenged to EPA's Environmental Appeals Board, and we anticipate a decision in this case later this year.[28][FN28] The Appeals Board's decision could also affect several other permits awaiting issuance by EPA, and may have significant implications for the entire PSD program. The broader consequences of CO2 and other GHGs being classified as a regulated pollutant are discussed later in this notice.

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[27] Most PSD permits are issued by states under EPA-approved state rules. Other states without approved rules can also issue permits on behalf of EPA under delegation agreements. EPA is the permitting authority in New York, Massachusetts, Washoe Co (Nevada), Puerto Rico, Guam, American Samoa, and the Virgin Islands. EPA also issues PSD permits for sources on tribal lands.

[28] See, In Re Deseret Power Electric Cooperative, PSD Appeal No. 07-03 (http://www.epa.gov/regopm8/air/permitting/deseret.html.).

EPA has also received other GHG related comments related to other elements of the PSD program, such as the consideration of GHG emissions in establishing controls for other pollutants, the consideration of alternatives to the proposed project, and related issues. EPA is currently considering these comments in the context of evaluating each PSD permit application on a case-by-case basis, applying current law.

4. GHG Reporting Rule

In EPA's most recent appropriations bill, Congress called on EPA to develop and issue a mandatory GHG emissions reporting rule by the middle of 2009.[29]

Accordingly, EPA is now developing a proposed rule that would collect emissions and emissions-related information from stationary and mobile sources. The overall purpose of the rule is to obtain comprehensive and accurate GHG data relevant to future climate policy decisions, including potential regulation under the CAA. EPA expects the rule to provide valuable additional information on the number and types of U.S. GHG sources and on the GHG emission levels of those sources.

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[29] The fiscal year 2008 Consolidated Appropriations Act states that "not less than $3,500,000 shall be provided for activities to develop and publish a draft rule not later than 9 months after the date of enactment of this Act, and a final rule not later than 18 months after the date of enactment of this Act, to require mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy * * *."

D. Today's Action

In view of the interrelationship of CAA authorities and the many pending CAA actions concerning GHGs before the Agency, EPA decided to issue this ANPR to elicit information that will assist us in developing and evaluating potential action under the CAA. In this ANPR, we review the bases for a potential endangerment finding in the context of the pending petition concerning new motor vehicles, explore interconnections between CAA provisions that could lead to broader regulation of GHG emissions, and examine the full range of potential CAA regulation of GHGs, including a discussion of the issues raised by regulation of GHG emissions of mobile and stationary sources under the Act. The ANPR will help us shape an overall approach for potentially addressing GHG emissions under the CAA as part of a broader set of actions to address GHG emissions taken by Congress, EPA, other federal departments and agencies, state and local governments, the private sector, and the international community.

III. Nature of Climate Change and Greenhouse Gases and Related Issues for Potential Regulation

Much of today's notice is devoted to a detailed examination of the various CAA authorities that might be used to regulate GHG emissions and the scientific and technical bases for potentially exercising those authorities. A key question for EPA is whether and how potentially applicable CAA provisions could be used to regulate GHG emissions in an effective and efficient manner in light of the terms of those provisions. The global nature of climate change, the unique characteristics of GHGs, and the ubiquity of

GHG emission sources present special challenges for regulatory design. In this section of the notice, we identify and discuss these and several other important considerations that we believe should inform our examination and potential use of CAA authorities. Throughout this notice we ask for comment on whether particular CAA authorities would allow EPA to develop regulations that address those considerations in an effective and appropriate manner.

A. *Key Characteristics of Greenhouse Gases*

The six major GHGs of concern are those directly emitted by human activities. These are CO_2, CH_4, N_2O, HFCs, perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). GHGs have a climatic warming effect by trapping heat in the atmosphere that would otherwise escape to space.

Global emissions of these six GHGs have grown since pre-industrial times and particularly over recent decades, having increased by 70% between 1970 and 2004.[30] In 2000, U.S. GHG emissions accounted for approximately 21% of the global total. Other major emitting countries include China, the Russian Federation, Japan, Germany, India and Brazil. Future projections show that, for most scenarios assuming no additional GHG emission reduction policies, global atmospheric concentrations of GHGs are expected to continue climbing for most if not all of the remainder of this century and to result in associated increases in global average temperature. The Intergovernmental Panel on Climate Change (IPCC) projects an increase of global GHG emissions by 25 to 90% between 2000 and 2030 under a range of different scenarios. For the U.S., under a business as usual scenario, total gross GHG emissions are expected to rise 30 percent between 2000 and 2020.[31]

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[30] The data provided here come from "Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)"—Summary for Policymakers.

A significant difference between the major GHGs and most air pollutants regulated under the CAA is that GHGs have much longer atmospheric lifetimes.[32] Once emitted, GHG can remain in the atmosphere for decades to centuries while traditional air pollutants typically remain airborne for days to weeks. The fact that GHGs remain in the atmosphere for such long periods of time has several important and related consequences:

> (1) Unlike most traditional air pollutants, GHGs become well mixed throughout the global atmosphere so that the long-term distribution of GHG concentrations is not dependent on local emission sources. Instead, GHG concentrations tend to be relatively uniform around the world.
>
> (2) As a result of this global mixing, GHGs emitted anywhere in the world affect climate everywhere in the world. U.S. GHG emissions have climatic effects not only in the U.S. but in all parts of the world, and GHG emissions from other countries have climatic effects in the U.S.

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[31] Fourth U.S. Climate Action Report, 2007. http://www.state.gov/g/oes/rls/rpts/car/.

[32] Some pollutants regulated under the CAA have long atmospheric lifetimes, including those regulated for protection of stratospheric ozone and mercury.

(3) Emissions of the major GHGs build up in the atmosphere so that past, present and future emissions ultimately contribute to total atmospheric concentrations. While concentrations of most traditional air pollutants can be reduced relatively quickly (over months to several years) once emission controls are applied, atmospheric concentrations of the major GHGs cannot be so quickly reversed. Once applied, GHG emission controls would first reduce the rate of build-up of GHGs in the atmosphere and, depending on the degree of controls over the longer term, would gradually result in stabilization of atmospheric GHG concentrations at some level.

(4) GHG emissions have long-term consequences. Once emitted, the major GHGs exert their climate changing effects for a long period of time. Past and current GHG emissions thus lead to some degree of commitment to climate change for decades or even centuries. According to the IPCC, past GHG emissions have already resulted in an increase in global average temperature and associated climatic changes. Much of those past emissions will continue to contribute to temperature increases for some time to come, while current and future GHG emissions contribute to climate change over a similarly long period. See section V for a fuller discussion of the effects of GHG emissions as they relate to making an endangerment finding under the CAA.[33]

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[33] Another important difference between CO–T22 and traditional air pollutants is the high volume of CO–T22 emissions relative to other pollutants for most sources. The significance of

The large temporal and spatial scales of the climate change challenge introduce regulatory issues beyond those typically presented for most traditional air pollutants. Decision makers are faced with many uncertainties over long time frames and across national boundaries, such as population and economic growth, technological change, the exact rate and magnitude of climate change in response to different emissions pathways, and the associated effects of that climate change. These uncertainties increase the complexity of designing an effective long-term regulatory strategy.

Acknowledging that overall risk increases with increases in both the rate and magnitude of climate change, the United Nations Framework Convention on Climate Change (UNFCCC), signed and ratified by the U.S. in 1992, states as its ultimate objective the "* * * stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." In 2007, the U.S. and other Parties to the UNFCCC recognized that "* * * deep cuts in global emissions will be required to achieve the ultimate objective of the Convention * * *" and emphasized "* * * the urgency to address climate change as indicated * * *" by the IPCC.

Determining what constitutes "dangerous anthropogenic interference" is not a purely scientific question; it involves important value judgments regarding what level of climate change may or may not be acceptable. It is not the purpose of this ANPR to make any judgment regarding what an appropriate

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this difference is discussed later in this section and in section VII of this notice.

stabilization goal may be. In the absence of further policy action, the IPCC notes that, "With current climate change mitigation policies and related sustainable development practices, global GHG emissions will continue to grow over the next few decades."

As indicated above, to stabilize GHGs at any level in the atmosphere, emissions would need to peak and decline thereafter. A decision to stabilize at lower concentrations and associated temperature increases would necessarily advance the date by which emissions would need to peak, and would therefore require greater emissions reductions earlier in time. According to the IPCC, mitigation efforts over the next two to three decades will have a large impact on the ability of the world to achieve lower stabilization levels. For illustration, IPCC projected that, in order to prevent long-term global temperatures from exceeding 2.8 °C (approximately 5 °F) relative to pre-industrial temperatures, atmospheric CO_2 concentrations would need to be stabilized at 440 parts per million (ppm) (current levels stand at about 379 ppm), translating into global CO_2 emission reductions by 2050 of up to 60% (relative to emissions in the year 2000). Stabilization targets that aim to prevent even more warming would require steeper and earlier emission reductions, whereas stabilization targets that allow for more warming (with higher associated risks and impacts) would require less steep and later emission reductions.

B. Types and Relative Emissions of GHG Emission Sources

1. Background

Each year EPA prepares a complete inventory of the anthropogenic emissions and sinks of all six major GHGs in the United States.[34][FN34] Anthropogenic in this context means that emissions result from human activities. "Sinks" are the opposite of emissions in that they are activities or processes that remove GHGs from the atmosphere (e.g., CO_2 uptake by plants through photosynthesis). EPA prepares the inventory in cooperation with numerous federal agencies as part of the U.S. commitment under the UNFCCC.[35] This inventory is derived largely from top-down national energy and statistical data. As mentioned previously, EPA is currently developing a proposed GHG reporting rule that will provide bottom-up data from covered reporters and thus provide greater detail on the emissions profile of specific source categories.

2. Emissions by Gas

In 2006, total U.S. GHG emissions were 7,054 million metric tons of CO_2 equivalent ($MMTCO_2$ e).[36]

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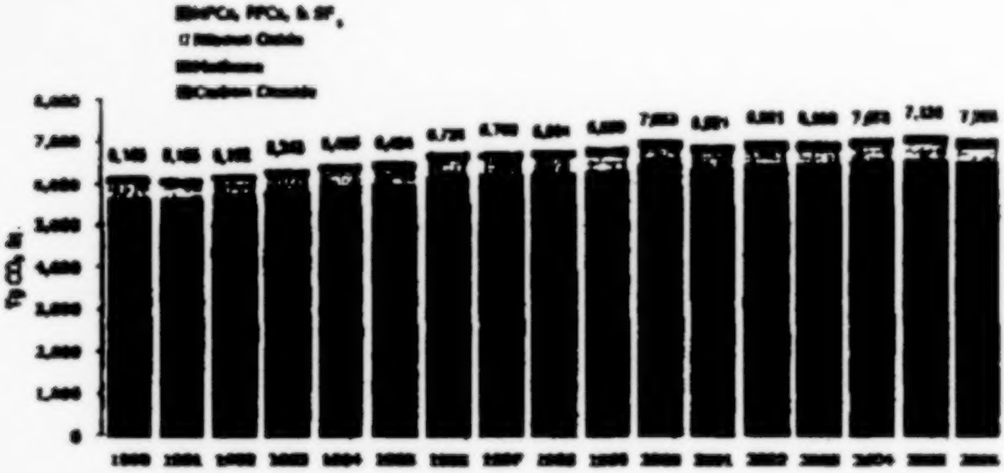
[34] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006, (April 2008) USEPA #430-R-08-005. http://www.epa.gov/climatechange/emissions/usinventoryreport.html.

[35] *See* Articles 4 and 12 of the UNFCCC treaty. http://www.unfccc.int. Parties to the Convention "shall develop, periodically update, publish and make available * * * national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies * * *"

[36] International standards for reporting are established by the IPCC, which uses metric units. 1 MMTCO—T22 e is equal to 1 teragram (Tg) or 10 —T112 grams. 1 metric ton is equal to 1.1023

Overall, total U.S. GHG emissions have risen by 14.7% from 1990 to 2006. GHG emissions decreased from 2005 to 2006 by 1.1 percent (or 76 MMTCO$_2$ e). Figure III-1 illustrates the relative share of each

Figure III-1



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short tons. Emissions of different GHGs are compared using global warming potentials (GWPs). The GWP of a GHG is the ratio of heat trapped by one unit mass of the GHG compared to that of one unit mass of CO—T22 over a specified time period, which is 100 years for the GWPs estimated by the IPCC used here. The reference gas is CO—T22, and therefore GWP-weighted emissions are measured in teragrams of CO—T22 equivalent (Tg CO—T22 Eq.). The GWP values used in this analysis come from the IPCC Second Assessment report, consistent with the UNFCCC reporting requirements for Parties listed in Annex I.

be quantified.[86] One of these potential benefits, related to the transportation sector, is increased energy security due to reduced oil imports. It is clear that both financial and strategic risks can result within the U.S. economy if there is a sudden disruption in the supply or a spike in the costs of petroleum. Conversely, actions that promote development of lower carbon fuels that can substitute for petroleum or technologies that more efficiently combust petroleum during operation can result in reduced U.S. oil imports, and can therefore reduce these financial and strategic risks. This reduction in risks is a measure of improved energy security and represents a benefit to the U.S. As the Agency evaluates potential actions to reduce GHGs from the U.S. economy, it intends to also consider the energy security impacts associated with these actions.

6. Interactions With Other Policies

Climate change and GHG mitigation policies will likely affect most biophysical and economic systems, and will therefore affect policies related to these systems. For example, as previously mentioned, climate change will affect air quality and GHG mitigation will affect criteria pollutant emissions. These effects will need to be evaluated, both in the context of economic costs and benefits, as well as policy design in order to exploit synergies and avoid inefficiencies across policies. Non-climate policies, whether focused on traditional air pollutants, energy, transportation, or other areas, can also affect baselines and mitigation opportunities for climate policies. For instance, energy policies can change baseline GHG emissions and the development path of particular energy technologies, potentially affecting the GHG mitigation objectives of climate policies as well as changing the relative costs of mitigation technologies. EPA seeks comment on important policy interactions.

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[86] The EPA has worked with Oak Ridge National Laboratory to develop a methodology that quantifies energy security benefits associated with the reduction of imported oil. This methodology was used to support the EPA's 2007 Renewable Fuels Standards Rulemaking and NHTSA's 2008 proposed Average Fuel Economy Standards for Passenger Cars and Light Trucks Rulemaking for Model Years 2001—2015.

7. Integrating Economic and Noneconomic Considerations

While economics can answer questions about the cost effectiveness and efficiency of policies, judgments about the appropriate mitigation policy, potential climate change impacts, and even the discount rate can be informed by economics and science but also involve important policy, legal, and ethical questions. The ultimate choice of a global climate stabilization target may be a policy choice that incorporates both economic and non-economic factors, while the choice of specific implementation strategies may be based on effectiveness criteria. Furthermore, other quantitative analyses are generally used to support the development of regulations. Distributional analyses, environmental justice analyses, and other analyses can be informative. For example, to the extent that climate change affects the distribution of wealth or the distribution of environmental damages, then climate change mitigation policies may have significant distributional impacts, which may in some cases be more important than overall efficiency or net benefits. EPA seeks comment on how to adequately inform economic choices, as well as the broader policy choices, associated with GHG mitigation policies.

IV. Clean Air Act Authorities and Programs

In developing a response to the Massachusetts decision, EPA conducted a thorough review of the CAA to identify and assess all of the Act's provisions that might be applied to GHG emissions. Although the Massachusetts decision addresses only CAA section 202(a)(1), which authorizes new motor vehicle emission standards, the Act contains a number of provisions that could conceivably be applied to GHGs emissions. EPA's review of these provisions and their interconnections indicated that a decision to regulate GHGs under section 202(a) or another CAA provision could or would lead to regulation under other CAA provisions. This section of the notice provides an overview of the CAA and examines the various interconnections among CAA provisions that could lead to broad regulation of GHG emission sources under the Act.

A. Overview of the Clean Air Act

The CAA provides broad authority to combat air pollution. Cars, trucks, construction equipment, airplanes, and ships, as well as a broad range of electric generation, industrial, commercial and other facilities, are subject to various CAA programs. Implementation of the Act over the past four decades has resulted in significant reductions in air pollution at the same time the nation's economy has grown.

As more fully examined in Section VII of this notice, the CAA provides three main pathways for regulating stationary sources of air pollutants. They include, in order of their appearance in the Act, national ambient air quality standards (NAAQS) and state plans for implementing those standards (SIPs); performance standards for new and existing stationary sources; and hazardous air pollutant standards for stationary sources. In addition, the Prevention of Significant Deterioration (PSD) program requires preconstruction permitting and emission controls for certain new and modified major stationary sources, and the Title V program requires operating permits for all major stationary sources.

Section 108 of the CAA authorizes EPA to list air pollutants that are emitted by many sources and that cause or contribute to air pollution problems such as ozone (smog) and particulate matter (soot). For every pollutant listed, EPA is required by section 109 to set NAAQS that are "requisite" to protect public health and welfare. EPA may not consider the costs of meeting the NAAQS in setting the standards. Under section 110, every state develops and implements plans for meeting the NAAQS by applying enforceable emission control measures to sources within the state. The Act's requirements for SIPs are more detailed and stringent for areas not meeting the standards (nonattainment areas) than for areas meeting the standards (attainment areas). Costs may be considered in implementing the standards. States are aided in their efforts to meet the NAAQS by federal emissions standards for mobile sources and major categories of stationary sources issued under other sections of the Act.

Under CAA section 111, EPA establishes emissions performance standards for new stationary sources and modifications of existing sources for categories of sources that contribute significantly to harmful air pollution. These new source performance standards (NSPS) reduce emissions of air pollutants addressed by NAAQS, but can be issued regardless of whether there is a NAAQS for the pollutants being regulated. NSPS requirements for new sources help ensure that when large sources of air pollutants are built or modified, they apply available emission control technologies and strategies.

When EPA establishes a NSPS for a pollutant, section 111(d) calls upon states to issue a standard for existing sources in the regulated source category except in two circumstances. First, section 111(d) prohibits regulation of a NAAQS pollutant. Second, "where a source category is being regulated under section 112, a section 111(d) standard of performance cannot be established to address any HAP listed under section 112(b) that may be emitted from that particular source category."[87] In effect, existing source NSPS provides a "regulatory safety net" for pollutants not otherwise subject to major regulatory programs under the CAA. Section 111 provides EPA and states with significant discretion concerning the sources to be regulated and the stringency of the standards, and allows consideration of costs in setting NSPS.

CAA section 112 provides EPA with authority to list and issue national emissions standards for hazardous air pollutants (HAPs) from stationary sources. HAPs are broadly defined as pollutants that present, or may present, a threat of adverse human or environmental effects. HAPs include substances which are, or may reasonably be anticipated to be, carcinogenic, mutagenic, neurotoxic or acutely or chronically toxic. Section 112 contains low emissions thresholds for regulation in view of its focus on toxic pollutants, and requires regulation of all major sources of HAPs. Section 112 also provides for "maximum achievable control technology" (MACT) standards for major sources, limiting consideration of cost.

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[87] *See* 70 FR 15994, 16029-32 (Mar. 29, 2005).

The PSD program under Part C of Title I of the Act is triggered by regulation of a pollutant under any other section of the Act except for sections 112 and 211(o). As mentioned previously in this notice, under this program, new major stationary sources and modifications at existing major stationary sources undergo a preconstruction permitting process and install best available control technology (BACT) for each regulated pollutant. These basic requirements apply regardless of whether a NAAQS exists for the pollutant; additional PSD requirements apply in the event of a NAAQS. The PSD program's control requirements help prevent large new and modified sources of air pollutants from significantly degrading the air quality in clean air areas. A similar program, called "new source review," ensures that new or modified large sources in areas not meeting the NAAQS do not make it more difficult for the areas to eventually attain the air quality standards.

Title II of the CAA provides comprehensive authority for regulating mobile sources of air pollutants. As more fully described in Section VI of this notice, Title II authorizes EPA to address all categories of mobile sources and take an integrated approach to regulation by considering the unique aspects of each category, including passenger vehicles, trucks and nonroad vehicles, as well as the fuels that power them. Title II requires EPA to consider technological feasibility, costs, safety and other factors in setting standards, and gives EPA discretion to set technology-forcing standards as appropriate. In addition, section 211(o) of the Act establishes the renewable fuel standard (RFS) program, which was recently strengthened by EISA to require substantial increases in the use of renewable fuels, including renewable fuels with significantly lower lifecycle GHG emissions than the fossil fuel-based fuels they replace.[88] The CAA's mobile source authorities work in tandem with the Act's stationary source authorities to help protect public health and the environment from air pollution.

Title VI of the CAA authorizes EPA to take various actions to protect stratospheric ozone, a layer of ozone high in the atmosphere that helps protect the Earth from harmful UVB radiation. As discussed in Section VIII of this notice, section 615 provides broad authority to regulate any substance, practice, process or activity that may reasonably be anticipated to affect the stratosphere and that effect may reasonably be anticipated to endanger public health or welfare.

B. Interconnections Among Clean Air Act Provisions

The provisions of the CAA are interconnected in multiple ways such that a decision to regulate one source category of GHGs could or would lead to regulation of other source categories of GHGs. As described in detail below, there are several provisions in the CAA that contain similar endangerment language. An endangerment finding for GHGs under one provision of the Act could thus have ramifications under other provisions of the Act. In addition, CAA standards applicable to GHGs for one category of sources could trigger PSD requirements for other categories of sources that emit GHGs. How a term is interpreted for one part of the Act could also affect other provisions using the same term.

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[88] As explained further below, EISA provides that regulation of renewable fuels based on lifecycle GHG emissions does not trigger any other regulation of GHGs under the CAA.

These CAA interconnections are by design. As described above, the Act combats air pollutants in several ways that reflect the nature and effects of the particular air pollutant being addressed. The Act's approaches are in many cases complementary and reinforcing, ensuring that air pollutants emitted by various types of emission sources are reduced in a manner and to an extent that reflects the relative contribution of particular categories of sources. The CAA's authorities are intended to work together to achieve air quality that protects public health and welfare.

For GHGs, the CAA's interconnections mean that careful attention needs to be paid to the consequences and specifics of decisions regarding endangerment and regulation of any particular category of GHG sources under the Act. In the case of traditional air pollutants, EPA and States have generally regulated pollutants incrementally over time, adding source categories or program elements as evolving circumstances make appropriate. In light of the broad variety and large number of GHG sources, any decision to regulate under the Act could lead, relatively quickly, to more comprehensive regulation of GHG sources under the Act. A key issue to consider in examining the Act's provisions and their interconnections is the extent to which EPA may choose among and/or tailor the CAA's authorities to implement a regulatory program that makes sense for GHGs, given the unique challenges and opportunities that regulating them would present.

This section of the notice explores these interconnections, and later sections explain how each CAA provision might apply to GHGs.

1. Similar Endangerment Language Is Found in Numerous Sections of the Clean Air Act

The Supreme Court's decision in *Massachusetts v. EPA* requires EPA to address whether GHG emissions from new motor vehicles meet the endangerment test of CAA section 202(a)(1). That section states:

> [t]he Administrator shall by regulation prescribe (and from time to time revise) * * * standards applicable to the emissions of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

CAA section 202(a)(1). If the Administrator makes a positive endangerment determination for GHG emissions from new motor vehicles, he must regulate those GHG emissions under section 202(a) of the Act.

Similar endangerment language is found in numerous sections of the CAA, including sections 108, 111, 112, 115, 211, 213, 231 and 615. For example, CAA section 108(a)(1) (regarding listing pollutants to be regulated by NAAQS) states, "[T]he Administrator shall * * * publish, and shall from time to time thereafter revise, a list which includes each air pollutant (A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare * * *" CAA section 111(b)(1)(A) (regarding listing source categories to be regulated by NSPS) states: "[The Administrator] shall include a category of sources in such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare."[89]

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[89] Other CAA endangerment provisions read as follows:

CAA section 115 (regarding international air pollution) states: "Whenever the Administrator, upon receipt of reports, surveys or studies from any duly constituted international agency has reason to believe that any air pollutant or pollutants emitted in the United States cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country or whenever the Secretary of State requests him to do so with respect to such pollution which the Secretary of State alleges is of such a nature, the Administrator shall give formal notification thereof to the Governor of the State in which such emissions originate."

CAA section 211(c)(1) (regarding regulating fuels and fuel additives) states: "The Administrator may, * * * [regulate fuels or fuel additives] (A) if in the judgment of the Administrator any emission product of such fuel or fuel additive causes, or contributes, to air pollution which may reasonably be anticipated to endanger public health or welfare, (B) * * *"

CAA section 213(a)(4) (regarding regulating nonroad engines) states: "If the Administrator determines that any emissions not referred to in paragraph 2 [regarding CO, NO_X and VOC emissions] from new nonroad engines or vehicles significantly contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, the Administrator may promulgate * * * standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution, * * *".

CAA section 231 (regarding setting aircraft standards) states: "The Administrator shall * * * issue proposed emissions standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in his judgment causes, or contributes to, air pollution which

While no two endangerment tests are precisely the same, they generally call on the Administrator of EPA to exercise his or her judgment regarding whether a particular air pollutant or source category causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare. For provisions containing endangerment language, a positive finding of endangerment is a prerequisite for regulation under that provision.[90] The precise effect of a positive or negative finding depends on the specific terms of the provision under which it is made. For some provisions, a positive endangerment finding triggers an obligation to regulate (e.g., section 202(a)(1)), while for other provisions, a positive finding allows the Agency to regulate in its discretion (e.g., section 213). In some cases, other criteria must also be met to authorize or require regulation (e.g., section 108). Each of these sections is discussed in more detail later in this notice.

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may reasonably be anticipated to endanger public health or welfare."

CAA section 615 (regarding protection of stratospheric ozone) states: "If, in the Administrator's judgment, any substance, practice, process, or activity may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, and such effect may reasonably be anticipated to endanger public health or welfare, the Administrator shall promptly promulgate regulations respecting the control of such substance, practice, process, or activity * * *"

[90] As defined by the CAA, "air pollutant" includes virtually any substance or material emitted into the ambient air. Given the breadth of that term, many CAA provisions require the Administrator to determine whether a particular air pollutant causes or contributes to an air pollution problem as a prerequisite to regulating emissions of that pollutant.

2. Potential Impact Cross the Clean Air Act From a Positive or Negative Endangerment Finding or Regulation of GHGs Under the Act

a. Potential Impact on Sections Containing Similar Endangerment Language

One important issue is whether a positive or negative endangerment finding under one section of the CAA (e.g., under section 202(a) in response to the ICTA petition remand) would necessarily or automatically lead to similar findings under other provisions of the Act containing similar language. Even though CAA endangerment tests vary to some extent, an endangerment finding under one provision could have some bearing on whether endangerment could or should be found under other CAA provisions, depending on their terms and the facts at issue. EPA request comment on the extent to which an endangerment finding under any section of the CAA would lead EPA to make a similar endangerment finding under another provision.

In discussing the implications of making a positive endangerment finding under any CAA section, we use the actual elements of the endangerment test in section 202(a) for new motor vehicles as an example. The section 202(a) endangerment test asks two distinct questions—

(1) whether the air pollution at issue may reasonably be anticipated to endanger public health or welfare, and

(2) whether emissions from new motor vehicles cause or contribute to that air pollution. The first question is generic and looks at whether the type of air

pollution at issue endangers public health or welfare. The second question is specific to motor vehicles, and considers the contribution of motor vehicle emissions to the particular air pollution problem. EPA must answer both questions in the affirmative for the Agency to regulate under section 202(a) of the Act.

A finding of endangerment under one section of the Act would not by itself constitute a complete finding of endangerment under any other section of the CAA. How much of a precedent an endangerment finding under one CAA provision would be for other CAA provisions would depend on the basis for the finding, the statutory tests for making findings, and the facts. For example, the two-part endangerment test in section 202(a) (motor vehicles) is similar to that in sections 211(c)(1) (highway and nonroad fuels) and 231(a)(2) (aircraft). An affirmative finding under section 202(a) on the first part of the test—whether the air pollution at issue endangers public health or welfare—would appear to satisfy the first part of the test for the other two provisions as well. However, an affirmative finding on the second part of the test, regarding the contribution of the particular source category to that air pollution, would not satisfy the test for the other provisions, which apply to different source categories. Still, a finding that a particular source category's emissions cause or contribute to the air pollution problem would likely establish some precedent for what constitutes a sufficient contribution for purposes of making a positive endangerment finding for other source categories.

Other similarities and differences among endangerment tests are also relevant. While the first part of the test in sections 213(a)(4) (nonroad engines and vehicles) and 111(b) (NSPS) is similar to that in other sections (i.e., whether the air pollution at issue endangers public health or welfare), the second part of the test in sections 213(a)(4) and 111(b) requires a finding of "significant" contribution. In addition, the test under section 111(b) applies to source categories, not to a particular air pollutant.[91] Sections 112 and 615 have somewhat different tests.

The extent to which an endangerment finding would set precedent would also depend on the pollutants at issue. For example, the ICTA petition to regulate motor vehicles under section 202(a) addresses CO_2, CH_4, N_2O, and HFCs, while the petitions to regulate GHGs from other mobile source categories collectively address water vapor, NO_X and black carbon, as well as CO_2, CH_4, and N_2O. As further discussed below, the differences in the GHGs emitted by different types of sources may be relevant to the issue of how to define "air pollutant" for purposes of applying the endangerment tests.

In addition, some CAA sections require EPA to act following a positive endangerment finding, while others do not. In the case of section 202(a)(1), if we make a positive endangerment finding, we are required to issue standards applicable to motor vehicle emissions of the GHGs covered by the finding. Section 231(a) (aircraft) uses similar mandatory language, while sections 211(c)(1) (highway and nonroad fuel) and 213(a)(4) (nonroad engines and vehicles) authorize but do not require the issuance of regulations. Section 108 (NAAQS pollutants) requires that EPA list a pollutant under that section if a positive endangerment finding is made and two other criteria are met.

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[91] As discussed below, EPA has already listed a very wide variety of source categories under section 111(b)(1)(A).

In sum, a positive or negative endangerment finding for GHG emissions under one provision of the Act could have a significant and direct impact on decisions under other CAA sections containing similar endangerment language. EPA requests comment on the interconnections between the CAA endangerment tests and the impact that a finding under one provision of the Act would have for other CAA provisions.

b. Potential Impact on PSD Program

Another important issue is the potential for a decision to regulate GHGs for mobile or stationary sources to automatically trigger additional permitting requirements for stationary sources under the PSD program. As explained previously and in detail in Section VII of this notice, the main element of the PSD program under Part C of Title I of the Act is the requirement that a PSD permit be obtained prior to construction of any new major source or any major modification at an existing major source. Such a permit must contain emissions limitations based on BACT for each pollutant subject to regulation under the Act. EPA does not interpret the PSD program provisions to apply to GHG at this time, but any requirement to control CO_2 or other GHGs promulgated by EPA under other provisions of the CAA would make parts of the PSD program applicable to any additional air pollutant(s) that EPA regulates in this manner.

The PSD program applies to each air pollutant (other than a HAP) that is "subject to regulation under the Act" within the meaning of sections 165(a)(4) and

169(3) of the Clean Air Act and EPA's regulations.[92] As a practical matter, the identification of pollutants subject to the PSD program is driven by the BACT requirement because this requirement applies to the broadest range of pollutants. Under EPA's PSD program regulations, BACT is required for "each regulated NSR pollutant." 40 CFR 52.21(j)(2)-(3). EPA has defined this term to include pollutants that are regulated under a NAAQS or NSPS, a class I or II substance under Title VI of the Act, or "[a]ny pollutant otherwise subject to regulation under the Act." See 52.21(b)(50).[93] Similarly, the determination of whether a source is a major source subject to PSD is based on whether the source emits more than 100 or 250 tons per year (depending on the type of source) of one or more regulated pollutants.[94]

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[92] Section 112(b)(6) precludes listed HAPs from the PSD program. Section 210(b) of EISA provides that nothing in section 211(o) of the Act, or regulations issued pursuant to that subsection, "shall affect or be construed to affect the regulatory status of carbon dioxide or any other greenhouse gas, or to expand or limit regulatory authority regarding carbon dioxide or any other greenhouse gas, for purposes of other provisions (including section 165) of this Act."

[93] This definition reflects EPA's interpretation of the phrase "each pollutant subject to regulation under the Act" that is used in the provisions in the Clean Air Act that establish the BACT requirement. Since this statutory language (as implemented in the definition of "regulated NSR pollutant") can apply to additional pollutants that are not also subject to a NAAQS, the scope of the BACT requirement determines the overall range of pollutants that are subject to the PSD permitting program.

[94] Under the relevant regulations, a major stationary source is determined by its emissions of "any regulated NSR pollutant." *See* 40 CFR 52.21(b)(1)(i). Thus, the emissions that are considered in identifying a major source are determined on the basis of the same definition that controls the applicability of the BACT.

EPA has historically interpreted the phrase "subject to regulation under the Act" to describe air pollutants subject to CAA statutory provisions or regulations that require actual control of emissions of that pollutant.[95] PSD permits have not been required to contain BACT emissions limit for GHGs because GHGs (and CO_2 in particular) have not been subject to any CAA provisions or EPA regulations issued under the Act that require actual control of emissions.[96] Although CAA section 211(o) now targets GHG emissions, EISA provides that neither it nor implementing regulations affect the regulatory status of GHGs under the CAA. In the absence of statutory or regulatory requirements to control GHG emissions under the Act, a stationary source need not consider those emissions when determining its major source status.

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[95] 43 FR 26388, 26397 (June 19, 1978); Gerald E. Emison, Director, Office of Air Quality Planning and Standards, Implementation of North County Resource Recovery PSD Remand (Sept. 22, 1987) (footnote on the first page).

[96] *See* briefs filed before the Environmental Appeal Board on behalf of specific EPA offices in challenges to the PSD permits for Deseret Power Electric Cooperative (PSD Appeal No. 07-03) and Christian County Generation LLC (PSD Appeal No. 07-01), as well as the Response to Public Comments on Draft Air Pollution Control Prevention of Significant Deterioration (PSD) Permit to Construct [for Deseret Power Electric Cooperative], Permit No. PSD-OU-0002-04.00 (August 30, 2007), at 5-6, available at http://www.epa.gov/region8/air/permitting/deseret.html. EPA has not previously interpreted the BACT requirement to apply to air pollutants that are only subject to requirements to monitor and report emissions. *See*, 67 FR 80186, 80240 (Dec. 31, 2002); 61FR 38250, 38310 (July 31, 1996); In Re Kawaihae Cogeneration Project 7 E.A.D. 107, 132 (EAB 1997); Inter-power of New York, 5 E.A.D. 130, 151 (EAB 1994); Memorandum from Jonathan Z. Cannon, General Counsel to Carol M. Browner, Administrator, entitled EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources (April 10, 1998) (emphasis added); Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, entitled Definition of Regulated Air Pollutant for Purposes of Title V, at 5 (April 26, 1993).

The Supreme Court's conclusion that GHGs are "air pollutants" under the CAA did not automatically make these pollutants subject to the PSD program. A substance may be an "air pollutant" under the Act without being regulated under the Act. The Supreme Court directed the EPA Administrator to determine whether GHG emissions from motor vehicles meet the endangerment test of CAA section 202(a). A positive finding of endangerment would require the Administrator to then set standards applicable to GHG emissions from motor vehicles under the Act. The positive finding itself would not constitute a regulation requiring actual control of emissions. GHGs would become regulated pollutants under the Act if and when EPA subjects GHGs to control requirements under a CAA provision other than sections 112 and 211(o).

c. Definition of "Air Pollutant"

Another way in which a decision to regulate GHGs under one section of the Act could impact other sections of the Act involves how the term "air pollutant" is defined as part of the endangerment analysis. As described above, many of the Act's endangerment tests require a two-part analysis: Whether the air pollution at issue may reasonably be anticipated to endanger public health or welfare, and whether emissions of particular air pollutants cause or contribute to that air pollution. As discussed in more detail in the following sections, what GHGs might be defined as an "air pollutant" and whether those GHGs are treated individually or as a group could impact EPA's flexibility to define the GHGs as air pollutants elsewhere in the CAA.

For example, as noted above, how EPA defines GHGs as air pollutants in making any positive endangerment finding could carry over into implementation of the PSD program. If EPA defines each individual GHG as a separate air pollutant in making a positive endangerment finding, then each GHG would be considered individually as a "regulated NSR pollutant" in the PSD program. On the other hand, if EPA defines the group of GHGs as an air pollutant, then the PSD program would need to treat the GHGs in the same manner–as a group. As discussed in more detail below, there are flexibilities and considerations under various approaches. One question is whether we could or should define GHGs as an "air pollutant" one way under one section of the Act (e.g., section 202) and another way under another section (e.g., section 231). See, e.g., Environmental Defense v. Duke Energy Corp., 127 S.Ct. 1423, 1432 (2007) (explaining that the general presumption that the same term has the same meaning is not rigid and readily gives way to context). Another question is whether having different definitions of "air pollutant" would result in both definitions applying to the PSD program, and whether that result would mean that any flexibilities gained under one definition would be lost with the application of the second.

Another consideration, noted above, is that different source categories emit different GHGs. This fact could impact the definition of "air pollutant" more broadly. EPA requests comment on the issues raised in this section, to assist the Agency as it considers the implications of how to define a GHG "air pollutant" for the first time under any section of the Act.

3. Relationships Among Various Stationary Source Programs

As a result of other interactions among various CAA sections, a decision to act under one part of the CAA may preclude action under another part of the Act. These interactions reflect the Act's different regulatory treatment of pollutants meeting different criteria, and prevent duplicative regulation. For instance, listing a pollutant under section 108(a), which leads to setting a NAAQS and developing SIPs for the pollutant, generally precludes listing the same air pollutant as a HAP under section 112(b), which leads to every major source of a listed HAP having to comply with MACT standards for the HAP. CAA section 112(b)(2).[97][FN97] Listing an air pollutant under section 108(a) also preludes regulation of that air pollutant from existing sources under section 111(d), which is intended to provide for regulation of air pollutants not otherwise subject to the major regulatory programs under the Act. CAA section 111(d)(1)(A).

Similarly, regulation of a substance under Title VI precludes listing that substance as a HAP under section 112(b) based solely on the adverse effects on the environment of that air pollutant. CAA section 112(b)(2). Moreover, listing an air pollutant as a HAP under section 112(b) generally precludes regulation of that air pollutant from existing sources under section 111(d). CAA section 111(d)(1)(A).[98][FN98] Finally, section 112(b)(6) provides that the provisions of the PSD program "shall not apply to pollutants listed under [section 112]." CAA section 112(b)(6), 42 U.S.C. 7412(b)(6)

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[97] "No air pollutant which is listed under section 108(a) may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which independently meets the listing criteria of this paragraph and is a precursor to a pollutant which is listed under section 108(a) or to any pollutant which is in a class of pollutants listed under such section."

V. Endangerment Analysis and Issues

In this section, we present our work to date on an endangerment analysis in response to the Supreme Court's decision in ***Massachusetts v. EPA***. As explained previously, the Supreme Court remanded EPA's denial of the ICTA petition and ruled that EPA must either decide whether GHG emissions from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or explain why scientific uncertainty is so profound that it prevents making a reasoned judgment on such a determination.

In response to the remand, EPA analyzed synthesis reports and studies on how elevated concentrations of GHGs in the atmosphere, and other factors, contribute to climate change, and how climate change is affecting, and may affect in the future, human health and welfare, primarily within the United States. We also analyzed direct GHG effects on human health and welfare, i.e., those effects from elevated concentrations of GHGs that do not occur via climate change. This information, summarized briefly below, is contained in the Endangerment Technical Support Document found in the docket for today's notice. In addition, we compiled information concerning motor vehicle GHG emissions to assess whether motor vehicles cause or contribute to elevated concentrations of GHGs in the atmosphere. Information on motor vehicle emissions is contained in the Section 202 Technical Support Document, also found in the docket.

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[98] However, *see* 70 FR 15994, 16029-32 (2005) (explaining EPA's interpretation of the conflicting amendments to section 111(d) regarding HAPs).

As discussed above, making an endangerment finding under one section of the CAA has implications for other sections of the Act. In this ANPR, we consider, and seek comment on these implications and other questions relevant to making an endangerment finding regarding GHG emissions.

This section is organized as follows. Section A discusses the legal framework for the endangerment analysis. Section B provides information on how "air pollution" could be defined for purposes of the endangerment analysis, as well as a summary of the science regarding GHGs and climate change and their effects on health and welfare. Section C uses the information on emissions of GHGs from the mobile source categories relevant to the ICTA Petition to frame a discussion about whether GHGs as "air pollutants" "cause or contribute" to "air pollution" which may reasonably be anticipated to endanger public health or welfare.

A. Legal Framework

The endangerment language relevant to the ICTA petition is contained in section 202(a) of the CAA. As explained previously, it is similar to endangerment language in many other provisions of the Act and establishes a two-part test. First, the Administrator must decide if, in his judgment, air pollution may reasonably be anticipated to endanger public health or welfare. Second, the Administrator must decide whether, in his judgment, emissions of any air pollutant from new motor vehicles or engines cause or contribute to this air pollution.

1. Origin of Current Endangerment and Cause or Contribute Language

The endangerment language in section 202(a) and other provisions of the CAA share a common legislative history that sheds light on the meaning of this language. As part of the 1977 amendments to the CAA, Congress added or revised endangerment language in various sections of the Act. The legislative history of those amendments, particularly the report by the House Committee on Interstate and Foreign Commerce, provides important information regarding Congress' intent when it revised this language. *See* H.R. Rep. 95-294 (1977), as reprinted in 4 A Legislative History of the Clean Air Act Amendments of 1977 at 2465 (hereinafter "LH").

a. Ethyl Corp. v. EPA

In revising the endangerment language, Congress relied heavily on the approach discussed in a federal appeals court opinion interpreting the pre-1977 version of CAA section 211. In *Ethyl Corp v. EPA*, 541 F.2d 1 (D.C. Cir. 1976), the en banc (i.e. full) court reversed a 3-judge panel decision regarding an EPA rule restricting the content of lead in leaded gasoline.[99]

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[99] At the time of the 1973 rules requiring the reduction of lead in gasoline, section 211(c)(1)(A) of the CAA stated that the Administrator may promulgate regulations that control or prohibit the manufacture, introduction into commerce, offering for sale, or sale of any fuel or fuel additive for use in a motor vehicle or motor vehicle engine (A) if any emissions product of such fuel or fuel additive will endanger the public health or welfare * * * .

CAA section 211(c)(1)(A) (1970) (emphasis added). The italicized language in the above quote is the relevant language revised by the 1977 amendments.

The en banc court began its opinion by stating:

> Man's ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations.

541 F.2d at 6. After reviewing the relevant facts and law, the full-court evaluated the statutory language at issue to see what level of "certainty [was] required by the Clean Air Act before EPA may act." *Id.*

By a 2-1 vote, the 3-judge panel had held that the statutory language "will endanger" required proof of actual harm, and that the actual harm had to come from fuels "in and of themselves." *Id.* at 12. The en banc court rejected this approach, finding that the term "endanger" allowed the Administrator to act when harm is threatened, and did not require proof of actual harm. *Id.* at 13. "A statute allowing for regulation in the face of danger is, necessarily, a precautionary statute." *Id.* Optimally, the court held, regulatory action would not only precede, but prevent, a perceived threat. *Id.*

The court also rejected petitioners' argument that any threatened harm must be "probable" before regulation was authorized. Specifically, the court recognized that danger "is set not by a fixed probability of harm, but rather is composed of reciprocal elements of risk and harm, or probability or severity." *Id.* at 18. Next, the court held that EPA's evaluation of risk is necessarily an exercise of judgment, and that the statute did not require a factual finding. *Id.* at 24. Thus, ultimately, the Administrator must "act, in part on 'factual issues,' but largely on choices of policy, on an assessment of risks, [and] on predictions dealing with matters on the frontiers of scientific knowledge * * * ." *Id.* at 29 (citations omitted). Finally, the *en banc* court agreed with EPA that even without the language in section 202 regarding "cause or contribute to," section 211 authorized EPA to consider the cumulative impact of lead from numerous sources, not just the fuels being regulated under section 211. *Id*. at 29-31.

b. The 1977 Clean Air Act Amendments

The dissent in the original Ethyl Corp decision and the en banc opinion were of "critical importance" to the House Committee which proposed the revisions to the endangerment language in the 1977 amendments to the CAA. H.R. Rep. 95-294 at 48, 4 LH at 2515. In particular, the Committee believed the Ethyl Corp decision posed several "crucial policy questions" regarding the protection of public health and welfare." *Id.*[100] The Committee addressed those questions with the endangerment language that now appears in section 202(a) and several other CAA provisions–"which in [the Administrator's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

The Committee intended the language to serve several purposes consistent with the *en banc* decision in Ethyl Corp.[101] First, the phrases "in his judgment" and "in the judgment of the Administrator" call for the Administrator to make comparative assessment of risks and projections of future possibilities, consider uncertainties, and extrapolate from limited data. Thus, the Administrator must balance the likelihood of effects with the severity of the effects in reaching his judgment. The Committee emphasized that "judgment" is different from a factual "finding." Importantly, projections, assessments and estimates must be reasonable, and cannot be based on a "crystal ball inquiry." Moreover, procedural safeguards apply (e.g., CAA 307(d)) to the exercise of judgment, and final decisions are subject to judicial review. Also, the phrase "in his judgment" modifies both phrases "cause and contribute" and "may reasonably be anticipated" discussed below. H.R. Rep. 95-294 at 50-51, 4 LH at 2517-18.

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[100] The Supreme Court recognized that the current language in section 202(a)(1) is "more-protective" than the 1970 version that was similar to the section 211 language before the D.C. Circuit in Ethyl Corp. 127 S.Ct. at 1447, fn 1.

[101] Specifically, the language (1) emphasizes the precautionary or preventive purpose of the CAA; (2) authorizes the Administrator to reasonably project into the future and weigh risks; (3) requires the consideration of the cumulative impact of all sources; (4) instructs that the health of susceptible individuals, as well as healthy adults, should be part of the analysis; and (5) indicates an awareness of the uncertainties and limitations in information

As the Committee further explained, the phrase "may reasonably be anticipated" builds upon the precautionary and preventative goals already provided in the use of the term "endanger." Thus, the Administrator is to assess current and future risks rather than wait for proof of actual harm. This phrase is also intended to instruct the Administrator to consider the limitations and difficulties inherent in information on public health and welfare. H.R. Rep. 95-294 at 51, 4 LH at 2518.

Finally, the phrase "cause or contribute" ensures that all sources of the contaminant which contribute

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available to the Administrator. H.R. Rep. 95-294 at 49-50, 4 LH at 2516-17. Congress also wanted to standardize this language across the various sections of the CAA which address emissions from both stationary and mobile sources which may reasonably be anticipated to endanger public health or welfare. H.R. Rep. 95-294 at 50, 4 LH at 2517; Section 401 of CAA Amendments of 1977.

to air pollution be considered in the endangerment analysis (e.g., not a single source or category of sources). It is also intended to require the Administrator to consider all sources of exposure to a pollutant (e.g., food, water, air) when determining risk. *Id.*

3. Additional Considerations for the "Cause or Contribute" Analysis

While the legislative history sheds light on what should be considered in making an endangerment finding, it is not clear regarding what constitutes a sufficient "contribution" for purposes of making a finding. The CAA does not define the concept "cause or contribute" and instead requires that the Administrator exercise his judgment when determining whether emissions of air pollutants cause or contribute to air pollution. As a result, the Administrator has the discretion to interpret "cause or contribute" in a reasonable manner when applying it to the circumstances before him.

The D.C. Circuit has discussed the concept of "contribution" in the context of a CAA section 213 rule for nonroad vehicles. In *Bluewater Network v. EPA*, 370 F.3d 1 (2004), industry argued that section 213(a)(3) requires a finding of a significant contribution before EPA could regulate, but EPA argued that the CAA requires a finding only of "contribution."[102] *Id.*

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[102] The relevant language in section 213(a)(3) reads "[i]f the Administrator makes an affirmative determination under paragraph (2) the Administrator shall, * * * promulgate (and from time to time revise) regulations containing standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution." Notably, CAA section 213(a)(2), which is referenced in section 213(a)(3),

at 13. The court looked at the "ordinary meaning of 'contribute'" when upholding EPA's reading. After referencing dictionary definitions of contribute,[103] the court also noted that "[s]tanding alone, the term has no inherent connotation as to the magnitude or importance of the relevant 'share' in the effect; certainly it does not incorporate any 'significance' requirement." *Id.*[104] The court also found relevant the fact that section 213(a) uses the term "significant contributor" in some places and the term "contribute" elsewhere, suggesting that the "contribute" language invests the Administrator with discretion to exercise his judgment regarding what constitutes a sufficient contribution for the purpose of making an endangerment finding. *Id.* at 14

In the past the Administrator has looked at emissions of air pollutants in various ways to determine

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requires that the "Administrator shall determine * * * whether emissions of carbon monoxide, oxides of nitrogen, and volatile organic compounds from new and existing nonroad engines or nonroad vehicles (other than locomotives or engines used in locomotives) are significant contributors to ozone or carbon monoxide concentrations in more than 1 area which has failed to attain the national ambient air quality standards for ozone or carbon monoxide" (emphasis added).

[103] Specifically, the decision noted that " 'contribute' means simply 'to have a share in any act or effect,' Webster's Third New International Dictionary 496 (1993), or 'to have a part or share in producing,' 3 Oxford English Dictionary 849 (2d ed. 1989)." 370 F.3d at 13.

[104] The court explained, "The repeated use of the term 'significant' to modify the contribution required for all nonroad vehicles, coupled with the omission of this modifier from the 'cause, or contribute to' finding required for individual categories of new nonroad vehicles, indicates that Congress did not intend to require a finding of 'significant contribution' for individual vehicle categories." *Id.*

whether they "cause or contribute" to the relevant air pollution. For instance, in some mobile source rulemakings, the Administrator has looked at the percent of emissions from the regulated mobile source category compared to the total mobile source inventory for that air pollutant. *See*, e.g., 66 FR 5001 (2001) (heavy duty engine and diesel sulfur rule). In other instances the Administrator has looked at the percent of emissions compared to the total nonattainment area inventory of the air pollution at issue. *See*, e.g., 67 FR 68,242 (2002) (snowmobile rule). EPA has found that air pollutant emissions that amount to 1.2% of the total inventory "contribute." Bluewater Network, 370 F.3d at 15 ("For Fairbanks, this contribution was equivalent to 1.2% of the total daily CO inventory for 2001.").

We solicit comment on these prior precedents, including their relevance to contribution findings EPA may be considering regarding GHG emissions. Where appropriate, may the Administrator determine that emissions at a certain level or percentage contribute to air pollution in one instance, while also finding that the same level or percentage of another air pollutant and involving different air pollution, and different overall circumstances, does not contribute? When exercising his judgment, is it appropriate for the Administrator to consider not only the cumulative impact, but also the totality of the circumstances (e.g., the air pollutant, the air pollution, the type of source category, the number of sources in the source category, the number and type of other source categories that may emit the air pollutant) when determining whether the emissions "justify regulation" under the CAA? *See* Ethyl Corp., 541 F.2d at 31, n62 ("Moreover, even under a cumulative impact theory emissions must make more than a minimal contribution to total exposure in order to justify regulation under § 211(c)(1)(A).").

B. Is the Air Pollution at Issue Reasonably Anticipated to Endanger Public Health or Welfare?

This section discusses options for defining, with respect to GHGs, the "air pollution" that may or may not be reasonably anticipated to endanger public health or welfare, the first part of the two part endangerment test. It also summarizes the state of the science on GHGs and climate change, and relates that science to the endangerment question. We solicit comment generally on the information and issues discussed below.

1. What is the Air Pollution?

As noted above, in applying the endangerment test in section 202(a) or other sections of the Act to GHG emissions, the Administrator must define the scope and nature of the relevant "air pollution" that may or may not be reasonably anticipated to endanger public health or welfare. The endangerment issue discussed in today's notice involves, primarily, anthropogenic emissions of GHGs, the accumulation of GHGs in the atmosphere, the resultant impacts including climate change, and the risks and impacts to human health and welfare associated with those impacts.

a. The Six Major GHGs of Concern

The six major GHGs of concern are CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. The IPCC focuses on these six GHGs for both scientific assessments and emissions inventory purposes because these are the six long-lived, well-mixed GHGs not controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer.

These six GHGs are directly emitted by human activities, are reported annually in EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks, and are the common focus of the climate change research community. The ICTA petition addresses the first four of these GHGs, and the President's Executive Orders 13423 and 13432 define GHGs to include all six of these GHGs.

Carbon dioxide is the most important GHG directly emitted by human activities, and is the most significant driver of climate change. The anthropogenic combined heating effect (referred to as forcing) of CH_4, N_2 O, HFCs, PFCs and SF_6 is about 40% as large as the CO_2 cumulative heating effect since pre-industrial times, according to the Fourth Assessment Report of the IPCC.

b. Emissions and Elevated Concentrations of the Six GHGs

As mentioned previously, these six GHGs can remain in the atmosphere for decades to centuries. Therefore, these GHGs, once emitted, become well mixed throughout the global atmosphere regardless of their emission origin, such that their average concentrations over the U.S. are roughly the same as the global average. This also means that current GHG concentrations are the cumulative result of both historic and current emissions, and that future concentrations will be the cumulative result of historic, current and future emissions.

Greenhouse gases trap some of the Earth's heat that would otherwise escape to space. The additional heating effect caused by the buildup of anthropogenic GHGs in the atmosphere enhances the Earth's natural greenhouse effect and causes global temperatures to increase, with associated climatic changes (e.g., change in precipitation patterns, rise in sea levels, and changes in the frequency and intensity of extreme weather events). Current atmospheric concentrations of all of these GHGs are significantly higher than pre-industrial (~1750) levels as a result of human activities. Atmospheric concentrations of CO_2 and other GHGs are projected to continue to climb over the next several decades.

The scientific literature that assesses the potential risks and end-point impacts of climate change (driven by the accumulation of atmospheric concentrations of GHGs) does not assess these impacts on a gas-by-gas basis. Observed climate change and associated effects are driven by the buildup of all GHGs in the atmosphere, as well as other natural and anthropogenic factors that influence the Earth's energy balance. Likewise, the future projections of climate change that have been done are driven by emission scenarios of all six GHGs, as well as other pollutants, many of which are already regulated in the U.S. and other countries.

For these reasons, EPA is considering defining the "air pollution" related to GHGs as the elevated combined current and projected atmospheric concentration of the six GHGs. This approach is consistent with other provisions of the CAA and previous EPA practice under the CAA, where separate air pollutants from different sources but with common properties may be treated as a class (e.g., Class I and Class II substances under Title VI of the CAA). It also addresses the cumulative effect that the elevated concentrations of the six GHGs have on climate, and thus on different elements of health, society and the environment. We seek comment on this potential approach, as well as other alternative ways to define "air pollution." One alternative would be to define air pollution as the elevated concentration of an individual GHG; however, in this case the Administrator may still have to consider the impact of the individual GHG in combination with the impacts caused by the elevated concentrations of the other GHGs.

c. Other Anthropogenic Factors That Have a Climatic Warming Effect Beyond the Six Major GHGs

There are other GHGs and aerosols that have climatic warming effects: water vapor, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, stratospheric and tropospheric ozone (O_3), and black carbon. Each of these is discussed here. We seek comment on whether and how they should be considered in the definition of "air pollution" for purposes of an endangerment finding.

Water vapor is the most abundant naturally occurring GHG and therefore makes up a significant share of the natural, background greenhouse effect. However, water vapor emissions from human activities have only a negligible effect on atmospheric concentrations of water vapor. Significant changes to global atmospheric concentrations of water vapor occur indirectly through human-induced global warming, which then increases the amount of water vapor in the atmosphere because a warmer atmosphere can hold more moisture. Therefore, changes in water vapor concentrations are not an initial driver of climate change, but rather an effect of climate change which then acts as a positive feedback that further enhances warming. For this reason, the

IPCC does not list direct emissions of water vapor as an anthropogenic forcing agent of climate change, but does include this water vapor feedback mechanism in response to human-induced warming in all modeling scenarios of future climate change. Based on this recognition that anthropogenic emissions of water vapor are not a significant driver of anthropogenic climate change, EPA's annual Inventory of U.S. Greenhouse Gas Emissions and Sinks does not include water vapor, and GHG inventory reporting guidelines under the United Nations Framework Convention on Climate Change (UNFCCC) do not require data on water vapor emissions.

Water vapor emissions may be an issue for concern when they are emitted by aircraft at high altitudes, where, under certain conditions, they can lead to the formation of condensation trails, referred to as contrails. Similar to high-altitude, thin clouds, contrails have a warming effect. Extensive cirrus clouds can also develop from aviation contrails, and increases in cirrus cloud cover would also have a warming effect. The IPCC Fourth Assessment Report estimated a very small positive radiative forcing effect for linear contrails, with a low degree of scientific understanding. Unlike the warming effects associated with the six long-lived, well-mixed GHGs, the warming effects associated with contrails or contrail-induced cirrus cloud cover are more regional and temporal in nature. Further discussion of aviation contrails can be found in Section VI on mobile sources. EPA invites input and comment on the scientific and policy issues related to consideration of water vapor's association with aviation contrails in an endangerment analysis.

The CFCs, HCFCs, and halons are all strong anthropogenic GHGs that are long-lived in the atmosphere and are adding to the global anthropogenic heating effect. Therefore, these gases share common climatic properties with the six GHGs discussed above. The production and consumption of these substances (and hence their anthropogenic emissions) are being controlled and phased out, not because of their effects on climate change, but because they deplete stratospheric O_3, which protects against harmful ultraviolet B (UVB) radiation. The control and phase-out of these substances in the U.S. and globally is occurring under the Montreal Protocol on Substances that Deplete the Ozone Layer, and in the U.S. under Title VI of the CAA as well.[106] Therefore, the climate change research and policy community typically does not focus on these substances, precisely because they are essentially already being 'taken care of' with non-climate policy mechanisms. For example, the UNFCCC does not address these substances, and instead defers their treatment to the Montreal Protocol. As mentioned above, the President's Executive Orders 13423 and 13432 do not include these substances in the definition of GHGs. For these reasons, EPA's preliminary conclusion is that we would not include CFCs, HCFCs and halons in the definition of "air pollution" for purposes of an endangerment finding. We seek comment on this issue.

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[106] Under the Montreal Protocol, production and consumption of CFCs were phased out in developed countries in 1996 (with some essential use exemptions) and are scheduled for phase-out by 2010 in developing countries (with some essential use exemptions). For halons the schedule was 1994 for phase out in developed countries and 2010 for developing countries; HCFC production was frozen in 2004 in developed countries, and in 2016 production will be frozen in developing countries; and HCFC consumption phase-out dates are 2030 for developed countries and 2040 in developing countries.

The depletion of stratospheric O_3 due to CFCs, HCFCs, and other ozone-depleting substances has resulted in a small cooling effect on the planet.

Increased concentrations of tropospheric O_3 are causing a significant anthropogenic warming effect, but, unlike the long-lived six GHGs, tropospheric O_3 has a short atmospheric lifetime (hours to weeks), and therefore its concentrations are more variable over space and time. For these reasons, its global heating effect and relevance to climate change tends to entail greater uncertainty compared to the well-mixed, long-lived GHGs. More importantly, tropospheric ozone is already listed as a NAAQS pollutant and is regulated through SIPs and other measures under the CAA, due to its direct health effects including increases in respiratory infection, medicine use by asthmatics, emergency department visits and hospital admissions, and its potential to contribute to premature death, especially in susceptible populations such as asthmatics, children and the elderly. Tropospheric O_3 is not addressed under the UNFCCC. For these reasons, EPA's preliminary conclusion is that we would not include tropospheric O_3 in the definition of "air pollution" for purposes of an endangerment finding because, as with CFCs, HCFCs and halons, it is already being addressed by regulatory actions that control precursor emissions (NO_X and volatile organic compounds (VOCs)) from major U.S. sources. We invite comment on this issue.

Black carbon is an aerosol particle that results from incomplete combustion of the carbon contained in fossil fuels, and it remains in the atmosphere for about a week. Black carbon causes a warming effect by absorbing incoming sunlight in the atmosphere (whereas GHGs cause warming by trapping outgoing, infrared heat), and by darkening bright surfaces such as snow and ice, which reduces reflectivity and increases absorption of sunlight at the surface. Some recent research,[106] published after the IPCC Fourth Assessment Report, has suggested that black carbon may play a larger role in warming than previously thought. Like other aerosols, black carbon can also alter the reflectivity and lifetime of clouds, which in turn can have an additional climate effect. How black carbon and other aerosols alter cloud properties is a key source of uncertainty in climate change science. Given these reasons, there is considerably more uncertainty associated with black carbon's warming effect compared to the estimated warming effect of the six long-lived GHGs.

Black carbon is also co-emitted with organic carbon, which tends to have a cooling effect on climate because it reflects and scatters incoming sunlight. The ratio of black carbon to organic carbon varies by fuel type and by combustion efficiency. Diesel vehicles, for example, emit a much greater portion of black carbon, whereas forest fires tend to emit much more organic carbon. The net effect of black carbon and organic carbon on climate should therefore be considered. Also, black carbon is a subcomponent of particulate matter (PM), which is regulated as a NAAQS pollutant under the CAA due to its direct health effects caused by inhalation. Diesel vehicles are estimated to be the largest source of black carbon in the U.S., but these emissions are expected to decline substantially over the coming decades due to recently promulgated EPA regulations targeting $PM_{2.5}$ emissions from on-road and off-road diesel vehicles (the Highway Diesel Rule and the Clean Air Nonroad Diesel Rule, the Locomotive and Marine Compression Ignition Rule). Non-regulatory partnership programs such as the National Clean Diesel Campaign and Smartway are reducing black carbon as well. In sum, black carbon has different climate properties compared to long-lived GHGs, and major U.S. sources of black carbon are already being aggressively reduced through regulatory actions due to health concerns. Nevertheless, EPA has recently received petitions asking the Agency to reduce black carbon emissions from some mobile source categories (*see* Section VI.). Therefore, EPA seeks comment on how to treat black carbon (and co-emitted organic carbon) regarding the definition of "air pollution" in the endangerment context.

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[106] Ramathan, V, and G. Carmichael (2008) Global and regional climate changes due to black carbon. Nature Geoscience, 1: 221-227.

2. Science Summary

The following provides a summary of the underlying science that was reviewed and utilized in the Endangerment Technical Support Document for the endangerment discussion, which in turn relied heavily on the IPCC Fourth Assessment Report. We seek comment on the best available science for purposes of the endangerment discussion, and in particular on the use of the more recent findings of the U.S. Climate Change Science Program.

a. Observed Global Effects

The global atmospheric CO2 concentration has increased about 35% from pre-industrial levels to 2005, and almost all of the increase is due to anthropogenic emissions. The global atmospheric concentration of CH_4 has increased by 148% since pre-industrial levels. Current atmospheric concentrations of CO_2 and CH_4 far exceed the recorded natural range of the last 650,000 years. The N_2O concentration has increased 18%. The observed concentration increase in these non-CO_2 gases can also be attributed primarily to anthropogenic emissions. The industrial fluorinated gases, HFCs, PFCs, and SF_6, have relatively low atmospheric concentrations but are increasing rapidly; these gases are entirely anthropogenic in origin.

Current ambient concentrations of CO_2 and other GHGs remain well below published thresholds for any direct adverse health effects, such as respiratory or toxic effects.

The global average net effect of the increase in atmospheric GHG concentrations, plus other human activities (e.g., land use change and aerosol emissions), on the global energy balance since 1750 has been one of warming. This total net radiative forcing (a measure of the heating effect caused by changing the Earth's energy balance) is estimated to be +1.6 Watts per square meter (W/m[FN2]). The combined radiative forcing due to the cumulative (i.e., 1750 to 2005) increase in atmospheric concentrations of CO_2, CH_4, and N_2O is +2.30 W/m[FN2]. The rate of increase in positive radiative forcing due to these three GHGs during the industrial era is very likely to have been unprecedented in more than 10,000 years. The positive radiative forcing due to the increase in CO_2 concentrations is the largest (+1.66 W/m[FN2]). The increase in CH_4 concentrations is the second largest source of positive radiative forcing (+0.48 W/m2). The increase in N_2O has a positive radiative forcing of +0.16 W/m[FN2].

Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. Global mean surface temperatures have risen by 0.74°C (1.3°F) over the last 100 years. The average rate of warming over the last 50 years is almost double that over the last 100 years. Global mean surface temperature was higher during the last few decades of the 20th century than during any comparable period during the preceding four centuries.

Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations. Global observed temperatures over the last century can be reproduced only when model simulations include both natural and anthropogenic forcings, i.e., simulations that remove anthropogenic forcings are unable to reproduce observed temperature changes. Thus, the warming cannot be explained by natural variability alone.

Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. Observations show that changes are occurring in the amount, intensity, frequency and type of precipitation. There is strong evidence that global sea level gradually rose in the 20th century and is currently rising at an increased rate. Widespread changes in extreme temperatures have been observed in the last 50 years. Globally, cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.

The Endangerment Technical Support Document provides evidence that the U.S. and the rest of the world are experiencing effects from climate change now.

b. Observed U.S. Effects

U.S. temperatures also warmed during the 20th and into the 21st century. U.S. temperatures are now approximately 1.0 °F warmer than at the start of the 20th century, with an increased rate of warming over the past 30 years. The past nine years have all been among the 25 warmest years on record for the contiguous U.S., a streak which is unprecedented in the historical record. Like the average global temperature increase, the observed temperature increase for North America has been attributed to the global buildup of anthropogenic GHG concentrations in the atmosphere.

Widespread changes in extreme temperatures have been observed in the last 50 years across all world regions including the U.S. Cold days, cold nights, and frost have become less frequent, while hot days, hot nights, and heat waves have become more frequent.

Total annual precipitation has increased over the U.S. on average over the last century (about 6%), and there is evidence of an increase in heavy precipitation events. Nearly all of the Atlantic Ocean shows sea level rise during the past decade with highest rate in areas that include the U.S. east coast.

Observations show that climate change is currently impacting the nation's ecosystems and services in significant ways.

b. Projected Effects

The Endangerment Technical Support Document, the IPCC Fourth Assessment Report, and a report under the U.S. Climate Change Science Program, provide projections of future ambient concentrations of GHGs, future climate change, and future anticipated effects from climate change under various scenarios. This section summarizes some of the key global projections, such as changes in global temperature, as well as those particular to North America and the United States.

Overall risk to human health, society and the environment increases with increases in both the rate and magnitude of climate change. Climate warming may increase the possibility of large, abrupt, and worrisome regional or global climatic events (e.g., disintegration of the Greenland Ice Sheet or collapse of the West Antarctic Ice Sheet). The majority of the climate change impacts literature assesses the potential effects on health, society and the environment due to projected changes in average conditions (e.g., temperature increase, precipitation change, sea level rise) and do not take into account how the frequency and severity of extreme events due to climate change may cause certain additional impacts. Likewise, impact studies typically do not account for large, abrupt climatic events, and generally consider rates of warming that would result from climate sensitivities[107] within the most likely range, not at the tails of the distribution. To weigh the full range of risks and impacts, it is important to consider these possible extreme outcomes, including those that are of low probability.

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[107] "Climate sensitivity" is a term used to describe how much long-term global warming occurs if global atmospheric concentrations of CO–T22 are doubled compared to their preindustrial levels. The IPCC Fourth Assessment Report states that climate sensitivity is very likely greater than 1.5°C (2.7 °F) and likely to lie in the range of 2 °C to 4.5 °C (3.6 °F to 8.1 °F), with a most likely value of about 3 °C (5.4 °F), and that a climate sensitivity higher than 4.5 °C cannot be ruled out.

i. Global Effects

The majority of future reference-case scenarios (assuming no explicit GHG mitigation actions beyond those already enacted) project an increase of global GHG emissions over the century, with climbing GHG concentrations and associated increases in radiative forcing and average global temperatures.

Projected ambient concentrations of CO2 and other GHGs remain well below published thresholds for any direct adverse health effects, such as respiration or toxic effects.

Through about 2030, the global warming rate is affected little by different future scenario assumptions or different model sensitivities, because there is already some degree of commitment to future warming given past and present GHG emissions. By mid-century, the choice of scenario becomes more important for the magnitude of the projected warming because only about a third of that warming is projected to be due to climate change that is already committed. By the end of the century, projected average global warming (compared to average temperature around 1990) varies significantly by emissions scenario, with IPCC's best estimates ranging from 1.8 to 4.0 °C (3.2 to 7.2 °F), with a fuller likely range of 1.1 to 6.4 °C (2.0 to 11.5 °F), which takes into account a wider range of future emission scenarios and a wider range of uncertainties.[108]

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[108] The IPCC scenarios are also described in the Technical Support Document and include a range of future global emission

The IPCC identifies the most vulnerable world regions as the Arctic, because of high rates of projected warming on natural systems; Africa, especially the sub-Saharan region, because of current low adaptive capacity; small islands, due to high exposure of population and infrastructure to risk of sea-level rise and increased storm surge; and Asian mega deltas, due to large populations and high exposure to sea level rise, storm surge, and river flooding. Climate change impacts in certain regions of the world may exacerbate problems that raise humanitarian and national security issues for the U.S. Climate change has been described as a potential threat multiplier regarding national security issues.

ii. United States Effects

Projected global warming is anticipated to lead to effects in the U.S. For instance, all of the U.S. is very likely to warm during this century, and most areas of the U.S. are expected to warm by more than the global average. The U.S, along with the rest of the world, is projected to see an increase in the intensity of precipitation events and the risk of flooding, greater runoff and erosion, and thus the potential for adverse water quality effects.

Severe heat waves are projected to intensify in magnitude, frequency, and duration over the portions of the U.S. where these events already occur, with likely increases in mortality and morbidity, especially among the elderly, young, and frail. Warmer temperatures can also lead to fewer cold-related deaths. It is currently not possible to quantify the

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scenarios and a range of climate sensitivities (which measure how much global warming occurs for a given increase in global CO–T22 concentrations).

balance between decreased cold-related deaths and increased heat-related deaths attributable to climate change over time.

The IPCC projects with virtual certainty (i.e., greater than 99% likelihood) declining air quality in cities due to warmer days and nights, and fewer cold days and nights, and/or more frequent hot days and nights over most land areas, including the U.S. Climate change is expected to lead to increases in regional ozone pollution, with associated risks for respiratory infection, aggravation of asthma, and potential premature death, especially for people in susceptible groups. Climate change effects on ambient PM are currently less certain.

Additional human health concerns include a change in the range of vector-borne diseases, and a likely trend towards more intense hurricanes (even though any single hurricane event cannot be attributed to climate change) and other extreme weather events. For many of these issues, sensitive populations, such as the elderly, young, asthmatics, the frail and the poor, are most vulnerable.

Moderate climate change in the early decades of the century is projected to increase aggregate yields of rainfed agriculture in the United States by 5-20%. However, as temperatures continue to rise, grain and oilseed crops will increasingly experience failure, especially if climate variability increases and precipitation lessens or becomes more variable. How climatic variability and extreme weather events will continue to change under a changing climate is a key uncertainty, and these events also have the potential to offset the benefits of CO2 fertilization and a longer growing season.

Climate change is projected to constrain over-allocated water resources in the U.S., increasing competition among agricultural, municipal, industrial, and ecological uses. Rising temperatures will diminish snowpack and increase evaporation, affecting seasonal availability of water.

Disturbances like wildfire and insect outbreaks are increasing and are likely to intensify in a warmer future with drier soils and longer growing seasons. Overall forest growth in the U.S. will likely increase by 10-20% as a result of extended growing seasons and elevated CO_2 over the next century, but with important spatial and temporal variation. Although recent climate trends have increased vegetation growth in parts of the United States, continuing increases in disturbances are likely to limit carbon storage, facilitate invasive species, and disrupt ecosystem services.

The U.S. will be affected by global sea level rise, which is expected to increase between 0.18 and 0.59 meters by the end of the century relative to around 1990. These numbers represent the lowest and highest projections of the 5 to 95% ranges for all scenarios considered collectively and include neither uncertainty in carbon cycle feedbacks nor rapid dynamical changes in ice sheet flow. U.S. coastal communities and habitats will be increasingly stressed by climate change interacting with development and pollution. Sea level is already rising along much of the coast, and the rate of change is expected to increase in the future, exacerbating the impacts of progressive inundation, storm-surge flooding, and shoreline erosion.

Climate change is likely to affect U.S. energy use (e.g., heating and cooling requirements), and energy production (e.g., effects on hydropower), physical infrastructures (including coastal roads, railways, transit systems and runways) and institutional infrastructures. Climate change will likely interact with and possibly exacerbate ongoing environmental change and environmental pressures in some settlements, particularly in Alaska where indigenous communities are facing major environmental and cultural impacts.

3. Endangerment Discussion Regarding Air Pollution

The Administrator must exercise his judgment in evaluating whether the first part of the endangerment test is met, *i.e.*, whether air pollution (e.g., the elevated concentrations of GHGs) is reasonably anticipated to endanger public health or welfare. As discussed above, in exercising his judgment it is appropriate for the Administrator to make comparative assessments of risk and projections of future possibilities, consider uncertainties, and extrapolate from limited data. The precautionary nature of the statutory language also means that the Administrator should act to prevent harm rather than wait for proof of actual harm.

The scientific record shows there is compelling and robust evidence that observed climate change can be attributed to the heating effect caused by global anthropogenic GHG emissions. The evidence goes beyond increases in global average temperature to include observed changes in precipitation patterns, sea level rise, extreme hot and cold days, sea ice, glaciers, ecosystem functioning and wildlife patterns. Global warming trends over the last 50 years stand out as significant compared to estimated global average temperatures for at least the last few centuries. Some degree of future warming is now unavoidable given the current buildup of atmospheric concentrations of GHGs, as the result of past and present GHG emissions. Based on the scientific evidence, it is reasonable to conclude that future climate change will result from current and future emissions of GHGs. Future warming over the course of the 21st century, even under scenarios of low emissions growth, is very likely to be greater than observed warming over the past century.

The range of potential impacts that can result from climate change spans many elements of the global environment, and all regions of the U.S. will be affected in some way. The U.S. has a long and populous coastline. Sea level rise will continue and exacerbate storm-surge flooding and shoreline erosion. In areas where heat waves already occur, they are expected to become more intense, more frequent, and longer lasting. Wildfires and the wildfire season are already increasing and climate change is expected to continue to worsen conditions that facilitate wildfires. Where water resources are already scarce and over-allocated in the western U.S., climate change is expected to put additional strain on these water management issues for municipal, agricultural, energy and industrial uses. Climate change also introduces an additional stress on ecosystems which are already affected by development, habitat fragmentation, and broken ecological dynamics. There is a wide range in the magnitude of these estimated impacts, with there being more confidence in the occurrence of some effects and less confidence in the occurrence of others.

In addition to the effects from changes in climate, there are some additional welfare effects that occur directly from the anthropogenic GHG emissions themselves. For example, ocean acidification occurs through elevated concentrations of CO_2, and crop and other vegetation growth can be enhanced through elevated CO_2 concentrations as well.

Current and projected levels of ambient concentrations of the six GHGs are not expected to cause any direct adverse health effects, such as respiratory or toxic effects, which would occur as a result of the elevated GHG concentrations themselves rather than through the effects of climate change. However, there are indirect human health risks (e.g., heat-related mortality, exacerbated air quality, extreme events) and benefits (e.g., less cold-related mortality) that occur due to climate change. We seek comment on how these human health impacts should be characterized under the CAA for purposes of an endangerment analysis.

Some elements of human health, society and the environment may benefit from climate change (e.g., short-term increases in agricultural yields, less cold-related mortality). We seek comment on how the potential for some benefits should be viewed against the full weight of evidence showing numerous risks and the potential for adverse impacts.

Quantifying the exact nature and timing of impacts due to climate change over the next few decades and beyond, and across all vulnerable elements of U.S. health, society and the environment, is currently not possible. However, the full weight of evidence as summarized above and as documented in the Endangerment Technical Support Document points towards the robust conclusion that expected rates of climate change (driven by past, present and plausible future GHG emissions) pose a number of serious risks to the U.S., even if the exact nature of the risks is difficult to quantify with confidence. The uncertainties in this context can also mean that future rates of climate change are being underestimated, and that the potential for associated and difficult-to-predict-and-quantify extreme events is not adequately incorporated into impact assessments. The scientific literature states that risk increases with increases in both the rate and magnitude of climate change. We solicit comment on how these uncertainties should be considered.

We seek comment on whether, in light of the precautionary nature of the statutory language, the Administrator needs to find that current levels of GHG concentrations endanger public health or welfare now. As noted above, the fact that GHGs remain in the atmosphere for decades to centuries means that future concentrations are dependent not only on tomorrow's emissions, but also on today's emissions. Should the Administrator consider both current and projected future elevated concentrations of GHGs, as well as the totality of the observed and projected effects that result from current and projected concentrations? Or should the Administrator focus on future projected elevated concentrations of GHGs and their projected effects in the United States because they are larger and of greater concern than current GHG concentrations and observed effects?

In sum, EPA invites comment on all issues relevant to making an endangerment finding, including the scientific basis supporting a finding that there is or is not endangerment under the CAA, as well as the potential scope of the finding (i.e., public health, welfare, or both).

C. Illustration for the "Cause or Contribute" Part of the Endangerment Discussion: Do emissions of air pollutants from motor vehicles or fuels cause or contribute to the air pollution that may reasonably be anticipated to endanger public health or welfare in the United States?

1. What Is/Are the Air pollutant(s)?

a. Background and Context

If the Administrator, in his judgment, finds that GHG "air pollution" may reasonably be anticipated to endanger public health or welfare, he must then define "air pollutant(s)" for purposes of making the "cause or contribute" determination. The question is whether the "air pollutants" to be evaluated for "cause or contribute" should be the individual GHGs, or whether the "air pollutant" is one or more classes of GHGs as a group.

We recognize that the alternative definitions could have important implications for how GHGs are treated under other provisions of the Act. The Administrator seeks comment on these options, and is particularly interested in views regarding the implications for the potential future regulation of GHGs under other parts of the Act.

b. Defining "Air Pollutant" as Each Individual Greenhouse Gas

Under this approach, the Administrator could define "air pollutant" as each individual GHG rather than as GHGs as a collective whole for the purposes of assessing "cause or contribute." The Administrator would evaluate each individual GHG to determine if it causes, or contributes to, the elevated combined level of GHG concentrations.

This approach enables an evaluation of the unique characteristics and properties of each GHG (e.g., radiative forcing, lifetimes, etc.), as well as current and projected emissions. This facilitates a customized approach accounting for these factors. This approach also is consistent with the approach taken in several federal GHG programs which target reductions of individual greenhouse gases. For example, EPA manages a variety of partnership programs aimed at reducing emissions of specific sources of methane and the fluorinated gases (HFCs, PFCs and SF_6).

c. Defining "Air Pollutants" Collectively as a Class of Greenhouse Gases

Under this approach, the Administrator could define the "air pollutant" as (a) the collective group of the six GHGs discussed above (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6), (b) the collective group of the specific GHGs that are emitted from the relevant source category at issue in the endangerment finding (e.g., for section 202 sources it would be CO_2, CH_4, N_2O, and HFCs), or (c) other reasonable groupings.

There are several federal and state climate programs, such as EPA's Climate Leaders program, DOE's 1605b program, and Multi-state Climate Registry, that encourage firms to report (and reduce) emissions of all six GHGs, recognizing that the non-CO_2 GHG emissions are a significant part of the atmospheric buildup of GHG concentrations and thus radiative forcing. In addition, the President's recent 2007 Executive Orders (13423 and 13432) and his 2002-2012 intensity goal both encompass the collective emissions of all six GHGs. Consideration of a class of gases collectively takes into account the multiple effects of mitigation options and technologies on each gas, thus enabling a more coordinated approach in addressing emissions from a source. For example, collection and combustion of fugitive methane will lead to net increases in CO_2 and possibly nitrous oxide emissions, but this is nevertheless desirable from an overall mitigation perspective given the lower total radiative forcing.

2. Discussion of "Cause or Contribute"

Once the "air pollutant(s)" is defined, the Administrator must look at the emissions of the air pollutant from the relevant source category in determining whether those emissions cause or contribute to the air pollution he has determined may reasonably be anticipated to endanger public health or welfare. There arguably are many possible ways of assessing "cause and contribute" and different approaches have been used in previous endangerment determinations under the CAA. For example, EPA could consider how emissions from the relevant source category would compare as a share of the following:

- Total global aggregated emissions of the 6 GHGs discussed in the definition of "air pollution";
- Total aggregated U.S. emissions of the 6 GHGs;
- Total global emissions of the individual GHG in question;
- Total U.S. emissions of the individual GHG in question; and
- Total global atmospheric concentrations of the GHG in question.

In the past, the smallest level or amount of emissions that the Administrator determined "contributed" to the air pollution at issue was just less than 1% (67 FR 68242 (2002)). We solicit comment on other factors that may be relevant to a contribution determination for GHG emissions. For example, given the global nature of the air pollution being addressed in this rulemaking, one might expect that the percentage contribution of specific GHGs and sectors would be much smaller than for previous rulemakings when the nature of the air pollution at issue was regional or local. On an absolute basis, a small U.S. GHG source on a global scale may have emissions at the same level as one of the largest sources in a single small to medium size country, and given the * * * * achieving vehicle emission standards under CAA section 202 before controlling a fuel under section 211(c)(1)(A). A prerequisite to action under 211(c)(1) is an EPA finding that a fuel or fuel additive, or emission product of a fuel or fuel additive, causes or contributes to air or water pollution that may reasonably be anticipated to endanger public health or welfare. Issues related to an endangerment finding are discussed in section V of this advance notice.

EPA asks for comment on whether section 211(c) could be read as providing EPA a broader scope of authority to establish a new GHG fuel program than section 211(o). Specifically, EPA asks for comment on whether section 211(c)(1)(A) could allow EPA to start the program as soon as appropriate in light of our analysis and similarly cover the time period most appropriate; whether it could allow a program that would encourage the use of both renewable and alternative fuels with beneficial GHG emissions impacts and discourage those fuels with relatively detrimental GHG impacts; and whether it could allow EPA to establish requirements for all fuels (gasoline, diesel, renewables, alternative and synthetic fuel, etc.)

used in both highway and nonroad vehicles and engines. EPA requests comment on whether the flexibilities under section 211(c) allow it to consider a broad set of options for controlling GHG emissions through fuels, including those that solely regulate the final point of emissions such as tailpipe emissions rather than also controlling the emissions at the fuel production facility through a lifecycle approach.

Typically EPA has acted through CAA section 211(c) to prohibit the use of certain additives (e.g., lead) in fuel, to control the level of a component of fuel to reduce harmful vehicle emissions (e.g., sulfur, benzene), or to place a limit on tailpipe emissions of a pollutant (e.g., the reformulated gasoline standards for volatile organic compounds and toxics emissions performance). While multiple approaches may be available to regulate GHG emissions under section 211(c), one option could require refiners and importers of gasoline and diesel meet a GHG performance standard based on reducing their lifecycle GHG emissions of the fuel they import or produce. They would comply with this performance standard by ensuring the use of alternative and/or renewable fuels that have lower lifecycle GHG emissions than the gasoline and diesel they displace and through selection of lower petroleum sources that also reduce the lifecycle GHG performance of petroleum-based fuel. EPA asks comment on whether section 211(c) could authorize such an approach because it would be a control on the sale or manufacture of a fuel that addresses the emissions of GHGs from the transportation fuels that would be the subject the endangerment finding discussed in section V. Comments are requested on this interpretation of 211(c) authority.

As pointed out above, neither the Energy Act of 2005 RFS program nor the forthcoming program under EISA directly addresses the varying GHG emission reduction potential of each fuel type and production pathway. EPA asks comment on whether it could have the authority under CAA section 211(c) to design and implement a program that includes not only renewable fuels but other alternative fuels, considers the GHG emissions from the petroleum portion of the fuel pool and reflects differences in fuel production not captured by the GHG thresholds established under EISA, including differences in technology at the fuel production facility. We request comment on the factors EPA should consider in developing a GHG fuel control program under section 211(c) and how including such factors could serve to encourage the use of low GHG-emitting practices and technology.

We note that the RFS and the forthcoming EISA programs require refiners and other obligated parties to meet specified volume standards and that these programs are anticipated to continue. We request comment on the impacts and opportunities of implementing both a GHG program under 211(c) and volume mandates under 211(o).

EPA seeks comment on the potential for reducing GHG emissions from transportation fuel over and above those reductions that could be achieved by RFS and the anticipated EISA requirements. Although EPA has not completed its analysis of the GHG emission reductions expected under the combined RFS and EISA programs, EPA seeks comment on how it might structure a program that could reduce GHG emissions from transportation fuel over and above those reductions that could be achieved by the RFS and anticipated EISA requirements.

* * * *

VII. Stationary Source Authorities and Potential Options for Regulating Greenhouse Gases Under the Clean Air Act

In this section, we explore three major pathways that the CAA provides for regulating stationary sources, as well as other stationary source authorities of the Act, and their potential applicability to GHGs. The three pathways include NAAQS and implementation plans (sections 107-110 and related provisions); performance standards for new and existing stationary sources (section 111); and hazardous air pollutant standards for stationary sources (section 112).[228] Special provisions for regulating solid waste incinerators are contained in section 129.

We also review the implications of regulating GHGs under Act's programs for preconstruction permitting of new emissions sources, with emphasis on the PSD program under Part C of the Act. These programs require permits and emission controls for major new sources and modifications of existing major sources. The permitting discussion closes by examining the implications of requiring operating permits under Title V for major sources of GHGs. Finally, we describe four different types of market-oriented regulatory designs that (in addition to other forms of regulation) could be considered for programs to reduce GHG emissions from stationary sources to the extent permissible under the CAA: cap-and-trade, rate-based emissions trading, emissions fees, and a hybrid approach.

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[228] As explained in this section, the NAAQS pathway is not solely a stationary source regulatory authority; plans for implementating the NAAQS can involve regulation of stationary and mobile sources.

For each potential pathway of stationary source regulation, this notice discusses the following basic questions:

- What does the section require?
- What sources would be affected if GHGs were regulated under this authority?
- What would be the key milestones and implementation timeline?
- What are key considerations regarding use of this authority for GHGs and how could potential issues be addressed?
- What possible implications would use of this authority for GHGs have for other CAA programs?

In discussing these questions, EPA considers the President's core principles and other policy design principles enumerated in Section III.F.1. EPA seeks comment on the advantages and disadvantages of alternative regulatory authorities in light of those policy design principles. EPA further invites comments on the following aspects of each CAA stationary source authority:

- How much flexibility does the CAA section provide for implementing its requirements? For example, can EPA set compliance dates that reflect the global and long-lived nature of GHGs and that allow time for technological advances and new technology deployment?
- To what extent would the section allow for consideration of the costs and economic impacts of regulating GHGs? For example, would the section

provide opportunities for sending a price signal, such as through cap and trade programs (with or without cost containment mechanisms) and emission fees.

- To what extent can each section account for the international aspects of GHG emissions, atmospheric concentrations, and emission impacts, including ways for potentially addressing international pollutant transport and emission leakage?

- How does each section address the assessment of available technologies, and to what extent could the section promote or require the advancement of technology?

- To what extent does the section allow for the ability to prioritize regulation of significant emitting sectors and sources?

- To what extent could each authority be adapted to GHG regulation without compromising the Act's effectiveness in regulating traditional air pollutants?

Finally, for each regulatory authority, EPA requests comment on a range of program-specific issues identified in the discussion below. EPA also requests comment on whether there are specific statutory limitations that would best be addressed by new legislation. Additional information concerning potential CAA regulation of stationary source GHGs may be found in the Stationary Source Technical Support Document (Stationary Source TSD) placed in the docket for this notice.

A. *National Ambient Air Quality Standards (NAAQS)*

1. What Are the Requirements for Setting and Implementing NAAQS?

a. Section 108: Listing Pollutant(s) and Issuing Air Quality Criteria

Section 108(a)(1) establishes three criteria for listing air pollutants to be regulated through NAAQS. Specifically, section 108(a)(1) states that: EPA "shall from time to time * * * list * * * each air pollutant—

(A) emissions of which, in [the Administrator's] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(C) for which air quality criteria had not been issued before the date of enactment of the Clean Air Amendments of 1970, but for which [the Administrator] plans to issue air quality criteria under this section."

In determining whether a pollutant meets these criteria, EPA must consider a number of issues, including many of those discussed in section IV above regarding an endangerment finding. As discussed there, in the context of the ICTA petition remand, EPA is considering defining the "air pollution" as the elevated current and future concentration of six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF6). Also in that context, EPA is considering alternative definitions of "air pollutant" as the group of GHGs or each individual

GHG for purposes of the "cause or contribute" determination.

In considering the potential listing of GHGs under section 108, EPA solicits input on appropriate definitions of both the "air pollution" and the "air pollutants." With regard to section 108, it is important to note that EPA has clear precedents for listing related compounds as groups rather than as individual pollutants. For example, photochemical oxidants, oxides of nitrogen, and particulate matter all comprise multiple compounds, but the listing under section 108 is for the group of compounds, not the individual elements of the group. The Agency is soliciting comment on the relevance of these precedents for GHGs. In addition, as discussed later, there would be increased complexity in setting NAAQS for individual GHGs than for GHGs as a group. We are particularly interested in comments on how to apply the terms "air pollution" and/or "air pollutants" under sections 108 and 109 in the context of GHGs, and the implications of taking consistent or different approaches under other Titles or sections of the Act.

A positive endangerment finding for GHGs under section 202(a) or other sections of the CAA could have significant and direct impacts on EPA's consideration of the first two criteria for listing the pollutant(s) under section 108, as explained in section IV.B.2 of this notice. The third criterion for listing under section 108, however, may be unrelated to the issues involved in any motor vehicle or other endangerment finding. Moreover, this third criterion could provide EPA discretion to decide whether to list those pollutants under section 108 for purposes of regulating them via the NAAQS.[229] EPA requests comment on the effect of a positive finding of endangerment for GHGs under section 202(a) of the Act on potential listing of the pollutant(s) under section 108.

Section 108 also requires that once a pollutant is listed, EPA issue "air quality criteria" encompassing "all identifiable effects on public health or welfare," including interactions between the pollutant and other types of pollutants in the atmosphere. We are interested in commenters' views on whether and how developing air quality criteria for GHGs would differ from developing such criteria for other pollutants such as ozone and particular matter, given the long-lived nature of GHGs and the breadth of impacts and other special issues involved with global climate change. EPA also invites comment on the extent to which it would be appropriate to use the most recent IPCC reports, including the chapters focusing on North America, and the U.S. government Climate Change Science Program synthesis reports as scientific assessments that could serve as an important source or as the primary basis for the Agency's issuance of "air quality criteria."

Finally, section 108 requires EPA to issue information on air pollution control techniques at the same time it issues air quality criteria. This would include information on the cost of installation and operation, energy requirements, emission reduction benefits and environmental impacts of these techniques. Generally, the Agency defers this obligation until the time a standard is actually issued. As required under Executive Order 12866, EPA must issue a Regulatory Impact Analysis (RIA) for major rulemaking actions, and it is in this context that EPA has previously described the scope and effectiveness of available pollution control techniques. EPA requests comment on whether this approach is appropriate in the case of GHGs.

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[229] With respect to the third criterion, while there is a decision of U.S. Court of Appeals for the Second Circuit to the contrary, NRDC v. Train, 545 F.2d 320 (2nd Cir. 1978), EPA notes that that decision was rendered prior to the Supreme Court's decision in Chevron v. Natural Resources Defense Council, 467 U.S. 837 (1984). Thus, a proper and reasonable question to ask is whether this criterion affords EPA discretion to decide whether it is appropriate to apply the NAAQS structure to a global air pollution problem like GHGs.

b. Section 109: Standard-Setting

Section 109 requires that the Administrator establish NAAQS for any air pollutant for which air quality criteria are issued under section 108. Both the air quality criteria and the standards are to be reviewed and, as appropriate, revised by the Administrator, every five years. These decisions are to be informed by an independent scientific review committee, a role which has been fulfilled by the Clean Air Scientific Advisory Committee (CASAC) of EPA's Science Advisory Board. The committee is charged with reviewing both the air quality criteria for the pollutant(s) and the standards, and recommending any revisions deemed appropriate.

The statute specifically provides that primary NAAQS "shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health," including the health of sensitive groups. The requirement that primary standards provide an adequate margin of safety was intended to address uncertainties associated with inconclusive scientific and technical information available at the time of standard setting. It was also intended to provide a reasonable degree of protection against hazards that research has not yet identified. Lead Industries Association v. EPA, 647 F.2d 1130, 1154 (DC Cir 1980), cert. denied, 449 U.S. 1042 (1980); American Petroleum Institute v. Costle, 665 F.2d 1176, 1186 (DC Cir 1981), cert. denied, 455 U.S. 1034 (1982). The selection of any particular approach to providing an adequate margin of safety is a policy choice left specifically to the Administrator's judgment. Lead Industries Association v. EPA, 647 F.2d at 1161-62.

With regard to secondary NAAQS, the statute provides that these standards "specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator * * * is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air." Welfare effects as defined in CAA section 302(h) include, but are not limited to, "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being."

One of the central issues posed by potential regulation of GHGs through the NAAQS is the nature of the health and environmental effects to be addressed by the standards and, thus, what effects should be addressed when considering a primary (public health) standard and what effects should be addressed when considering a secondary (public welfare) standard. This issue has implications for whether it would be appropriate to establish a primary standard as well as a secondary standard for these pollutants. As discussed above in section V, the direct effects of GHG emissions appear to be principally or exclusively welfare-related. GHGs are unlike other current NAAQS pollutants in that direct exposure to GHGs at current or projected ambient levels appears to have no known adverse effects on human health. Rather, the health impacts associated with ambient GHG concentrations are a result of the changes in climate at the global, regional, and local levels, which trigger myriad ecological and meteorological changes that can adversely affect public health (e.g., increased viability or altered geographical range of pests or diseases; increased frequency or severity of severe weather events including heat waves) (see section V above). The effects on human health are thus indirect impacts resulting from these ecological and meteorological changes, which are effects on welfare. This raises the question of whether it is more appropriate to address these health effects as part of our consideration of the welfare effects of GHGs when setting a secondary NAAQS rather than a primary NAAQS. Control of GHGs would then occur through implementation of the secondary NAAQS rather than the primary NAAQS. EPA invites comment on whether and how these indirect human health impacts should be addressed in the context of setting a primary or a secondary NAAQS.

Past experience suggests EPA may have discretion to decline to set either a primary or a secondary standard for a pollutant if the evidence shows that there are no relevant adverse effects at or near current ambient concentrations, and therefore that no standard would be requisite to protect public health or welfare. In 1985, for example, EPA determined that it was appropriate to revoke the secondary standard for carbon monoxide (CO) after a review of the scientific evidence indicated that there was no evidence of known or anticipated adverse welfare effects associated with CO at or near ambient levels. 50 FR 37484, 37494 (September 13, 1985). This decision was reaffirmed by the Agency in the 1994 CO NAAQS review, and there remains only a primary standard for this pollutant. EPA requests comment on whether it would be necessary and/or appropriate for the Agency to establish both primary and secondary NAAQS for GHGs if those pollutants were listed under section 108.

It is also important to consider how a NAAQS for GHGs would interface with existing NAAQS for other pollutants, particularly oxides of nitrogen (NO_X) and ozone (O_3), as well as particulate matter. EPA's approach in other NAAQS reviews has been to consider climate impacts associated with any pollutant as part of the welfare impacts evaluated for that pollutant in setting secondary standards for the pollutant. If separate NAAQS were established for GHGs, EPA would likely address the climate impacts of each specific GHG in the NAAQS for GHGs, and would not need to address the climate impacts of that GHG when addressing other NAAQS, thus avoiding duplication of effort.

In considering the application of section 109 to GHGs and whether it would be appropriate to regulate GHGs through the NAAQS, EPA must evaluate a number of other standard-setting issues, as discussed below.

i. Level

For potential GHG standards, EPA would face special challenges in determining the level of the NAAQS. As noted above, the primary standard must be "requisite to protect public health with an adequate margin of safety" and the secondary standard "requisite to protect public welfare against any known or anticipated adverse effects." EPA's task is to establish standards that are neither more nor less stringent than necessary for the purposes of protecting public health or welfare. Whitman v. American Trucking Associations, 531 U.S. 457, 473. Under established legal interpretation, the costs of implementation associated with various potential levels cannot be factored into setting a primary or secondary standard.[230] Any determinations by the EPA Administrator regarding the appropriate level (and other elements of) of a NAAQS for GHGs must based on the available scientific evidence of adverse public health and/or public welfare impacts, without consideration of the costs of implementation.

EPA expects it would be difficult to determine what levels and other elements of NAAQS would meet these criteria for GHGs, given that the full effects associated with elevated atmospheric concentrations of these pollutants occur over a long period of time and there are significant uncertainties associated with the health or welfare impacts at any given concentration. The delayed nature of effects and the complex feedback loops associated with global climate change would require EPA to consider both the current effects and the future effects associated with current ambient concentrations. In making a determination of what standard is sufficient but not more stringent than necessary, EPA would also have to grapple with significant scientific uncertainty. As with other NAAQS, however, the iterative nature of the 5-year review cycle means the standards could be revised as appropriate in light of new scientific information as it becomes available. EPA requests comment on the scientific, technical, and policy challenges of determining appropriate levels for NAAQS for GHG pollutants, for both primary and secondary standards.

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[230] The Supreme Court has confirmed EPA's long-standing interpretation and ruled that "[t]he text of § 109(b), interpreted in its statutory and historical context and with appreciation for its importance to the CAA as a whole, unambiguously bars cost considerations from the NAAQS-setting process." The court also noted that consideration of costs occurs in the state's formulation of the implementation plan with the aid of EPA cost data. Whitman v. American Trucking Associations, 531 U.S. at 472.

As with all pollutants for which EPA establishes NAAQS, EPA would need to evaluate what constitutes an "adverse" impact in the climate context. EPA notes that the 1992 UNFCCC calls for the avoidance of "dangerous anthropogenic interference with the climate system." However, it is possible that the criteria for setting a NAAQS may call for protection against risks and effects that are less egregious than "dangerous interference." Furthermore, international agreement has not been reached on either the metric (e.g., atmospheric concentrations of the six major directly emitted anthropogenic GHGs, radiative forcing, global average temperature increase) or the level at which dangerous interference would occur. EPA requests comment on whether it would be appropriate, given the unique attributes of GHGs and the significant contribution to total atmospheric GHG contributions from emissions emanating outside the United States, to establish a level for a GHG NAAQS based on an internationally agreed-upon target GHG level, considering legal and policy factors.

Another key question is the geographical extent of the human health and welfare effects that should be taken into consideration in determining what level and other elements of a standard would provide the appropriate protection. The pollutants already subject to NAAQS are typically local and/or regional in nature, so the standards are designed to limit ambient concentrations of pollutants associated with emissions typically originating in and affecting various parts of the United States. In assessing what standard is requisite to protect either public health or welfare, EPA has focused in the past on analyzing and addressing the impacts in the United States. It may be appropriate to interpret the Act as requiring standards that are requisite for the protection of U.S. public health and welfare. However, atmospheric concentrations of GHGs are relatively uniform around the globe, the impacts of climate change are global in nature, and these effects, as described in section V, may be unequally distributed around the world. The severity of impacts in the U.S. might differ from the severity of impacts in the rest of the world. In light of these factors, EPA invites comment on whether it would be appropriate to consider adverse effects on human health and welfare occurring outside the U.S. Specifically, we invite comment on whether, and if so, on what legal basis, it would be appropriate for EPA to consider impacts occurring outside the U.S. when those impacts, either in the short or long term, may reasonably be anticipated to have an adverse effect on health or welfare in the U.S.

As noted briefly above, if each GHG is listed as a separate pollutant under section 108, rather than as a group or category of pollutants, then EPA arguably would have to establish separate NAAQS for each listed GHG. This scenario raises significant challenges for determining which level of any particular standard is appropriate, especially as the science of global climate change is generally focused on the total radiative impact of the combined concentration of GHGs in the atmosphere. Since for any one pollutant, the standard that is requisite to protect public health with an adequate margin of safety or public welfare from known or anticipated adverse effects is highly dependent upon the concentration of other GHGs in the atmosphere, it would be difficult to establish independent standards for any of the six principal GHGs. EPA requests comments on possible approaches for determining appropriate levels for GHG NAAQS if these pollutants are listed individually under section 108.

ii. Indicator

If each GHG is listed as an individual pollutant under section 108, the atmospheric concentration of each pollutant could be measured separately, and establishing an indicator for each pollutant would be straightforward. However, if GHGs are listed as a group, it would be more challenging to determine the appropriate indicator for use in measuring ambient air quality in comparison to a GHG NAAQS. One approach could be to measure the total atmospheric concentration of a group of GHGs on a CO_2 equivalent basis, by assessing their total radiative forcing (measured in W/m2).[231] Radiative forcing is a measure of the heating effect caused by the buildup of the GHGs in the atmosphere. Estimating CO_2 -equivalent atmospheric concentrations, however, would not be a simple matter of multiplying emissions times their respective GWP values. Rather, the heating effect (radiative forcing) due to concentrations of each individual GHG would have to be estimated to define CO_2 -equivalent concentrations. EPA invites comment on the extent to which radiative forcing could be an effective metric for capturing the heating effect of all GHGs in a group (or for each GHG individually). For example, in the year 2005 global atmospheric CO_2 concentrations were 379 parts per million (ppm), but the CO_2 -equivalent concentration of all long-lived GHGs was 455 ppm. This approach would not require EPA to specify the allowable level of any particular GHG, alone or in relation to the concentration of other GHGs present in the atmosphere.

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[231] See footnote 13 for an explanation of CO—T22 equivalency.

A second option would be to select one GHG as the indicator for the larger group of pollutants intended to be controlled under the standard. This kind of indicator approach is currently used in regulating photochemical oxidants, for which ozone is the indicator, and oxides of nitrogen, for which NO_2 has been used as an indicator. There are several reasons, however, that this approach may not be appropriate for GHGs. For example, in the instances noted above, the indicator species is directly related to the other pollutants in the group, either through common precursors or similar chemical composition, and there is a basis for expecting that control of the indicator compound will lead to the appropriate degree of control for the other compounds in the listed pollutant. In the case of GHGs, it would be more difficult to select one species as the indicator for the larger group, given that the GHGs are distinct in origin, chemical composition, and radiative forcing, and will require different control strategies. Furthermore, this approach raises an issue regarding whether states would have the appropriate incentive to address all pollutants within the group. For example, there could be a focus on controlling the single indicator species at the expense of other species also associated with the adverse effects from which the standard(s) are designed to offer protection.

EPA seeks comment on the merits and drawbacks of these various approaches, as well as suggestions for other possible approaches, to defining an indicator for measuring allowable concentrations of GHGs in the atmosphere.

c. Section 107: Area Designations

After EPA establishes or revises a NAAQS, the CAA requires EPA and the states to begin taking steps to ensure that the new or revised NAAQS are met. The first step is to identify areas of the country that do not meet the new or revised NAAQS. This applies to both the primary and secondary NAAQS. EPA is required to identify each area of the country as "attainment," "nonattainment," or "unclassifiable." [232]

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[232] CAA Section 107(d)(1) requires EPA to establish a deadline for states to submit recommendations for area designations that is no later than one year after promulgation of the new or revised NAAQS. Section 107(d)(1) also directs states to recommend appropriate area boundaries. A nonattainment area must consist of that area that does not meet the new or revised NAAQS, and the area that contributes to ambient air quality in a nearby area that does not meet the new or revised NAAQS. Thus, a key factor in setting boundaries for nonattainment areas is determining the geographic extent of nearby source areas contributing to the nonattainment problem. EPA then reviews the states' recommendations, collects and assesses additional information as appropriate, and issues final designations no later than 2 years following the date EPA promulgated the new or revised NAAQS.

For a GHG NAAQS, the designations given to areas would depend on the level of the NAAQS and the availability of ambient data to make informed decisions for each area. For GHGs, in contrast to current NAAQS pollutants, it would likely make sense to conduct the air quality assessment at the national scale rather than at a more localized scale. All of the potential indicators discussed above for measuring ambient concentrations of GHGs for purposes of a NAAQS involve globally averaged metrics. Therefore, the ambient concentrations measured across all locations within the U.S. for purposes of comparison to the level of the standard would not vary, and all areas of the country would have the same designation—that is, the entire U.S. would be designated either attainment or non-attainment, depending on the level of the NAAQS compared to observed GHG ambient concentrations.

If, in making decisions about the appropriate level of the GHG NAAQS, EPA were to determine that current ambient concentrations are not sufficient to cause known or anticipated adverse impacts on human health or welfare now or in the future, then it is possible that the NAAQS would be set at some level higher than current ambient concentrations. In that case, the entire country would likely be designated nonattainment. If, on the other hand, EPA were to set the NAAQS at a level above current ambient

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EPA may take one additional year (meaning final designations can be up to 3 years after promulgation of new or revised NAAQS) if the Administrator has insufficient information to promulgate the designations. Whether or not a state or a Tribe provides a recommendation, EPA must promulgate the designation that it deems appropriate.

concentrations, the entire country would likely be designated attainment.

d. Section 110: State and Federal Implementation Plans

i. State Implementation Plans

The CAA assigns important roles to EPA, states, and tribal governments in implementing NAAQS and in ensuring visibility protection in Class I areas. States have the primary responsibility for developing and implementing state implementation plans (SIPs). A SIP is the compilation of authorities, regulations, control programs, and other measures that a state uses to carry out its responsibilities under the CAA to attain, maintain, and enforce the NAAQS and visibility protection goals, and to prevent significant deterioration of air quality in areas meeting the standard. Additional specifics on SIP requirements are contained in other parts of the CAA.

EPA assists states and tribes in their efforts to clean the air by promulgating national emissions standards for mobile sources and selected categories of stationary sources. Also, EPA assists the states in developing their plans by providing technical tools, assistance, and guidance, including information on potentially applicable emissions control measures.

Historically, the pollutants addressed by the SIP program have been local and regional pollutants rather than globally mixed pollutants like GHGs. The SIP development process, because it relies in large part on individual states, is not designed to result in a uniform national program of emissions controls.

(1) Generic Requirements for All SIPs

This section discusses the specific CAA requirements states must address when implementing any new or revised NAAQS.[233]

Under section 110(a)(1) and (2) of the CAA, all states are required to submit plans to provide for the implementation, maintenance, and enforcement of any new or revised NAAQS. Section 110(a)(1) and (2) require states to address basic program elements, including requirements for emissions inventories, monitoring, and modeling, among other things. These requirements apply to all areas of the state regardless of whether those areas are designated nonattainment for the NAAQS.

In general, every state is required to submit to EPA within 3 years of the promulgation of any new or revised NAAQS a SIP demonstrating that these basic program elements are properly addressed. Subsections (A) through (M) of section 110(a)(2) enumerate the elements that a state's program must contain. See the Stationary Source TSD for this list.

Other statutory requirements for state implementation plans vary depending on whether an area is in nonattainment or attainment. There are four specific scenarios that could hypothetically apply, depending on whether a primary or a secondary standard, or both, are established, and on the level(s) set for those standards. Because we are proposing no scientific determinations in this notice, our discussion of NAAQS implementation addresses all four of these scenarios.

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[233] The visibility protection program required by CAA sections 169A and 169B, and as implemented through state compliance with EPA's 1999 Regional Haze Rule, will only be raised again here in this section of the ANPR in the context of a framework for implementing a secondary GHG NAAQS.

(2) Scenario 1: Primary GHG Standard With Country in Nonattainment

If the entire country were designated nonattainment for a primary GHG NAAQS, each state would be required to develop and submit a SIP that provided for attainment and met the other specific requirements of Part D of Title I of the Act by the specified deadline.

Requirements for the general contents of a nonattainment area plan are set forth in section 172 of the CAA. Section 172(c) specifies that SIPs must, among other things:[234]

- Include all Reasonably Available Control Measures (RACM) (including, at a minimum, emissions reductions obtained through adoption of Reasonably Available Control Technology (RACT)) and provide for attainment of the NAAQS;

- Provide for Reasonable Further Progress (RFP), which means reasonable interim progress toward attainment;

- Include an emissions inventory;

- Require permits for the construction and operation of major new or modified stationary sources, known as "nonattainment new source review" (see also section 173 of the Act and section VII.E. of this notice);

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[234] For additional information about nonattainment area planning requirements, please see the Technical Support Document.

- Contain contingency measures that are to be implemented in the event the air quality standard is not met by the area's attainment deadline; and
- Meet the applicable provisions of section 110(a)(2) of the CAA related to the general implementation of a new or revised NAAQS.

In addition, all nonattainment areas must meet requirements of section 176(c) known as "general conformity" and "transportation conformity." [235] In brief, general conformity requires the federal government only to provide financial assistance, issue a permit or approve an activity that conforms to an approved SIP for a NAAQS. Transportation conformity requires metropolitan planning organizations and the U.S. Department of Transportation only to approve or fund transportation plans, programs and projects that conform to an approved SIP for a NAAQS. For the scenario of the country in nonattainment with a GHG NAAQS, these requirements would apply nationwide one year after the effective date of EPA's nonattainment designations.

For nonattainment areas, SIPs must provide for attainment of the primary NAAQS as expeditiously as practicable, but no later than 5 years from the effective date of the nonattainment designation for the area—or no later than 10 years if EPA finds additional time is needed considering the severity of nonattainment and the availability and feasibility of pollution control measures.

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[235] These requirements also apply to "maintenance areas"—former nonattainment areas that have met the standard and been redesignated according to a formal EPA determination.

At the outset, it would appear to be an inescapable conclusion that the maximum 10-year horizon for attaining the primary NAAQS would be ill-suited to GHGs. The long atmospheric lifetime of the six major emitted GHGs means that atmospheric concentrations will not quickly respond to emissions reduction measures (with the possible exception of methane, which has an atmospheric lifetime of approximately a decade). In addition, in the absence of substantial cuts in worldwide emissions, worldwide concentrations of GHGs would continue to increase despite any U.S. emission control efforts. Thus, despite active control efforts to meet a NAAQS, the entire U.S. would remain in nonattainment for an unknown number of years. If States were unable to develop plans demonstrating attainment by the required date, the result would be long-term application of sanctions, nationwide (e.g., more stringent offset requirements and restrictions on highway funding), as well as restrictions on approvals of transportation projects and programs related to transportation conformity. EPA is currently evaluating the extent to which section 179B might provide relief to states in this circumstance. As further explained below, section 179B is a waiver provision providing for SIP approval under certain circumstances when international emissions affect a U.S. nonattainment area.

In addition to submitting plans providing for attainment within the state, each state would be required to submit, within 3 years of NAAQS promulgation, a plan under section 110(a)(2)(D) prohibiting emissions that would significantly contribute to nonattainment in another state. EPA requests comments on what approaches could be utilized for purposes of addressing this requirement as well as the general matter of controlling GHGs to meet a NAAQS.

Impact of section 179B on nonattainment requirements: States may use section 179B of the CAA to acknowledge the impact of emissions from international sources that may contribute to violations of a NAAQS. Section 179B provides that EPA shall approve a SIP for a nonattainment area if: (1) The SIP meets all applicable requirements of the CAA; and (2) the submitting state can satisfactorily demonstrate that "but for emissions emanating from outside of the United States," the area would attain and maintain the applicable NAAQS. EPA has historically evaluated these "but for" demonstrations on a case-by-case basis, based on the individual circumstances and the data provided by the submitting state. These data might include ambient air quality monitoring data, modeling scenarios, emissions inventory data, and meteorological or satellite data. In the case of GHGs, however, where global emissions impact all areas within the United States, the federal government may be best suited for establishing whether a "but for" demonstration can be made for the entire country.

If a "but for" conclusion is affirmed, section 179B would allow EPA to approve a SIP that did not demonstrate attainment or maintenance of the relevant NAAQS. Section 179B does not provide authority to exclude monitoring data influenced by international transport from regulatory determinations related to an area's status as an attainment or nonattainment area. Thus, even if EPA approves a section 179B "but for" demonstration for an area, the area would continue to be designated as nonattainment and subject to certain applicable nonattainment area requirements, including nonattainment new source review, conformity, and other measures prescribed for nonattainment areas by the CAA. EPA requests comment on the practical effect of application of section 179B on the global problem of GHG emissions and on the potential for controls based on the attainment plan requirement and other requirements directly related to the attainment requirement, including the reasonable further progress requirement and the RACM requirement.[236]

(3) Scenario 2: Secondary Standard With Country in Nonattainment (No Primary Standard)

As noted above in the NAAQS standard-setting discussion, depending on the nature and bases of any endangerment finding under section 108, EPA may be able to consider setting only a secondary NAAQS for GHGs and not also a primary NAAQS.

In general, the same nonattainment requirements that apply to SIPs for a primary standard apply for a secondary standard, including nonattainment new source review and the other programs listed under the Scenario 1 subsection above.

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[236] EPA has interpreted RACM as emissions reducing measures that are technically and economically feasible, and considered collectively would advance the nonattainment area's attainment date by at least one year. RACT has been interpreted in two different ways, depending on the applicable statutory requirements. In the case of ozone, RACT consists of measures that are technically and economically feasible, without regard to whether the measures would result in earlier attainment. In recent rules on PM2.5, EPA interpreted RACT for PM2.5 as essentially the same as RACM, with RACT referring to the stationary source component of RACM, which applies to all types of sources.

A notable difference in nonattainment requirements for primary and secondary standards is the time allowed for attainment. Under a secondary standard, state plans must achieve attainment as expeditiously as practicable, but there is no statutory maximum date for attainment. The general requirement to attain as expeditiously as practicable includes consideration of required controls, including "reasonably available control measures." These requirements do allow for consideration of cost. What would constitute "as expeditiously as practicable" would be determined based on the entire set of facts and circumstances at issue. EPA requests comment on how to interpret the requirement that state plans demonstrate that attainment will be achieved "as expeditiously as practicable" in the context of a secondary NAAQS for GHGs.

Potential implementation approach based on regional haze model: For a secondary GHG NAAQS with no prescribed attainment date, EPA requests comment on the concept of implementing a GHG secondary NAAQS standard in a way roughly analogous to an approach used in the long-term regional visibility program, known as the regional haze program. This program is based on a goal of achieving natural visibility conditions in our nation's parks and wilderness areas (Class I areas) by 2064. The program requires states to develop reasonable progress goals every 10 years and implement emissions control programs to achieve those goals, ultimately achieving the 2064 natural condition goal in each Class I area. At the midpoint of every 10-year period, states must assess the progress being made and take corrective action if necessary to maintain reasonable progress toward the 10-year progress milestone.

The regional haze program's model for goal planning, control strategy development, and control strategy implementation could offer a possible framework for achieving a GHG secondary NAAQS. This framework potentially could be designed to address the RACM, RACT and Reasonable Further Progress requirements, as well as the attainment planning requirement. This framework may also provide a mechanism for implementing a nationwide GHG emissions cap and trade program adopted and implemented through state plans. However, EPA recognizes that the global nature of GHGs and their persistence in the atmosphere make an approach based on "reasonable" progress more difficult to implement than in the case of regional haze. For example, despite domestic emissions reductions, it might not be possible to discern improvement in atmospheric concentrations of GHGs due to their relatively long atmospheric lifetimes or to growth in emissions from other countries which could eclipse reductions made in the U.S. We note that using this framework would not provide relief from any of the applicable nonattainment area requirements of the Act. EPA requests comment on whether, and if so how, the regional haze approach could be adapted for use in the GHG context.

(4) Scenarios 3 and 4: Primary and/or Secondary Standard With Country in Attainment

If a primary or secondary GHG NAAQS were set at a level higher than ambient GHG levels at the time of designations, then the country would be in attainment. (See preceding section on NAAQS standard-setting for discussion of this issue.) In this case, a much shorter list of requirements would apply than if the country were in nonattainment.

SIPs would be required to include PSD programs for GHGs, which would require preconstruction permitting of new major sources and significant modifications to existing major sources. (See section VII.D on PSD.)

EPA has identified two other requirements that potentially could apply, both of which could provide authority for a nationwide cap-and-trade program implemented at the state level. First, section 110(a)(1) requires states to submit a SIP providing for "implementation, maintenance, and enforcement" of primary and secondary NAAQS. Under the scenario of a GHG NAAQS with the country in attainment, where states may need more than PSD/NSR to maintain attainment, EPA could consider using this provision to require SIPs to provide for maintenance of air quality consistent with the GHG standard. This requirement could be implemented through a nationwide cap-and-trade program designed at the federal level and adopted by individual states in their SIPs, a program similar but broader in scope than existing programs such as the more limited NO_x SIP Call regional cap-and-trade system for EGUs and selected industrial source categories. If a state failed to submit an adequate maintenance SIP, EPA would be required to develop and implement a federal implementation plan for that state. EPA could design the FIP to enable the state to participate in a nationwide cap-and-trade system.

Second, section 110(a)(2)(D) requires SIPs to prohibit emissions that would interfere with maintenance of the standard by other states. Because GHGs are globally well-mixed, it may be that GHGs emitted from any state could be found to interfere with maintenance of a GHG NAAQS in every other state. In the past, EPA has issued rules that have resulted in states adopting interstate cap-and-trade programs (e.g., the Clean Air Interstate Rule) implemented through SIPs to address the requirements of this provision. In the case of GHGs, this authority could potentially support a nationwide cap-and-trade program for GHGs, adopted through SIPs. If a state failed to submit its section 110(a)(2)(D) SIP, EPA would be required to develop and implement a FIP for that state. EPA could design the FIP to enable the state to participate voluntarily in a nationwide cap-and-trade system. We request comment on the suitability of adopting either of these approaches under section 110(a).

ii. Additional CAA Provisions Affecting SIP Obligations and FIPs

(1) Section 179(a)

The CAA requires states to submit SIPs to EPA for review, and EPA must approve or disapprove them based on whether the state plan or component meets the Act's requirements. An EPA finding that a state has failed to submit a nonattainment plan or plan component, or an EPA disapproval of such a plan because it does not meet the requirements of the Act, would start a "sanctions clock" under section 179(a). This means that sanctions would apply in the state if the deficiencies are not corrected within prescribed deadlines. These sanctions include additional requirements for major new sources (18 months after the finding of failure) and restrictions on federal highway funds (6 months after the offset sanction).[237] EPA must promulgate a FIP for the deficient component of the SIP if the state's plan component is not approved within 2 years of EPA's finding or disapproval action. In the case of GHGs, it is possible that EPA could design the FIP to enable the state to participate in a nationwide cap-and-trade system.

(2) Section 115

CAA section 115 creates a mechanism through which EPA can require states to amend their SIPs to address international transport issues. It is designed to protect public health and welfare in another country from air pollution emitted in the U.S. provided the U.S. is given essentially reciprocal rights with respect to prevention and control of air pollution originating in the other country. The Administrator could exercise his authority under this provision if EPA were to promulgate a NAAQS for GHG.

To act under section 115, the Administrator would need to make a finding that, based on information from any duly constituted international agency, he has reason to believe that air pollutants (GHGs) emitted in the U.S. causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country. Upon making such a finding, the Administrator would give formal notification to the Governor of the state (or in this case potentially all of the states) where GHGs originate. A finding under this section has the same regulatory consequences as a finding that the state's existing SIP is inadequate to attain the NAAQS or otherwise meet the requirements of the Act. This notification would require the notified states to modify their SIPs to prevent or eliminate the endangerment.

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[237] 40 CFR 52.31.

Addressing GHGs under this authority could allow some flexibility in program design, subject to limitations of the SIP development process. Section 115 could not be used to require states to incorporate into their SIPs measures unrelated to attainment or maintenance of a NAAQS. A factor to consider is that this section of the Act only applies where countries that suffer possible endangerment give reciprocal rights to the U.S. However, reciprocity with one or more affected countries may be sufficient to trigger section 115. We request comment on the efficacy of using section 115 as a mechanism to facilitate more effective regulation of GHGs through a NAAQS.

2. What Sources Would Be Affected?

Sections 108 and 109 impose no controls directly on sources, but instead establish the air quality benchmarks that control requirements would be designed to meet. The precise nature of these controls would be determined through federal and state programs, as established via SIPs and, for states failing to submit an approvable plan, FIPs. Considering that GHGs are emitted by a wide array of sources, it is likely that NAAQS implementation would result in controls on numerous stationary and mobile sources through sections 110 and 172.

The federal government could have less flexibility under the NAAQS approach to target control efforts toward particular groups of existing stationary sources. Under the traditional SIP approach, emissions controls on specific source categories would flow from independent state-level decisions, and could result in a patchwork of regulations requiring different types and levels of controls in different states. However, the SIP approach could also be adapted for use in a more coordinated strategy. As mentioned above, EPA has in the past issued rules that have resulted in states adopting limited interstate cap-and-trade programs (e.g., NO_x SIP Call and the Clean Air Interstate Rule) implemented through state SIPs. Furthermore, the federal government would also have flexibility to design a national control program in the event that states did not adopt the required programs and EPA were required to promulgate a FIP.

EPA requests comment on whether and how the different implementation provisions within the NAAQS program could be adapted to be most suitable for application to control GHGs.

3. What Would Be the Key Milestones and Implementation Timeline?

The key milestones that would apply if EPA were to regulate GHGs as a NAAQS pollutant include: listing the pollutant(s); issuing air quality criteria; issuing information on air pollution control techniques; proposing primary and secondary NAAQS for the pollutants; issuing final standards; designating areas; development of SIPs/FIPs; and application of control measures.

EPA has discretion with regard to the date of listing of a pollutant under section 108. The statute does not prescribe any specific deadline for listing, instead stating that EPA "shall from time to time * * * list * * * each air pollutant" that EPA judges meets the three criteria discussed above. This could provide the

Agency some latitude in determining the precise timing of any listing.

Once a pollutant is listed, the CAA specifies a very ambitious timeline for issuing the initial NAAQS for the pollutant. Section 108 allows 12 months between date of listing and issuance of air quality criteria for the pollutant(s). Since these criteria are intended to encompass "all identifiable effects on public health or welfare," it would be difficult to meet this timeline in the case of GHGs. In 1970, when the NAAQS program was first established under the CAA, air quality criteria either were in development or had already been issued for a variety of pollutants, and the process involved consideration of a much smaller body of science than is now available. Therefore, the 12-month period allotted for the initial issuance of air quality criteria appeared reasonable.[238] However, based on recent NAAQS reviews for ozone, particulate matter, lead, and other pollutants, it now generally takes several years for the Agency to complete the thorough scientific assessment necessary to issue air quality criteria.

Given the complexity of global climate change science, and the vast amount of research that would be relevant to the Agency's scientific assessment, EPA anticipates this task would be particularly time consuming in the case of GHGs, though relying on synthesis reports such as the Intergovernmental

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[238] For each air pollutant for which air quality criteria had already been issued prior to enactment of the Clean Air Act Amendments of 1970, section 109(a)(1) actually required EPA to issue proposed NAAQS within 30 days of enactment and to finalize those standards within 90 days of publication of the proposal. This included carbon monoxide, ozone, particulate matter, hydrocarbons, and sulfur oxides.

Panel on Climate Change's Fourth Assessment Report and various reports of the U.S. Climate Change Science Program could help expedite the process. The challenge of completing a thorough scientific assessment for GHGs could result in a significant delay in listing the pollutant(s) under section 108, since EPA would likely choose to list GHGs only when the scientific assessment had progressed sufficiently to enable the Agency to meet the statutory requirement to issue "air quality criteria" within one year of listing, and to meet the tight rulemaking timeframe, discussed below. To the extent that EPA addresses GHGs through this CAA mechanism, EPA requests comments on the issuance of "air quality criteria" following listing, as well as the adequacy of the available scientific literature.

Under section 109, EPA must propose NAAQS for any newly listed pollutant at the same time it issues air quality criteria under section 108, and must finalize those standards within 90 days after proposal. Thus, from the date of listing a pollutant(s) under section 108, the Agency has only 12 months to propose standards, and only 3 additional months to issue final NAAQS for the pollutant(s). This tight timeframe would be particularly challenging in the case of GHGs, for which review and synthesis of an enormous body of literature would be required before a proposal could be issued. Furthermore, it is important to note that while subsequent NAAQS reviews of existing standards are required on a revolving 5-year cycle, EPA has found it challenging to meet even this extended schedule, which generally allows 9-12 months between issuance of the air quality criteria and proposal and an additional 6 months or more for issuance of final standards.

Once a new standard has been established, the CAA allows EPA to establish a deadline for states to submit designation recommendations that is no later than one year after promulgation of the new or revised NAAQS. EPA then reviews the states' recommendations, collects and assesses additional information as appropriate, and issues final designations no later than 2 years following the date EPA promulgated the new or revised NAAQS. EPA may take up to one additional year if the Administrator has insufficient information to promulgate the designations, which could push the date of final designations out to three years after promulgation of a new GHG NAAQS.

The timeline for SIP submittal and implementation of control requirements depends an area's designation status (attainment, nonattainment, unclassifiable) and whether there is only a secondary NAAQS, or both a primary and a secondary standard. These various scenarios are described above. As a first step, regardless of attainment status of level of the standard, states must submit infrastructure SIPs to EPA within 3 years of the promulgation of any new or revised NAAQS. These SIPs demonstrate that certain basic program elements (including emissions inventories, monitoring, and modeling) are properly addressed. Areas that are designated attainment would face a much shorter list of requirements, which are discussed above in the context of, Scenarios 3 and 4.

For areas designated nonattainment with a primary standard, states must submit nonattainment SIPs no more than 3 years after the effective date of designations, and must reach attainment no later than 5 years after the effective date designations. EPA can extend the attainment deadline by up to an additional 5 years—i.e., to no later than 10 years after the effective date of designations, if EPA finds additional time is needed considering the severity of nonattainment and the availability and feasibility of pollution control measures.

As noted above, the maximum 10-year horizon for attaining the primary NAAQS is ill-suited to pollutants such as GHGs with long atmospheric residence times. It is probable that, despite active control efforts, the entire U.S. would remain in nonattainment for an indefinite number of years if the level of a NAAQS were set at or below current atmospheric concentrations; whether attainment would ever be reached would depend on the timing and stringency of GHG control measures implemented on a global basis.

For areas designated nonattainment with a secondary standard only, the attainment schedule could be significantly longer. The CAA requires that state plans under a secondary standard must provide for reaching attainment as expeditiously as practicable, but there is no statutory maximum date for attainment (e.g., up to 10 years). EPA requests comment on the suitability of adapting this approach for use in the GHG context, and specifically, on the schedule that could reasonably be considered as "expeditious as practicable." We also request comment on how global emissions should be taken into consideration in this context.

EPA requests comment on whether the avenues discussed in this notice, or alternative approaches, could facilitate schedule adjustments that would better enable use of the NAAQS approach for regulating GHGs.

4. What Are Key Considerations Regarding Use of This Authority for GHGs?

a. Possible Cost and Emissions Impacts

Listing GHGs as pollutants under section 108 and setting NAAQS under section 109 would have no direct cost or emissions impacts. However, these actions would trigger further federal actions, including designations under section 107, and state or federal actions through SIPs or FIPs developed under section 110 and other provisions in title I of the CAA. Thus, the listing of GHGs as NAAQS pollutants would likely lead to the adoption of a substantial control program affecting sources across the nation.

Because establishing NAAQS for a pollutant sets in motion a broad and prescriptive implementation process that could affect a wide array of stationary and mobile sources, it is likely to entail substantial costs. The magnitude of these costs would depend, in part, on the relative reliance on technologies which are not yet suitable for commercial application or which have not yet been developed. Though this problem affects other pollutants, it is more acute in the case of GHGs. The timing and nature of controls instituted, and thus the costs, would depend to a significant extent on an area's designation status and whether EPA set only a secondary NAAQS (with a longer implementation time horizon), or a primary standard as well (with a more rapid and rigid compliance schedule, allowing less time for technological advances and efficiency improvements). The standard set and the nature of GHGs could also determine whether it is feasible to attain a NAAQS in the near-term, or how costly attainment could be over a longer term.

One important aspect of the NAAQS approach is that the standards themselves (both primary and secondary) are established without consideration of these costs. EPA requests comment on the suitability of establishing regulations to limit atmospheric concentrations of GHGs through a statutory mechanism that prohibits consideration of the costs such regulations might entail. EPA also requests comment on the extent to which various implementation mechanisms in Title I are available for addressing such costs.

As mentioned above, CAA section 108 requires EPA to issue information on air pollution control techniques at the same time it issues air quality criteria. This would include information on the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impacts. Generally, the Agency fulfills this obligation at the time a standard is issued; as required under Executive Order 12866, EPA must issue an RIA for major rulemaking actions. A NAAQS RIA provides an illustrative analysis of control options available to reduce emissions and ambient concentrations of the regulated pollutant(s); evaluates the costs of these controls; and estimates the human health and environmental benefits likely to accrue from the improved air quality resulting from the standards.

As required by EO 12866 and guidance from OMB, the analysis generally compares control options and estimated costs and benefits of multiple, specific standard options under consideration. While EPA recognizes the cost estimates for future GHG control technologies would potentially place more reliance on yet-to-be-developed options, the precedent exists for consideration of future, unknown controls. EPA requests comment on whether there are important distinctions between GHGs and previously regulated criteria pollutants that would make it appropriate in the case of a new NAAQS for GHG(s) to issue a separate air pollution control techniques document earlier in the process, specifically in conjunction with the air quality criteria as required by section 108, or whether such information is more useful if tailored to specific standard options under consideration, as in the RIA.

b. Technology Development and Leakage

Two of the policy design considerations noted in section III.F.1 include the potential to promote technology development and to address potential concerns about shifting emissions to other countries. The NAAQS establish standards based on ambient concentrations that must be attained and maintained everywhere, and are implemented through SIPs that establish emissions budgets consistent with meeting the standards. The limited emissions budget encourages state and local areas and affected sources to work together to identify least-cost emissions controls to meet their SIP obligations and reduce ambient concentrations of the regulated pollutant(s). The NAAQS requirements help create market demand for technologies that can assist in meeting air quality standards at the least cost. As discussed in Section III.C of this notice, this process has encouraged significant technological innovation. EPA requests comment on the extent to which the NAAQS can be an effective mechanism for encouraging technological innovation and development of least-cost controls for GHG emissions.

The 10-year maximum timeline for attaining a primary NAAQS would allow some time for development and deployment of emerging technologies, but longer timelines available under other forms of the NAAQS would provide greater flexibility to provide continuous incentives over a longer time period for major technology advances, and more time to deploy new technologies that are developed. EPA requests comment on the extent to which a GHG NAAQS could reasonably be expected to advance new control technologies, and on what timeframe.

With respect to the leakage issue, establishing a primary NAAQS could lead to high costs among affected industries unless a viable approach is identified to limit the control burden on U.S. sources. Because the standards themselves are set without consideration of cost or availability of control technologies, and because states would be required to adopt a plan to attain a primary standard within 10 years of designation, the NAAQS approach might offer less flexibility to delay emissions reductions in the absence of effective control technologies or when costs are prohibitive. This consideration may be particularly relevant in the case of GHGs, where highly efficient control technologies or mitigation options are currently limited, and where critical new control strategies, such as carbon capture and storage, are still in the early stages of development. In these instances, industries that are unable to locate cost-effective control strategies may consider relocating to non-regulated locations, resulting in significant emissions leakage.

We request comment on the cost-effectiveness of utilizing a NAAQS approach to regulating GHGs, and on the extent to which this approach might be expected to result in emissions leakage, especially as compared to other potential regulatory approaches outlined in this notice.

c. Summary of Opportunities and Challenges Afforded by NAAQS Pathway

Regulating GHGs through a NAAQS offers certain opportunities; however, there are also significant technological, legal and program design challenges that would tend to limit the appropriateness of the NAAQS program.

NAAQS are based purely on preventing adverse health and environmental impacts, rather than on considerations of cost, feasibility, or availability of technology. Our expectation is that the NAAQS approach would establish a goal tied to actual ambient concentrations of GHGs. A NAAQS would call for assessment of potential control strategies for a broad array of sources, rather than focusing only on emissions reductions from a specified (but potentially limited) list of sources. The NAAQS approach would allow for some flexibility in the design of control strategies and requirements, including the possibility of a cap-and-trade approach, and might spur significant technological innovation. It would provide a mechanism for reducing GHG emissions from current sources and limiting the growth of emissions from new sources. If the facts supported adopting only a secondary standard, this would somewhat reduce the specific obligations on states, and would allow a suitably extended timeline for achieving the emissions reductions necessary to stabilize and then reduce ambient GHG concentrations.

Though such an approach has the potential to be effective in reducing emissions, there would be a number of obstacles to overcome. Chief among these is that if worldwide (non-U.S.) emissons were to continue increasing, global concentrations of GHGs would continue to increase despite U.S. emission control efforts, and the NAAQS would be unachievable (depending on the level of the standards) even if U.S. emissions were reduced to zero. Unless viable legal approaches could be identified for limiting the control burden on U.S. sources, such as by defining a U.S. share of the emissions reductions needed to attain a NAAQS, the NAAQS approach would result in an expensive program. It would not achieve the adopted GHG NAAQS due to foreign emissions growth, although U.S. emissions reductions would be achieved. If the result of a NAAQS were stringent unilateral controls for vulnerable industries, this would encourage emissions leakage in the absence of comparable control efforts abroad.

Especially if the Agency were to set a primary as well as a secondary standard, a NAAQS would trigger a relatively rigid implementation apparatus, limiting the Agency's flexibility to target cost-effective emissions reductions and to shift the burden of control requirements among different industries based on the availability of new technological approaches. The lack of flexibility allowed under the CAA for many of the NAAQS implementation requirements—especially those affecting areas designated nonattainment with a primary standard—makes them difficult to adapt effectively for application in the GHG context. For example, it would be challenging to apply requirements for transportation conformity under a GHG NAAQS, or for states to develop attainment demonstration SIPs. As discussed in section IV.E, a nonattainment new source review program requiring for GHGs would dramatically expand the scope of the preconstruction permitting program to include smaller sources and new types of sources such as apartment buildings with natural gas heat, unless EPA were successful in applying legal theories that justify deviating from statutory language. This would pose substantial administrative feasibility and cost issues. While implementation of an attainment-level NAAQS would involve fewer specific requirements, this avenue would only apply if the standard set by EPA under section 109 resulted in attainment designations. Section 109 calls for standards to be set based on science-based criteria, which exclude consideration of the cost or efficiency of the implementation requirements in determining the level of the standard.

We note that while the NAAQS implementation system is state-based, legislative proposals have focused on establishing federally administered national cap-and-trade strategies to address the global climate problem.

In closing, we request comment on our assessment of NAAQS approaches, and on how the NAAQS approach compares to other potential CAA approaches in light of the policy principles enunciated in section III.F.1.

5. Possible Implications for Other CAA Provisions

Listing a pollutant under section 108(a)(1) would preclude listing under section 112 or regulation under section 111(d), but would not preclude listing and regulation under section 111(a)-(c) New Source Performance Standards (NSPS) provisions as described below. Similarly, regulation of GHGs under section 111(a)-(c) NSPS provisions, as discussed further in other sections of today's notice, would not preclude regulation of those pollutants through a NAAQS, although controls implemented through these provisions might influence the Agency's perspective on the appropriateness of establishing air quality criteria for GHGs. EPA requests comment on the extent to which regulatory action under section 111 could be considered in the context of exercising authority under section 108 relevant to GHGs.

B. Standards of Performance for New and Existing Sources

CAA section 111 provides EPA with authority to set national performance standards for stationary sources. There are two alternative pathways for using section 111 to regulate GHGs—as part of an implementation program for a GHG NAAQS or as a freestanding program.

- In the event of a GHG NAAQS, section 111 authorizes EPA to set emissions performance standards for new and modified sources but not for unmodified existing sources.

- In the absence of a GHG NAAQS, section 111 offers the potential for an independent, comprehensive program for regulating most stationary sources of GHGs, except to the extent GHG emissions are regulated under section 112

Section 111 provides for consideration of cost, and allows substantial discretion regarding the types and size of sources regulated. As with most other CAA authorities, however, establishment of a section 111 standard for any source category of GHGs would trigger preconstruction permitting requirements for all types of GHG major sources under the PSD program.

The Stationary Source TSD for this ANPR identifies some specific industry sectors that EPA has evaluated for their emissions of multiple pollutants, including GHGs. EPA requests comment on this analysis. In addition, EPA requests comment on GHG emissions from these and all other categories and subcategories that have been subject to section 111 standards and on the relative costs that could be associated with employing certain identified control technology or practices affecting GHG emissions, including any positive or negative impacts on the emissions of traditional pollutants.

1. What Does Section 111 Require?

Section 111 establishes two distinct mechanisms for controlling emissions of air pollutants from stationary sources. Section 111(b) provides authority for EPA to promulgate New Source Performance Standards (NSPS) which may be issued regardless of whether there is a NAAQS for the pollutant being regulated, but apply only to new and modified sources. Once EPA has elected to set an NSPS for new and modified sources in a given source category, section 111(d) calls for regulation of existing sources with certain exceptions explained below. Taken together, the section 111 provisions could allow significant flexibility in regulation that may not be available under other CAA Title I provisions.

a. Section 111(b) New Source Performance Standards

Section 111(b) of the CAA requires EPA to establish emission standards for any category of new and modified stationary sources that the Administrator, in his judgment, finds "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." EPA has previously made endangerment findings under this section for more than 60 stationary source categories and subcategories that are now subject to NSPS.[239] An endangerment finding would be a prerequisite for listing additional source categories under section 111(b), but is not required to regulate GHGs from source categories that have already been listed.

For listed source categories, EPA must establish "standards of performance" that apply to sources that are constructed, modified or reconstructed after EPA proposes the NSPS for the relevant source category.[240] However, EPA has significant discretion to define the source categories, determine the pollutants for which standards should be developed, identify the facilities within each source category to be covered, and set the level of the standards. In addition, EPA believes that the NSPS program is flexible enough to allow the use of certain market-oriented mechanisms to regulate emissions, as discussed below.

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[239] EPA has developed NSPS for more than 70 source categories and subcategories. However, endangerment findings apply to the categories as a whole, while subcategories within them have been established for purposes of creating standards that distinguish among sizes, types, and classes of sources.

[240] Specific statutory and regulatory provisions define what constitutes a modification or reconstruction of a facility. 40 CFR 60.14 provides that an existing facility is modified, and therefore subject to an NSPS, if it undergoes "any physical change in the method of operation . . . which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." 40 CFR 60.15, in turn, provides that a facility is reconstructed if components are replaced at an existing facility to such an extent that the capital cost of the new equipment/components exceed 50 percent of what is believed to be the cost of a completely new facility.

As implemented over many years by EPA, the NSPS program has established standards that do not necessarily set emission limits for all pollutants or even all regulated pollutants emitted by sources within the relevant source category. Rather, the NSPS generally focus on specific pollutants of concern for a particular source category. Air pollutants currently regulated through section 111(b) include the criteria pollutants listed under section 108 and certain additional pollutants. These additional pollutants are acid mist, fluorides, hydrogen sulfide in acid gas, total reduced sulfur, and landfill gas. EPA has discretion to revise an existing NSPS to add standards for pollutants not currently regulated for that source category, but has interpreted the section to not require such a result when an NSPS is reviewed pursuant to section 111(b)(1)(B). That section requires EPA to review and, if appropriate, revise NSPS every eight years unless the Agency determines that such review is not appropriate in light of readily available information on the efficacy of the standard.

Further, in contrast to other provisions in the CAA which require regulation of all sources above specific size thresholds, section 111 gives EPA significant discretion to identify the facilities within a source category that should be regulated. To define the affected facilities, EPA can use size thresholds for regulation and create subcategories based on source type, class or size. Emission limits also may be established either for equipment within a facility or for an entire facility.

EPA also has significant discretion to determine the appropriate level for the standards. Section 111(a)(1) provides that NSPS are to "reflect the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated." This level of control is commonly referred to as best demonstrated technology (BDT). In determining BDT, we typically conduct a technology review that identifies what emission reduction systems exist and how much they reduce air pollution in practice. This allows us to identify potential emission limits. Next, we evaluate each limit in conjunction with costs, secondary air benefits (or disbenefits) resulting from energy requirements, and non-air quality impacts such as solid waste generation. The resultant standard is commonly a numerical emissions limit, expressed as a performance level (i.e., a rate-based standard). While such standards are based on the effectiveness of one or more specific technological systems of emissions control, unless certain conditions are met, EPA may not prescribe a particular technological system that must be used to comply with a NSPS. Rather, sources remain free to elect whatever combination of measures will achieve equivalent or greater control of emissions.

It is important to note that under section 111, the systems on which a standard is based need only be "adequately demonstrated" in EPA's view such that it would be reasonable to apply them to the regulated category. The systems, and corresponding emission rates, need not be actually in use or achieved in practice at potentially regulated sources or even at a commercial scale. Further, EPA believes that if a technology is "adequately demonstrated" for use at a date in the future, EPA could establish a future-year standard based on that technology. This would allow EPA to develop two- or multi-phased standards with more stringent limits in future years that take into account and promote the development of technology.

Costs are also considered in evaluating the appropriate standard of performance for each category or subcategory. We generally compare control options and estimated costs and emission impacts of multiple, specific emission standard options under consideration. As part of this analysis, we consider numerous factors relating to the potential cost of the regulation, including industry organization and market structure; control options available to reduce emissions of the regulated pollutant(s); and costs of these controls. Frequently, much of this information is presented in the Regulatory Impact Analysis (RIA) that is required for all major rulemaking actions.

b. Section 111(d) Emissions Guidelines for Existing Sources

Section 111(d) requires regulation of existing sources in specific circumstances. Specifically, where EPA establishes a NSPS for a pollutant, a section 111(d) standard is required for existing sources in the regulated source category except in two circumstances. First, section 111(d) prohibits regulation of a NAAQS pollutant under that section. Second, "where a source category is being regulated under section 112, a section 111(d) standard of performance cannot be established to address any

HAP listed under 112(b) that may be emitted from that particular source category."[241]

Section 111(d) also uses a different regulatory mechanism to regulate existing sources than section 111(b) uses for new and modified sources in a source category. Instead of giving EPA direct authority to set national standards applicable to existing sources in the source category, section 111(d) provides that EPA shall establish a procedure for states to issue performance standards for existing sources in that source category. Under the 111(d) mechanism, EPA first develops regulations known as "emission guidelines." These may be issued at the same time or after an NSPS for the source category is promulgated. Although called "guidelines," they establish binding requirements that states are required to address when they develop plans to regulate the existing sources in their jurisdictions. These state plans are similar to state implementation plans and must be submitted to EPA for approval. Historically, EPA has issued model standards for existing sources that could then be adopted by states. Under this approach, creating an interstate trading system would require adoption of compatible state rules promoted by EPA rules and guidance. In the event that a state does not adopt and submit a plan, EPA has authority to then issue a federal plan covering affected sources.

Section 111(d) guidelines, like NSPS standards, must reflect the emission reduction achievable through the application of BDT. However, both the statute and EPA's regulations implementing section 111(d) recognize that existing sources may not always have the capability to achieve the same levels of control at reasonable cost as new sources. The statute and EPA's regulations in 40 CFR 60.24 permit states and EPA to set less stringent standards or longer compliance schedules for existing sources where warranted considering cost of control; useful life of the facilities; location or process design at a particular facility; physical impossibility of installing necessary control equipment; or other factors making less stringent limits or longer compliance schedules appropriate.

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[241] See 70 FR 15994, 16029-32 (Mar. 29, 2005).

2. What Sources Could Be Affected?

Section 111 has been used to regulate emissions of traditional and nontraditional air pollutants from a broad spectrum of stationary source categories. EPA has already promulgated NSPS for more than 70 source categories and subcategories and we could add GHG emission standards, as appropriate, to the standards for existing source categories.[242] EPA has begun a review of the existing NSPS source categories to determine whether it would be appropriate to regulate GHG emissions from sources in each category. In addition, EPA is in the process of responding to a remand from the D.C. Circuit requiring it to consider whether to add standards for GHGs to the NSPS for utility boilers, and EPA has received suggestions that it would be appropriate to add such standards to the NSPS for Portland cement kilns.[243]

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[242] Some of the existing source categories are very broad, comprising an entire industrial process such as steel making, while others are narrowly defined as a single piece of equipment within a broader production process. Examples of source categories subject to NSPS are fossil fuel-fired boilers, incinerators, sulfuric acid plants, petroleum refineries, lead smelters, and equipment leaks of VOCs in the synthetic organic chemicals manufacturing industry. A complete list of the NSPS source categories is found at 40 CFR part 60.

To determine whether regulation of GHGs is appropriate for existing categories, we must evaluate whether it is reasonable to do so given the magnitude of emissions and availability of controls, considering the costs of control. Decisions in this regard could be influenced by several factors, including the magnitude of the GHG emissions from a source category; the potency of the particular GHG emitted; whether emissions are continuous, seasonal or intermittent; the availability of information regarding the category's GHG emissions; and whether regulating GHG emissions from the source category would be beneficial. EPA requests comment on the extent to which these factors should, if at all, influence EPA's decisions whether to add standards to existing NSPS and what additional factors should be taken into consideration. EPA also requests comment on which of the previously regulated categories might be appropriate for GHG regulation and on the information on which such judgments might be based.

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[243] The NSPS for Petroleum Refineries were recently amended, resulting in the promulgation of new Subpart Ja. These performance standards include emission limitations and work practice standards for fluid catalytic cracking units, fluid coking units, delayed coking units, fuel gas combustion devices, and sulfur recovery plants. As such, they regulate criteria pollutant emissions from the processes that are also responsible for most of the refinery GHG emissions. During the public comment period for Subpart Ja, we received several comments in favor of developing new source performance standards to address GHG emissions from refineries. However, we declined to adopt standards for GHG emissions in that rulemaking, in part because while doing so was within our discretion, we believed that it was important to fully consider the implications for programs under other parts of the CAA before electing to regulate GHG under section 111. This is a fundamental purpose for today's notice and request for comments.

To inform the public of EPA's analytical work to date, we have provided descriptions of key industrial sectors, their GHG emissions, and information that we have collected to date on GHG control options for those sectors in the Stationary Source TSD in the docket for today's notice. It is important to note that, as described further in the technical support materials, many near-term technologies or techniques for reducing GHG, e.g., energy efficiency or process efficiency improvements, are relatively cost effective and achieve modest emission reductions when compared with the potential of some add-on control techniques. Other controls may become available in the future whose costs and emission reduction effectiveness may differ substantially from what is discussed here today. The Stationary Source TSD also discusses various mechanisms, such as cap-and-trade programs or emissions averaging approaches across facilities or industries, that can help reduce costs of reducing emissions. EPA requests comment on the availability and extent of its legal authority for such mechanisms.

In addition to regulating GHGs from previously listed source categories, section 111 provides discretionary authority to list new source categories, or reformulate listed source categories, for purposes of regulating of GHG emissions. For example, such categories could include sources of emissions covered by existing NSPS source categories as well as sources not currently covered by any NSPS. One option available to EPA is the reorganization of source categories for purposes of GHG regulation. In creating new categories to be used for regulation of GHGs, EPA could consider factors unique to GHG emissions. For example, EPA could take into account concerns about emissions leakage (discussed in section III.F.5 of this notice), and structure categories to minimize opportunities for shifting emissions to other source categories. EPA could also explore how the rearrangement of source categories could facilitate netting arrangements through which a more broadly defined "source" could avoid triggering an GHG NSPS by off-setting its increased GHG emissions.[244] In addition, EPA could structure categories to take into account possible reductions from improvements at non-emitting parts of the plants, for example, by creating source categories that cover all equipment at particular plants, instead of using categories that cover only specific types of equipment at a plant. EPA invites comment on whether such rearrangement would be appropriate and what type of rearrangement would be desirable. We also solicit information on how rearrangement could facilitate netting and how we might structure such netting.

An alternative, or complementary, scenario would be to create larger "super-categories" covering major groupings of stationary sources of GHG emissions. For example, it might be possible to create process-based categories (i.e., all sources emitting CO2 through a stack as a result of combustion processes) or vertically integrated categories which take more of a life-cycle approach to the control of GHG emissions and reduce the possibility of leakage of GHG reductions to other parts of the economy or other geographic regions.[245] The creation of such "super-categories" might provide additional opportunities for the development of innovative control mechanisms such as cap-and-trade programs covering multiple industry sectors. In light of these considerations, EPA requests comment on whether the creation of such "super categories" would be appropriate and what categories would be most useful for regulating GHGs.

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[244] We recognize that the Court in Asarco Inc. v. EPA, 578 F.2d 326 (D.C. Cir. 1978) struck down an NSPS provision that allowed netting. The provision at issue there, however, permitted netting between sources, not within a source. See Alabama Power v. EPA, 636 F.2d 323, 401-02 (D.C. Cir. 1980).

Under either option, EPA possesses authority to distinguish among classes, types and sizes of sources within existing categories for purposes of regulating GHG emissions. For example, we have at times distinguished between new and modified/reconstructed sources when setting the standards. This may be appropriate, for instance, when a particular new technology may readily be incorporated into a new installation, but it may be technically infeasible or unreasonably costly to retrofit this technology to an existing facility undergoing modification or reconstruction. Alternatively, we have distinguished among sources within a category, for instance fossil fuel-fired boilers, for which we have subcategorized on the basis of fuel types (e.g., coal, oil, natural gas). EPA requests comment on what considerations are relevant to determining whether it is appropriate and reasonable to establish subcategories for regulation under section 111.

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[245] For instance, a "super-category" could be created encompassing all aspects of the production, processing, and consumption of petroleum fuels, or to regulate the production and consumption of fossil fuels for heat and power, addressing all aspects of emissions-producing activity within a sector, including fuel production, consumption, and energy conservation.

3. What Are Possible Key Milestones and Implementation Timelines?

a. Priority Setting Among Source Categories

If EPA were to pursue section 111 regulation of GHGs, timetables for regulation would depend upon how EPA prioritized among source categories to determine which categories should be regulated first. In the near term, it may be possible to address GHGs under section 111 in a limited fashion by establishing control requirements for new and existing sources in some number of existing source categories, while information is developed on other source categories. Actions under other portions of the CAA may involve longer lead times to develop and implement, so that standards under section 111 for certain source categories could provide for emission reductions in the interim. We have begun to examine source categories subject to existing NSPS and other standards to consider how we might determine priorities among them for review and revisions, and whether GHGs could be addressed for specific sectors in a more coordinated, multi-pollutant fashion. EPA requests comment on the availability of its legal authority, if any, to prioritize among source categories in the event that regulation under section 111 was pursued.

Under a "prioritization" approach, EPA could seek to revise standards earliest for those categories offering the greatest potential for significant reductions in the emissions of covered pollutants, and either deferring action or determining that no further action is necessary or appropriate at this time for other categories. This conclusion could be based, for example, on the lack of significant improvements in technology since the last NSPS review or the fact that no new sources are considered to be likely in the foreseeable future.

Another possibility might be to schedule and structure the review and revision of standards for source categories to account for the fact that, in addition to the need to address GHG emissions, they may be subject to multiple standards for different pollutants under several sections of the CAA. Such standards may often be subject currently to different review timetables resulting from when these standards were last established or revised. In addition, as discussed in section III.D of today's notice, they may have the potential for positive or negative interactions with one another and with opportunities for the control of GHG emissions.

Still another approach might consider the impacts of future reduction opportunities or enacted legislation so that standards under section 111 might focus initially on source categories for which near-term benefits might result largely from efficiency improvements which do not result in "stranded capital," or investment in systems that will be superseded by more effective systems that we determine will be available at some specific future date. Alternatively, standards could focus on those sectors of the economy which will not likely be subject to controls being addressed in enacted legislation.

We request comment on EPA's available legal authority, if any, to defer action with respect to any "class" of section 111 source categories or subcategories as well as how and under what circumstances EPA could also consider such approaches to the identification of source categories for standards to address GHGs. Assuming the existence of adequate authority, what, if any, additional criteria should be considered in our priority-setting analysis efforts? In considering such sector- or multi-pollutant-based approaches, we further request comment on the extent to which we could establish new or revised source categories which better accommodate these approaches, or whether we are bound by existing source categories and their definitions.

b. Timetables for Promulgation and Implementation

In our experience, collecting and analyzing information regarding available control technologies, resulting emission reductions, and cost effectiveness can take up to several years for a source category. However, this time period can be shortened to 1½ to 2 years when information is readily available or is presented to the Agency in a form that facilitates efficient consideration. With respect to GHGs, there has been significant effort devoted to identifying and evaluating ways to reduce emissions within sectors such as the electricity generating industry, and we are aware of the potential for GHG reductions through energy efficiency and other means within other industries. However, for many others, technologies for reducing GHG emissions have not yet been identified or evaluated by EPA. EPA requests comment on whether and how the availability of current information should be considered when considering regulation under section 111.

As is the case with traditional pollutants, any new or revised NSPS for new and modified sources of GHGs under section 111(b) would be developed through a notice and comment rulemaking process and would be effective upon promulgation. As noted previously, EPA is also required to review, and if appropriate revise, existing NSPS every 8 years unless the Administrator determines that "such review is not appropriate in light of readily available information on the efficacy of such standard." Standards for pollutants not regulated by the existing NSPS may be added concurrent with the 8-year review, but such additions are not part of that review process.

Any section 111(d) emission guidelines associated with the revised NSPS standards would be promulgated either along with or after the NSPS. States are generally required to submit the required state plans containing the standards of performance applicable to existing sources in their jurisdictions within 9 months of EPA's promulgation of the guidelines.

In the case of existing sources regulated under section 111(d), affected sources are typically provided up to 3 years to comply with any resulting requirements; however, states have flexibility to provide longer or shorter compliance timeframes based on a number of source-specific factors. In addition, where we determine that a technology has been adequately demonstrated to be available for use by some particular future date, we believe it is possible to establish timeframes for compliance that reflect this finding.[246]

No explicit 8-year review requirement exists with regard to section 111(d) standards for existing sources. Nonetheless, it also may be appropriate to require existing source plans to periodically revise their control strategies to reflect changes in available technologies and standards over time, particularly where the existing limitations were based on more limited controls at the time they were established. EPA requests comment on its authority and the advisability of such periodic updating with respect to the possible control of GHG.

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[246] See Portland Cement Association v. EPA, 486 F.2d 275 (D.C. Cir. 1973).

The CAA and EPA's regulations implementing section 111(d) permit states to consider a number of factors when determining the level of stringency of controls, but do not establish a bright line test when stricter requirements for existing sources are warranted. Many of these sources may also be subject to requirements for the control of other non-section 111(d) pollutants as part of implementation plans to attain and maintain NAAQS for one or more pollutants, and in some cases, these provisions may result in more stringent coincidental control of section 111(d) pollutants. We request comment on how and when we should evaluate, review, and revise as appropriate any section 111(d) standards that might be established in the future for GHGs.

4. What Are the Key Considerations Regarding Use of This Authority To Regulate GHGs?

a. Key Attributes and Limitations of Section 111

As noted above, section 111 possesses certain flexible attributes that may be useful in tailoring emissions standards to address GHG emissions. Yet, regulation under this section also has important limitations. This section of today's notice briefly summarizes these attributes and limitations. We request comment on how these attributes and limitations relate to the policy design considerations set forth in section III.F.1.

Program scope: Section 111 provides EPA with authority to regulate GHG emissions from stationary source categories, but does not require EPA to regulate GHGs emitted by all source categories or even all listed source categories. EPA has flexibility to identify the source categories for which it is appropriate to establish GHG limits. For example, EPA could decide to set GHG limits for those source categories with the largest GHG emissions and reduction opportunities. EPA could postpone or decline to set GHG limits for source categories for which emissions contributions may be small or for which no effective means of reducing emissions exist, currently or within the reasonably foreseeable future. EPA also could consider traditional air pollutants as well as GHGs in setting its overall priorities for the NSPS program.

Source size: Section 111 does not require regulation of all sources above a certain size. Instead, EPA has discretion to use rational emission thresholds to identify which facilities within a source category are covered by NSPS standards.

Consideration of cost: Section 111 explicitly directs EPA to take "into account the cost of achieving" emission reductions, as well as other nonair quality, health and environmental impact and energy requirements." This gives EPA significant flexibility to determine of appropriate levels of control, and can be an important source of distinctions between requirements for new sources and those for modified or reconstructed sources.

Potential for emissions trading: As EPA has interpreted the NSPS requirements in the past with respect to certain air pollutants, we believe that the NSPS program could use emissions trading, including cap-and-trade programs and rate-based regulations that allow emissions trading, to achieve GHG emission reductions. EPA believes such programs are consistent with the statutory requirements because they satisfy the three substantive components of the section 111(a)(1) definition of "standard of performance"—(1) a standard for emissions of air pollutants; that (2) reflects that degree of emission limitation available"; and (3) "constitutes the best system of emission reduction." A cap-and-trade program can constitute a "standard for emissions of air pollutants" because it is a system created by EPA for control of emissions. The use of emissions budgets does not make the system less of a "standard" since the budgets must be met regardless of the methodology used to allocate allowances to specific sources. Further, any such system would be based on our assessment of the overall degree of emission reduction available for the source category and our analysis of the available systems of emission reductions. EPA could select a market-oriented mechanism as the "standard of performance" if these analyses (including cost analyses) indicate that the system would "reflect the degree of emission limitation achievable" and "constitute the best system of emission reduction." EPA also believes that trading among new and existing sources could be permitted, and could offer, at least in some cases, cost efficiencies.[247] EPA also believes that because of the potential cost savings, it might be possible for the Agency to consider deeper reductions through a cap-and-trade program that allowed trading among sources in various source categories relative to other systems of emission reduction. We request comment on the extent of EPA's available legal authority in this area as well as the attributes such a program must possess to qualify as a standard of performance under section 111.

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[247] In the Clean Air Mercury Rule we concluded that new sources needed to comply with a unit specific control requirement in addition to participating in the trading program. We solicit comment on whether section 111 requires such controls for new sources or if it would be sufficient for them to participate in a trading program or other market based mechanism without this restriction. While not ensuring an equally stringent level of control at each new source, the latter approach would be expected

Potential for declining performance standards: EPA believes that section 111 authority may be used to set both single-phase performance standards based upon current technology and to set two-phased or multi-phased standards with more stringent limits in future years. Future-year limits may permissibly be based on technologies that, at the time of the rulemaking, we find adequately demonstrated to be available for use at some specified future date. Alternatively, it may be possible to establish a goal based on future availability of a technology and to revise the standard to reflect technological advancements at appropriate intervals, such as the 8-year review cycles. We believe these concepts could be applied to standards for new and modified sources, as well as to standards for existing sources under section 111(d). In addition, this concept could be coupled with emissions trading.

We recognize that various legal issues and questions concerning legal authority may be involved in setting standards based on technology only adequately demonstrated for use at a future date. For example, there might be greater uncertainty regarding the cost of technology for such standards than for standards

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to achieve the same total emissions reductions at a lower overall compliance cost.

based only on technology that is already commercially demonstrated at the time of promulgation. In the Clean Air Mercury Rule (CAMR), which was vacated by the D.C. Circuit on other grounds, EPA interpreted section 111 to allow a two-phased "standard of performance" to reduce mercury emissions from existing sources. The compliance date for the more stringent second phase was 2018. EPA believed that it had greater flexibility to set such a standard for existing sources under section 111(d) because these standards, in contrast to section 111(b) standards for new sources, are not subject to the requirements of section 111(e). Section 111(e) makes unlawful to operate any new source in violation of a standard of performance after its effective date. EPA requests comment on this interpretation. We also request comment on the circumstances under which the requirements of section 111(e) would be satisfied by a standard requiring compliance with the initial requirements of a multi-phase standard. More generally, EPA seeks comment on its legal authority in this matter as well as the legal and factual conditions that must be satisfied to support a multi-phase standard with future-year standards based on technology adequately demonstrated for use by that future date. EPA also seeks comment on how far into the future multi-phase standards could extend and the degree of certainty with which EPA must make its determinations of availability for future use, considering the section 111 standard setting language.

Technology development: Section 111 also contains a waiver provision that can be used to encourage the development of innovative technologies, as described below.

Standards tied to available technology: The fact that section 111 requirements are based upon a demonstration of the availability of control technology could limit the amount of reductions achievable through section 111 regulations to demonstrably feasible and cost-effective levels. If a given level of overall emission reduction is determined to be necessary and that level exceeds what is currently demonstrated to be feasible now or by some future date, then section 111 may not provide adequate authority by itself to achieve needed reductions. Although section 111 provides certain opportunities and incentives for technology development, this feature may make it more difficult to set "stretch goals" without other companion mechanisms.

In light of these considerations, we request comment on whether and to what extent section 111 provides an appropriate means for regulating GHG emissions.

b. Additional Considerations

We also request comment on the questions presented below which relate to the manner in which EPA could or should exercise its authority under this section to regulate GHGs.

i. What Regulatory Mechanisms Are Available?

As noted above, NSPS standards and 111(d) emission guidelines most commonly establish numerical emission standards expressed as a performance level. Such rate-based limits, however, are not the only mechanisms that could be used to regulate GHGs.

Efficiency Standards: We believe that most reductions in stationary GHG emissions may occur initially as the result of increased energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes that could reduce inputs of carbon or other GHG- generating materials. Such emission reductions may range in the near term (e.g., 5-10 years) from 1 to 10%. Thus, it could be possible to utilize NSPS standards to ensure reductions from efficiency improvements are obtained. For such standards to be effective, they likely would generally need to apply to the entire facility, not just specific equipment at the facility. EPA requests comment on the availability of its legal authority in this area and whether and when it might be appropriate to establish efficiency standards for source categories as a way of reducing GHG emissions.

Plant-wide standards: EPA also believes there may be benefits to developing plant-wide or company-wide standards for GHG emissions. Section 111, however, requires each affected facility to comply with the standard. EPA believes that it could redefine the affected facility for certain categories, for purposes of GHG regulation only, to include an entire plant. EPA also requests comment on whether it would be consistent with the statutory requirements to establish company-wide limits.

Work practice standards: In some circumstances, it may not be possible to identify a specific performance level for sources in a particular category; however, section 111(h) permits promulgation of design, equipment, work practice, or operational standards but allows such standards to be established only in specific circumstances. Specifically, it provides that where we determine "that (A) a pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State, or local law, or (B) the application of measurement methodology to a particular class of sources is not practicable due to technological or economic limitations," we may establish a "design, equipment, work practice, or operational standard, or combination thereof, which reflects the best technological system of continuous mission reduction which . . . has been adequately demonstrated." EPA requests comment on the circumstances under which the section 111(h) criteria would be satisfied and when, and for which source categories, work practice standards could be appropriate standards to control GHGs.

Market-oriented regulatory mechanisms: As mentioned above, EPA believes that market-oriented regulatory approaches including emissions trading are worthy of consideration for applying NSPS to GHG emissions. Several market-oriented regulatory mechanisms are discussed in section VII.G of today's notice. EPA requests comment on which of these mechanisms are consistent with the section 111 definition of a "standard of performance."

ii. Request for Comment on Section 111 Regulatory Approaches

This notice and the Stationary Source TSD describe possible approaches for using section 111 to reduce GHG emissions, in general and in regard to particular source categories. We request comment on the following specific questions regarding potential regulatory approaches under section 111:

- What are the overall advantages and disadvantages of the regulatory approaches discussed above, in light of the policy design considerations in section III.F.1? Please describe in detail any approaches not discussed in today's notice that you think we should consider.

- What are the industry-specific advantages and disadvantages of the regulatory approaches discussed above and in the TSD?

In developing section 111 standards for a particular source category (e.g., refineries, cement plants, industrial commercial boilers, electric generating plants, etc.) we are requesting source category-specific comments on the following additional issues:

- What data are available, or would need to be collected, to support the development of performance standards, either by process, subcategory, or for the facility?

- Should the standards be different for new and existing sources, either in terms of the systems for emission reductions on which they should be based and/or on the regulatory structure and implementing mechanisms for such standards?

- To what extent, if any, should the standards be technology-forcing for existing sources?

- Should the standards require additional reductions over time? To what extent would such reductions be consistent with the authority and purpose of section 111, and how should they be designed and carried out to ensure consistency?

iii. What Reductions Could Be Achieved From Efficiency Improvements at Existing Sources?

Recognizing that existing sources do not have as much flexibility in the levels of control that may realistically be achieved at a new source, a section 111(d) standard regulating GHG from existing sources would at this time most likely focus on currently available measures to increase the energy efficiency at the facility, thereby reducing GHG emissions. Examples of typical measures that promote energy efficiency include the use of cleaner fuels and equipment replacement or process improvements which reduce energy consumption. How well a measure, or combination of measures, will reduce GHG emissions at an individual facility will vary. A review of available literature suggests a range of improvements for various industry sectors that may be achievable through energy and process efficiency improvements, and some representative examples are summarized below. This information is illustrative, and does not represent any final technical determination by the agency as to what emission reduction requirements might be appropriate to require from the source categories discussed below.

For example, reductions in emissions of GHG from cement plants would most likely occur from fuel efficiency and electric energy efficiency measures as well as raw material and product changes that reduce the amount of CO2 generated per ton of cement produced. There are numerous efficiency measures generally accepted by much of the U.S. industry, and many of these measures have been adopted in recent cement plant improvements. Such measures may directly reduce GHG emissions by cement plants, or they may indirectly reduce GHG emissions at sources of power generation due to reduced electrical energy requirements. The range of effectiveness of the individual measures in reducing GHG is from less than 1% to 10%.[248] Benchmarking and other studies have demonstrated a technical potential for up to 40% improvement in energy efficiency for a new cement plant using the most efficient technologies compared to older plants using wet kilns.

A number of opportunities may exist within refineries to increase energy efficiency by optimizing utilities, fired heaters, heat exchangers, motors, and process designs. Competitive benchmarking data indicate that most petroleum refineries can economically improve energy efficiency by 10 to 20%.[249] Therefore, we would expect that a new refinery could be designed to be at least 20% more efficient than an existing one.

In the case of industrial boilers, measures applied to individual facilities could result in energy savings and GHG reductions on the order of 1% to 10%. Replacing an existing boiler with a combined heat and power plant could improve the energy efficiently of an existing plant by 10% to 33%.

Existing coal-fired power plants can reduce their fuel consumption (reduce heat rate) and reduce CO_2 emissions by performing well known modifications and upgrades to plant systems. Heat rate reductions of up to 10% may be feasible through various efficiency improvements at individual coal units, depending on site specific conditions. Because of plant age and other physical limitations, the potential average heat rate reduction for the coal fleet would likely not exceed about 5%. The existing fleet operates at an average net efficiency of about 33%. If the corresponding coal fleet average net heat rate were reduced by 5% via efficiency improvements, a potential 5% reduction in CO2 emissions could be obtained as well.

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[248] U.S. EPA (2008), Air Pollution Controls and Efficiency Improvement Measures for Cement Kiln. Final Report.

[249] Energy Efficiency Improvement and Cost Saving Opportunities for Petroleum Refineries, LBNL, 2005.

As older, less efficient coal power plants are retired, their capacity may be replaced with new, more efficient coal-fired units. A new, fully proven supercritical coal plant design can operate at a heat rate 10-15% below the current coal fleet average, and therefore produce 10-15% less GHG than the average existing coal plant. Future more advanced ultra-supercritical plant designs with efficiencies above 40% would have heat rates that are 20-25% or more below the current coal fleet average, and therefore produce that much less GHG than the average existing coal plant.

Technology to capture and geologically sequester CO_2 is the subject of ongoing projects in the U.S. and other countries and is a promising technology.[250] The electric power sector will most likely be the largest potential market for carbon capture and sequestration (CCS) technologies, with the potential to reduce CO_2 by approximately 80-90% at an individual plant.[251] It may become possible to apply CCS to some portion of the existing coal-fired fleet by retrofit to achieve significant CO_2 reductions. Other facilities that might be able to use CCS include refineries, chemical manufacturing plants, ethanol production facilities, cement kilns and steel mills. As advances in GHG reduction technologies continue, section 111(d) standards would be expected to consider and reflect those advances over time. We solicit comment on the criteria EPA should use to evaluate whether CCS technology is adequately demonstrated to be available for the electric power and other industrial sectors, including the key milestones and timelines associated with the wide-spread use of the technology.

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[250] See http://www.netl.doe.gov/technologies/carbon—seq/partner ships/partnerships.html for more information about the Regional Carbon Sequestration Partnerships in the United States.

[251] IPCC Special Report on Carbon Dixoide Capture and Storage, 2005, pp.3, 22.

iv. What Are the Possible Effects of Section 111 With Respect to Innovation?

As noted previously, whatever path may be pursued with respect to the control of GHG through the CAA or other authority, we believe it is likely that most early reductions in stationary GHG emissions may occur as the result of increased energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes that could reduce inputs of carbon or other GHG-generating materials. Clearly, more fundamental technological changes will be needed to achieve deeper reductions in stationary source GHG emissions over time. We request general comments on how to create an environment in which new, more innovative approaches may be encouraged pursuant to section 111, or other CAA or non-CAA authority.

Waiver authority under section 111(j) would be useful as one element of broader policies to encourage development of innovative technologies. Section 111(j) authorizes the Administrator to waive the NSPS requirements applicable to a source if he determines that the innovative technology the source proposes to use will operate effectively and is likely to achieve greater emission reductions, or at least equivalent reductions but at lower cost. Also, the Administrator must determine that the proposed system has not yet been adequately demonstrated (i.e. it is still an innovative technology), but that it will not cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation, function, or malfunction. These waivers can be given for up to 7 years, or 4 years from the date that a source commences operation, whichever is earlier.

We believe that effective GHG reduction techniques for many source categories potentially subject to NSPS may at this time be limited and that additional research and development will be necessary before these controls are demonstrated to be effective. We ask for comment on how the use of innovative technology waivers could conceivably be used to foster the development of additional approaches for GHG reductions.

5. Possible Implications for Other CAA Provisions

Regulation of GHGs under a section 111 standard for any industry would trigger preconstruction permitting requirements for all types of GHG sources under the PSD program. NSPS are also incorporated into operating permits issued under Title V of the CAA. The consequences of triggering and the options for addressing these permitting requirements are addressed in detail in section VII.D of this notice.

Whether GHGs were regulated individually or as a group in NSPS standards would affect the definition of regulated pollutant for stationary sources subject to preconstruction permitting under the PSD program. Conversely, while the section 111 mechanisms are relatively independent of other CAA programs, NSPS decision-making as a practical matter would need to consider the pollutant definitions adopted under other CAA authorities. It would be advantageous to maintain consistency regarding the GHG pollutants subject to regulation elsewhere in the Act to avoid the potential for PSD review requirements for individual GHGs as well as for groups of the same GHGs.

In considering the impact that decisions to list pollutants under other authorities of the CAA might have on our use of section 111 authority, we note that some industries have processes that emit more than one GHG and a potential may exist among some of these industries to control emissions of one GHG in ways that may increase emissions of others (e.g., collecting methane emissions and combusting them to produce heat and/or energy, resulting in emissions of CO_2 .) While an overall reduction in GHGs may occur, as well as a reduction in global warming potential, whether GHGs are regulated as a class of compounds or as individual constituents could have implications for the degree of flexibility and for the outcome of any regulatory decisions. More specifically, if we were to regulate GHGs as a group, then standards under section 111 might establish an overall level of performance that could accommodate increases in emissions of some gases together with reductions in others, so long as the overall performance target was met. If we were to regulate individual GHGs, then we may be less able to establish less stringent requirements for the control of some gases, while setting more stringent requirements for others. The extent to which we may be able to do so depends on the significance of the emissions of each gas from the source category in question as well as the feasibility and cost-effectiveness of controlling each. One result of this lessened flexibility may be the preclusion of certain approaches that could yield greater net reduction in GHG emissions. For this reason, we request comments on (1) the extent to which we are limited in our flexibility to regulate GHG as a class if listed individually under other CAA authorities, and (2) whether regulation under section 111 should treat GHG emissions as a class for determining the appropriate systems for emissions reduction and resulting standards.

Finally, we note that our authority to promulgate 111(d) standards for existing sources depends on the two restrictions noted above. First, section 111(d) prohibits regulation of a NAAQS pollutant under that section. Second, "where a source category is being regulated under section 112, a section 111(d) standard of performance cannot be established to address any HAP listed under 112(b) that may be emitted from that particular source category." If we were to promulgate a section 111(d) emission standard and then subsequently take action under sections 108 or 112 such that we could not promulgate a section 111(d) standard had we not already done so, the continued validity of the section 111(d) regulations might become unclear. We request comment on the extent, if any, to which the requirements of section 111(d) plans would, or could, remain in force under such circumstances.

C. National Emission Standards for Hazardous Air Pollutants

Along with the NAAQS system and section 111 standards, section 112 is one of the three main regulatory pathways under the CAA for stationary sources. Section 112 is the portion of the Act that Congress designed for controlling hazardous air pollutant emissions from these sources, including toxic pollutants with localized or more geographically widespread effects. This focus is reflected in the statutory provisions, which, for example, require EPA to regulate sources with relatively small amounts of emissions. In comparison to section 111, section 112 provides substantially less discretion to EPA concerning the size and types of sources to regulate, and is specific about when EPA may and may not consider cost.

This section explores the implications if EPA were to list GHGs as hazardous air pollutants under section 112.

1. What Does Section 112 Require?

a. Overview

Section 112 contains a list of hazardous air pollutants (HAPs) for regulation. EPA can add or delete pollutants from the list consistent with certain criteria described below.

EPA must list for regulation all categories of major sources that emit one or more of the HAPs listed in the statute or added to the list by EPA. A major source is defined as a source that emits or has the potential to emit 10 tons per year or more of any one HAP or 25 tons per year of any combination of HAPs.

For each major source category, EPA must develop national emission standards for hazardous air pollutants (NESHAP). Standards are required for existing and new major sources. The statute requires the standards to reflect "the maximum degree of reduction in HAP emissions that is achievable, taking into consideration the cost of achieving the emission reduction, any nonair quality health and environmental impacts, and energy requirements." This level of control is commonly referred to as maximum achievable control technology, or MACT.

The statute also provides authority for EPA to list and regulate smaller "area" sources of HAPs. For those sources EPA can establish either MACT or less stringent "generally available control technologies or management practices".

Section 112(d)(6), requires a review of these technology-based standards every 8 years and requires that they be revised "as necessary taking into account developments in practices, processes and control technologies." Additionally, EPA under section 112(f)(2)(C) must reevaluate MACT standards within 8 years of their issuance to determine whether MACT is sufficient to protect public health with an ample margin of safety and prevent adverse environmental effects. If not, EPA must promulgate more stringent regulations to address any such "residual risk".

b. How Are Pollutants and Source Categories Listed for Regulation Under Section 112?

Section 112(b)(1) includes an initial list of more than 180 HAPs. Section 112(b)(2) requires EPA to periodically review the initial HAP list and outlines criteria to be applied in deciding whether to add or delete particular pollutants.

A pollutant may be added to the list because of either human health effects or adverse environmental effects. With regard to adverse human health effects, the provision allows listing of pollutants "including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic." An adverse environmental effect is defined as "any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas." Section 112(b)(2) provides that "no substance, practice, process or activity regulated under [the Clean Air Act's stratospheric ozone protection program] shall be subject to regulation under this section solely due to its adverse effects on the environment." Thus, section 112 may not be used to regulate certain chlorofluorocarbons and other ozone-depleting substances, their sources, or activities related to their production and use to address climate change unless we establish that such regulations are necessary to address human health effects in addition to any adverse environmental impacts. See section 602 of the Clean Air Act for a partial list of these substances.

Section 112(b)(3) of the Act establishes general requirements for petitioning EPA to modify the HAP list by adding or deleting a substance. Although the Administrator may add or delete a substance on his own initiative, if a party petitions the Agency to add or delete a substance, the burden historically has been on the petitioner to include sufficient information to support the requested addition or deletion under the substantive criteria set forth in CAA section

112(b)(3)(B) and (C). The Administrator must either grant or deny a petition within 18 months of receipt of a complete petition.

The effects and findings described in section 112 are different from other sections of the CAA addressing endangerment of public health discussed in previous sections of today's notice. Given the nature of the effects identified in section 112(b)(2), we request comment on whether the health and environmental effects attributable to GHG fall within the scope of this section. We also request comment on direct and indirect GHG emissions from existing source categories currently subject to regulation under section 112, any assessment of the relative costs of regulating GHG under the authority of section 112, and any co-benefits or co-detriments with regard to controlling GHG and the emissions of HAP.

The source categories to be regulated under section 112 are determined based on the list of HAP. Section 112(c) requires EPA to publish a list of all categories and subcategories of major sources of one or more of the listed pollutants, and to periodically review and update that list. In doing this, EPA also is required to list each category or subcategory of area sources which the Administrator finds presents a threat of adverse effects to human health or the environment (by such sources individually or in the aggregate) warranting regulation under section 112.

c. How Is MACT Determined?

In essence, MACT standards are intended to ensure that all major sources of HAP emissions achieve the level of control already being achieved by the better controlled and lower emitting sources in each category. This approach provides assurance to citizens that each major source of toxic air pollution will be required to effectively control its emissions. At the same time, this approach provides assurances that facilities that employ cleaner processes and good emissions controls are not disadvantaged relative to competitors with poorer controls.

MACT is determined separately for new and existing sources. For existing sources, MACT standards must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of sources in the category or subcategory (or the best performing five sources for source categories with less than 30 sources). This level is called the "MACT floor." For new or reconstructed sources, MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source.[252] EPA also must consider more stringent "beyond-the-floor" control options for MACT. When considering beyond-the-floor options, EPA must consider not only the maximum degree of reduction in emissions of the HAP, but also costs, energy requirements and non-air quality health environmental impacts of imposing such requirements.

MACT standards may require the application of measures, processes, methods, systems, or techniques including, but not limited to, (1) reducing the volume of, or eliminating emissions of, such pollutants through process changes, substitution of materials, or other modifications; (2) enclosing systems or processes to eliminate emissions; (3) collecting, capturing, or treating such pollutants when released from a process, stack, storage or fugitive emissions point; (4) design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in subsection (h); or (5) a combination of the above. (See section 112(d)(2) of the Act.)

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[252] See CAA section 112(d)(3).

For area sources, CAA section 112(d)(5) provides that the standards may reflect generally available control technology or management practices (GACT) in lieu of MACT.

d. What Is Required To Address Any Residual Risk?

Section 112(f)(2) of the CAA requires us to determine for each section 112(d) source category whether the MACT standards protect public health with an ample margin of safety. If the MACT standards for a HAP "classified as a known, probable, or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than 1-in-1-million," EPA must promulgate residual risk standards for the source category (or subcategory) as necessary to protect public health with an ample margin of safety. EPA must also adopt more stringent standards if needed to prevent an adverse environmental effect, but must consider cost, energy, safety, and other relevant factors in doing so. EPA solicits comments on the extent to which these programs could apply with respect to the possible regulation of sources of GHG under section 112, including the relevance of any carcinogenic effects of individual GHG.

2. What Sources Would Be Affected if GHGs Were Regulated Under This Authority?

If GHGs were listed as HAP, EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources than if alternative CAA authorities were used to regulate GHG. This is the result of three key requirements. First, the section 112(a) major sources thresholds of 10 tons for a single HAP and 25 for any combination of HAPs would mean that very small GHG emitters would be considered major sources. Second, section 112(c) requires EPA to list all categories of major sources. Third, section 112(d) requires EPA to issue MACT standards for all listed categories.

We believe that most significant stationary source categories of GHG emissions have already been listed under section 112 (although the 10-ton threshold in the case of GHGs would be expected to bring in additional categories such as furnaces in buildings, as explained below). To date we have adopted standards for over 170 categories and subcategories of major and area sources. This is a significantly greater number than the categories for which we have adopted NSPS because under section 112 we must establish standards for all listed categories, whereas section 111 requires that we identify and regulate only those source categories that contribute "significantly" to air pollution endangering public health and welfare.

3. What Are the Key Milestones and Expected Timeline if Section 112 Were Used for GHG Controls?

One possible timetable for addressing GHG under this part of the Act would be to incorporate GHG emission control requirements concurrent with the mandatory 8-year technology reviews for each category, collecting information on emissions and control technologies at the time the existing MACT standards are reviewed to determine whether revisions are needed. If we were to list new source categories under section 112, EPA would be required to adopt MACT standards for those categories within 2 years of the date of category listing.

EPA must require existing sources to comply within 3 years of a standard's promulgation, although states and EPA are authorized in certain circumstances to extend the period of compliance by one additional year. Most new sources must comply as soon as a section 112 standard is issued; however, there is an exception where the final rule is more stringent than the proposal.

Because of the more detailed requirements for identifying appropriate levels of control to establish a level for MACT, significantly more information on the best performing sources is needed under section 112 than under section 111, making the development of such standards within 2 years after listing a source category difficult. We request comment on this and other approaches for addressing GHG under section 112, both for categories already listed for regulation and for any that might appropriately be added to the section 112 source category list if we were to elect to regulate GHGs under this section.

4. What Are the Key Considerations Regarding Use of This Authority for GHGs (and How Could Potential Issues Be Addressed)?

A key consideration in evaluating use of section 112 for GHG regulation is that the statutory provisions appear to allow EPA little flexibility regarding either the source categories to be regulated or the size of sources to regulate. As described above, EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources than if alternative CAA authorities were used to regulate GHG. For example, in calculating CO2 emissions based on fossil-fuel consumption, we believe that small commercial or institutional establishments and facilities with natural gas-fired furnaces would exceed this major source threshold; indeed, a large single-family residence could exceed this threshold if all appliances consumed natural gas. EPA requests comment on the requirement to establish standards for all sources under section 112 relevant to GHG emissions and whether any statutory flexibility is or is not available with respect to this requirement and GHGs.

A section 112 approach for GHGs would require EPA to issue a large number of standards based on assessments for each source category. Determining MACT based on the best-controlled 12 percent of similar sources for each category would present a difficult challenge, owing to our current lack of information about GHG control by such sources and the effort required to obtain sufficient information to establish a permissible level of performance.

GHG regulation under section 112 would likely be less cost effective than under some CAA authorities, in part because section 112 was designed to ensure a MACT level of control by each major source, and thus provides little flexibility for market-oriented approaches. Given the structure and past implementation of section 112, this section may not provide EPA with authority to allow emissions trading among facilities or averaging across emitting equipment in different source categories. This is because the statutory terms of section 112 provide that emission standards must be established for sources within "each category" and those standards must be no less stringent than the "floor," or the level of performance achieved by the best-performing sources within that category. Each source in the category must then achieve control at least to this floor level. Trading would allow sources to emit above the floor. In addition, it may not be possible to assess individual source fence line risk for section 112(f) residual risk purposes if the sources did not each have fixed limits. Finally, the section 112 program is in part designed to protect the population in the vicinity of each facility, which trading could undermine (in contrast to an ambient standard). Given the global nature of GHGs and the lack of direct health effects from such emissions at ambient levels, EPA requests comments on the extent to which the CAA could be interpreted to grant flexibility to consider such alternative implementation mechanisms, and what, if any, limitations should be considered appropriate in conjunction with them.

Another reason that section 112 regulation of GHGs would be expected to be less cost effective than other approaches is that the statute limits consideration of cost in setting MACT standards. As described above, the statute sets minimum stringency levels, or "floors," for new and existing source standards. Cost can only be considered in determining whether to require standards to be more stringent than the floor level.

A further consideration is that the short compliance timetables—immediate for most new sources, and within 3-4 years for existing sources—appear to preclude setting longer compliance timeframes to allow for emerging GHG technologies to be further developed or commercialized.

5. What Are the Possible Implications for Other Provisions of the Clean Air Act?

As provided under section 112(b)(6), pollutants regulated under section 112 of the Act are exempt from regulation under the PSD program. Also, a section 111(d) standard of performance for existing sources cannot be established to address any HAP listed under section 112(b) that that is emitted from a source category regulated under section 112.[253]

If EPA were to list GHGs under section 108 of the CAA for purposes of establishing NAAQS, we would be prevented by section 112(b)(2) from listing and regulating them as HAPs under this section of the Act. However, it is less clear that the reverse is true; that is, if a pollutant were first listed under section 112 and then EPA decided to list and regulate it under section 108, the statute does not clearly say whether that is permissible, or whether EPA would then have to remove the pollutant from the section 112 pollutant list. We request comment on the extent to which this apparent ambiguity in the Act poses an issue regarding possible avenues for regulating GHG and if so, how it should be addressed.

In light of the foregoing, we request comment on the appropriateness of section 112 as a mechanism for regulating stationary source emissions of GHGs under the CAA. If commenters believe use of section 112 would be appropriate, we further request comments on which GHGs should be considered, what additional sources of emissions should be listed and regulated, and how MACT should be determined for GHG emission sources.

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[253] It is important to note that many sources may be subject to standards under both section 111 and 112; however these standards establish requirements for the control of different pollutants.

D. Solid Waste Combustion Standards

1. What Does Section 129 Require?

Section 129 of the CAA requires EPA to set performance standards under section 111 to control emissions from solid waste incineration units of at least 9 specific air pollutants. It directs EPA to develop standards which include emission limitations and other requirements for new units and guidelines and other requirements applicable to existing units.

Section 129 directs EPA to set standards for "each category" of such units, including those that combust municipal, hospital, medical, infectious, commercial, or industrial waste, and "other categories" of solid waste incineration units, irrespective of size. The pollutants to be addressed by these standards include the NAAQS pollutants particulate matter (total and fine), sulfur dioxide, oxides of nitrogen, carbon monoxide, and lead; and the hazardous air pollutants hydrogen chloride, cadmium, mercury, and dioxins and dibenzofurans. EPA is authorized to regulate additional pollutants under these provisions, but section 129 includes no endangerment test or other criteria for determining when it is appropriate to do so.

Although the emission standards called for by section 129 are to be established pursuant to section 111, the degree of control required under those standards more closely resembles that of section 112(d). For new sources the level of control is required to be no less stringent than that of the best performing similar source, while for existing sources the level of control is to be no less stringent than the average of the top 12% of best-performing sources. For both new and existing source standards, beyond these "floor" levels EPA must consider the cost of achieving resulting emission reductions and any non-air quality health and environmental impacts and energy requirements in determining what is achievable for units within each category. The performance standards must be reviewed every 5 years. Additionally, for those pollutants that are listed under section 112 as a HAP, EPA must reevaluate the standards in accordance with section 112(f) to determine whether they are sufficient to protect public health with an ample margin of safety and prevent adverse environmental effects, and must promulgate more stringent regulations if necessary to address any such "residual risk." Thus, for this particular class of source categories, section 129 merges important elements of both sections 111 and 112.

EPA has established standards for a variety of solid waste incinerator categories and is in the process of developing additional standards and revising others.[254] In the absence of statutory criteria for determining whether and under what circumstances EPA should regulate additional pollutants under this section of the CAA, we request comment on whether emissions of GHG could fall within the scope of this section. We also request comment on direct and indirect GHG emissions from existing source categories currently subject to regulation under section 129, any assessment of the relative costs of regulating GHGs under the authority of section 129, and any co-benefits or co-detriments with regard to controlling GHG and the emissions of pollutants specifically listed for regulation under section 129.

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[254] Rules have been promulgated for large and small municipal waste combustors; medical waste incinerators; other solid waste incinerators; and commercial, institutional, and industrial solid waste incinerators. EPA is also currently reevaluating and revising certain standards under section 129 in response to decisions by the U.S. Court of Appeals for the D.C. Circuit.

2. What Sources Would Be Affected if GHGs Were Regulated Under This Authority?

Standards required by section 129 are applicable to "any facility which combusts any solid waste material from commercial or industrial establishments or the general public (including single and multiple residences, hotels, and motels)." Thus the provisions of this section are limited to a specific type of emission source, although there are many such units in existence that are subject to regulation. To date we have adopted standards for five categories of incinerators and are currently in the process of developing revised standards on remand for several of these categories, which may involve the inclusion of several additional subcategories of incineration units. We anticipate that when completed these rules will establish standards of performance for as many as five hundred or more units.

Because section 129 does not require, but authorizes EPA to establish requirements for other air pollutants, we request comment on whether and for what categories or subcategories of incinerators EPA could address GHG emissions control requirements.

a. How Are Control Requirements Determined?

As noted above, the control requirements for sources regulated under section 129 are similar to the MACT standards mandated under section 112(d). However, whereas section 112(d)(3) provides that standards are to be based on the best performing sources "for which the Administrator has emissions information," section 129 contains no such limitation. Consequently, it appears that EPA is obligated to obtain information from all potentially affected sources in order to determine the appropriate level of control.

Section 129(a)(2) provides authority for EPA to distinguish among classes, types, and sizes of units within a category in establishing standards. This provision is similar to authorities provided in sections 111(b)(2) and 112(b)(2). Because section 129 directs that EPA establish standards for affected source categories under sections 111(b) and (d), we believe that the provisions governing the creation of design, equipment, work practice, or operational standards are also available for standards required by section 129. For existing sources, we believe that provisions for consideration of remaining useful life and other related factors are relevant to EPA and States when determining the requirements and schedules for compliance for individual affected sources.

b. What Is Required To Address Any Residual Risk?

For each of the air pollutants named in section 129 that are listed as HAP under section 112, section 129 requires EPA to evaluate and address any residual risk remaining after controls established under the initial emission standards.[255] In so doing, it requires EPA to determine for each affected source category whether the performance standards protect public health with an ample margin of safety. EPA must also adopt more stringent standards if needed to prevent an adverse environmental effect, but must consider cost, energy, safety, and other relevant factors in doing so.

Section 129(h)(3) limits residual risk assessments and any subsequent resulting regulations to "the pollutants listed under subsection (a)(4) of this section and no others." Consequently, if EPA were to regulated GHG emissions from incineration units under section 129, we would not be required to conduct additional residual risk determinations.

3. What Are the Key Milestones and Expected Timeline if Section 129 Were Used for GHG Controls?

As stated above, we have adopted rules governing emissions from certain categories of solid waste incineration units and are in the process of revising or establishing new standards for others. Thus if we were to elect to regulate GHG emissions under section 129, a question arises concerning how to incorporate new requirements for those categories for which standards have already been established. One possible timetable for addressing GHG under this part of the Act would be to incorporate GHG emission control requirements concurrent with the mandatory 5-year reviews for each previously-regulated category, collecting information on emissions and control technologies at the time the existing standards are reviewed to determine whether revisions are needed. Because of the more detailed requirements for identifying appropriate levels of control to establish a level for these categories of sources, significantly more information on the best performing sources is needed under section 129 than even under section 112 (because of the absence of limitations for this analysis to those sources "for which the Administrator has information"), making the development of such standards a more time-consuming effort. In the event that we were to elect to regulate GHGd under this section, we request comment on this and other approaches for addressing GHGd under section 129, both for categories already regulated and for any for which standards are currently under development.

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[255] Section 129(h)(3) provides that for purposes of considering residual risk the standards under section 129(a) and section 111 applicable to categories of solid waste incineration units are to be "deemed standards under section 112(d)(2)."

4. What Are the Key Considerations Regarding Use of This Authority for GHGs (and How Could Potential Issues Be Addressed)?

If we were to elect to regulate GHG emissions from solid waste incinerators under section 129, then we would need to establish standards for at least some number of categories of such sources. We request comment on the availability of authority to establish requirements for controlling GHG emissions from subcategories of incineration units based on size, type or class, as provided under section 111, and to exclude from regulation other categories or subcategories.

Given the structure of section 129 and its hybrid approach to the use of authorities under sections 111 and 112, we question whether this section provides EPA with available authority to establish alternative compliance approaches, such as emissions trading or averaging across sources within a category. This is because the statutory terms of section 129 provide that emission standards must be established for sources within "each category" and those standards must be no less stringent than the level of performance achieved by the best-performing sources within that category. Each source in the category must then achieve control at least to this level. Trading would allow sources to emit above the floor. As a practical matter, given that requirements for control of specifically-listed pollutants may preclude trading for those pollutants, and given that many of the controls applicable to those pollutants would be the same as or similar to those that would be applicable to GHGs, we believe that trading options would likely be infeasible with respect to GHG control requirements. However, EPA requests comments on the extent to which the CAA could be interpreted to grant flexibility to consider such alternative implementation mechanisms, to what extent, and what, if any, limitations should be considered appropriate in conjunction with them.

5. What Are the Possible Implications for Other Provisions of the Clean Air Act?

Section 129 recognizes that many incineration units may also be subject to prevention of significant deterioration or nonattainment new source review requirements. It addresses potentially conflicting outcomes of control determinations under those programs by providing that "no requirement of an applicable implementation plan . . . may be used to weaken the standards in effect under this section."

If EPA were to list GHGs under section 108 for purposes of establishing NAAQS, we would not be prevented from regulating them under this section of the Act as well. If EPA were to list GHG under section 112, a potential conflict arises in that section 112 establishes major and area source emissions thresholds, providing for standards of different stringency for each, and requires analysis of residual risk for major sources regulated under that section of the Act. We request comments on how such apparent conflicts could be reconciled if we were to elect to regulate emissions of GHGs from solid waste incineration units under section 129.

In light of the foregoing, we request comment on the appropriateness of section 129 as a mechanism for regulating incineration unit emissions of GHGs under the CAA. If commenters believe that use of section 129 would be appropriate, we further request comments on which GHGs should be considered, what source categories or subcategories should be regulated, and how appropriate control requirements should be determined for new and existing GHG emission sources.

E. Preconstruction Permits Under the New Source Review (NSR) Program

1. What Are the Clean Air Act Provisions Describing the NSR Program?

Under what is known as the New Source Review (NSR) program, the CAA requires the owners and operators of large stationary sources of air pollution to obtain construction permits prior to building or modifying such a facility. The program is subdivided into the Prevention of Significant Deterioration (PSD) and nonattainment NSR (NNSR) programs, either of which may be applicable depending on the air quality for a particular pollutant in the location of the source subject to permitting.

The PSD program, set forth in Part C of Title I of the CAA, applies in areas that are in attainment with the NAAQS (or are unclassifiable) and has the following five goals and purposes:

- To protect public health and welfare from air pollution beyond that which is addressed by the attainment and maintenance of NAAQS;
- To protect specially designated areas such as national parks and wilderness areas from the effects of air pollution;
- To assure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;
- To assure emissions in one state will not interfere with another state's PSD plan; and
- To assure that any decision to permit increased air pollution is made only after evaluating the consequences of the decision and after opportunities for informed public participation.

The main element of the PSD program is the requirement that a PSD permit be obtained prior to construction of any new "major emitting facility" or any new "major modification." Before a source can receive approval to construct under PSD, the source and its permitting authority (usually a state or local air pollution control agency, but sometimes EPA) must follow certain procedural steps, and the permit must contain certain substantive requirements. The most important procedural step is providing an opportunity for the public to comment when a permitting authority proposes to issue a permit.

The PSD program primarily applies to all pollutants for which a NAAQS is promulgated, but some of the substantive requirements of the PSD program also apply to regulated pollutants for which there is no NAAQS (except that there is an explicit statutory exemption from PSD for HAPs).[256] Since there is currently no NAAQS for GHGs and GHGs are not otherwise subject to regulation under the CAA, the PSD program is not currently applicable to GHGs.[257] However, as discussed in section IV of this notice, it is possible that EPA actions under other parts of the CAA could make GHGs pollutants subject to regulation under the Act and thus subject to one or more parts of the PSD program.

If EPA were to promulgate a rule establishing limitations on GHG emissions from mobile sources or stationary sources without promulgating a NAAQS for GHGs, the PSD requirement of greatest relevance would be the requirement that a permit contain emissions limits that reflect the Best Available Control Technology (BACT). BACT is defined as the maximum achievable degree of emissions reduction for a given pollutant (determined by the permitting authority on a case-by-case basis), taking into account energy, environmental, and economic impacts. BACT may include add-on controls, but also includes application of inherently lower-polluting production processes and other available methods and techniques for control. BACT cannot be less stringent than any applicable NSPS.

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[256] CAA section 112(b)(6).

[257] In the Energy Independence and Security Act of 2007 (EISA), Congress provided that regulation of GHGs under CAA section 211(o) would not automatically result in regulation of GHGs under other CAA provisions. Because of this provision, EISA does not impact the interrelationship of other provisions of the CAA, and we only reference the HAP exception in the text.

Since emission control requirements will likely have the most direct impact on new or modified stationary sources subject to PSD, our focus in this notice is on the BACT requirement. However, we are also interested in stakeholder input on the extent to which we should evaluate other substantive PSD program elements which would be affected by any possible EPA action to regulate GHGs under other parts of the Act. These include the requirements to evaluate, in consultation with the appropriate Federal Land Manager (FLM), the potential impact of proposed construction on the Air Quality Related Values of any affected "Class I area" (national parks, wilderness areas, etc.) and additional impacts analysis.[258]

If EPA were to promulgate a NAAQS for GHGs, because of the relatively uniform concentration of GHGs, we expect that the entire country would be in nonattainment or attainment of the NAAQS. The preconstruction permitting requirements that apply would depend on whether the country is designated as nonattainment or attainment for the GHG emissions that would increase as a result of a project being constructed.

If the entire country is designated attainment, and PSD applies, the adoption of a NAAQS would trigger air quality analysis requirements that are in addition to all the requirements described above. For example, under CAA section 165(a)(3), permit applicants have to conduct modeling to determine whether they cause or contribute to a NAAQS violation. Following promulgation of a NAAQS, EPA may also promulgate a PSD increment for GHGs, which would require additional analysis for each new and modified source subject to PSD.[259] However, this notice does not address in detail the PSD elements that relate to increments.

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[258] As codified at 40 CFR 51.166(o), the owner or operator shall provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the source or modification.

Under a GHG NAAQS with the country in nonattainment, the nonattainment NSR permitting program would be triggered nationally. The nonattainment NSR program requirements are contained in section 173 of the Act. Like PSD, they apply to new and modified major stationary sources, but they contain significantly different requirements from the PSD program. A key difference is the requirement that the emissions increases from the new or modified source in a nonattainment area must be offset by reductions in existing emissions from the same nonattainment area or a contributing upwind nonattainment area of equal or higher nonattainment classification. The offsetting emissions reductions must be at least equal to the proposed increase and must be consistent with a SIP that assures the nonattainment area is making reasonable progress toward attainment.[260] Another key difference is that instead of BACT, sources subject to nonattainment NSR must comply with the Lowest Achievable Emission Rate (LAER), which is the most stringent emission limitation that is (1) contained in any SIP for that type of source, or (2) achieved in practice for sources of the same type as the proposed source.[261] Notably, if the rate is achievable, LAER does not allow for consideration of costs or of the other factors that BACT does. While LAER and offsets are likely of greatest significance for GHG regulation under nonattainment NSR, there are additional requirements for nonattainment NSR that would also apply. The additional requirements include the alternatives analysis requirement; the requirement that source owners and operators demonstrate statewide compliance with the Act; and the prohibition against permit issuance if the SIP is not being adequately implemented.

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[259] PSD increments are air quality levels which represent an allowable deterioration in air quality as compared to the existing air quality level on a certain baseline date for a given area.

[260] CAA section 173(a)(1); limitations on offsets are set forth in section 173(c).

For simplicity, the remainder of this notice describing affected sources, impacts, and possible tailoring generally focuses on PSD, raising issues specific to nonattainment NSR where applicable.

2. What Sources Would Be Affected if GHGs Were Regulated Under NSR?

A PSD permit is required for the construction or modification of "major emitting facilities," which are commonly referred to as "major sources." A "major emitting facility" is generally any source that emits or has the potential to emit 250 tons per year (tpy) of a regulated NSR pollutant.[262, 263] A source that belongs to one of several specifically identified source categories is considered a major source if it emits or has the potential to emit 100 tpy of a regulated NSR pollutant.[264] Also, for nonattainment NSR, the major source threshold is at most 100 tpy, and is less in some nonattainment areas, depending on the pollutant and the nonattainment classification.

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[261] CAA section 173(a); LAER is defined in section 171(3)(A).

[262] 42 U.S.C. 7569(1). The PSD regulations use the term "major stationary source." 40 CFR 51.166(b)(1) The definition of "regulated NSR pollutant" is at 40 CFR 51.166(b)(49).

[263] "Potential-to-emit", or PTE, is defined as the maximum capacity of a source to emit any air pollutant under its physical and operational design.

A "major modification" is any physical change or change in the method of operation of a major source which significantly increases the amount of emissions of any regulated NSR pollutant. EPA defines what emissions levels of a pollutant are "significant" through regulation, and the defined significance levels range from 0.3 tpy for lead to 100 tpy for CO. Currently there is no defined significance level for GHGs (either individually or as a group) because they are not regulated NSR pollutants, and thus, were GHGs to become regulated, the significance threshold would be zero. Note that, when determining whether a facility is "major," a source need not count fugitive emissions (i.e., emissions which may not reasonably be vented through stacks, vents, etc.) unless it is in a listed category.

As noted in section IV, GHGs are not currently subject to regulation under the Act, and therefore are not regulated NSR pollutants. However, if GHG emissions become subject to regulation under any of the stationary or mobile source authorities discussed above (except sections 112 and 211(o)), GHGs could become regulated NSR pollutants. Many types of new

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[264] These specific sources include major industrial categories such as petroleum refining, fossil-fuel fired steam electric plants, chemical process plants, and 24 other categories. The full list of 100 tpy major sources is promulgated at 40 CFR 51.166(b)(1)(i)(a).

GHG sources and GHG-increasing modifications that have not heretofore been subject to PSD would become subject to PSD permitting requirements. This is particularly true for CO_2 because, as noted in section III, the mass CO_2 emissions from many source types are orders of magnitude greater than for currently regulated pollutants. Thus, many types of new small fuel-combusting equipment could become newly subject to the PSD program if CO_2 becomes a regulated NSR pollutant. As discussed below in the section on potential to emit, the extent to which such equipment would become subject to PSD would depend upon whether, for each type of equipment, its maximum capacity considering its physical and operational design would involve constant year-round operation or some lesser amount of operation. For example, the calculated size of a natural gas-fired furnace that has a potential to emit 250 tpy of CO_2, if year-round operation (8760 hours per year) were assumed—would be only 0.49 MMBTU/hr, which is comparable to the size of a very small commercial furnace. In practice, a furnace like this would likely operate far less than year round and its actual emissions would be well below 250 tpy. For example, such a furnace, if used for space heating, might only be burning gas for about 1000 hours per year, meaning that it would need to be sized at over 4 MMBTU/hr—a size more comparable to a small industrial furnace—to actually emit 250 tons of CO_2 . For sources such as these, the interpretation of the term "potential to emit" and the availability of streamlined mechanisms for smaller sources to limit their potential to emit would determine whether they would be considered "major" for GHG emissions under PSD.

For sources already major for other pollutants, it is likely that many more changes made by the source would also qualify as major modifications and become subject to PSD as well, unless potential approaches (including those discussed below) for raising applicability thresholds were implemented. Relatively small changes in energy use that cause criteria pollutant emissions too small to trigger PSD would newly trigger PSD at such facilities because such changes would likely result in greater CO_2 increases. For example, consider a hypothetical 500 MW electric utility boiler firing a bituminous coal that is well-controlled for traditional pollutants. Such a boiler, operating more than 7000 hours per year (out of a possible 8760), can emit approximately 4 million tons of CO_2 per year, or more than 580 tons per hour. Assuming a 100 tpy significance level (rather than the current zero level for GHGs), any change resulting in just 10 additional minutes of utilization over the course of a year at such a source would be enough to result in an increase of 100 tons and potentially subject the change to PSD. By contrast, to be considered a modification for NO_X, the same change would require approximately 36 additional hours of operation assuming that the hypothetical source had a low-NO_X burner, and 90 additional hours of operation assuming that the source also employed a selective catalytic reduction add-on control device.

Once a source is major for any NSR regulated pollutant, PSD applies to significant increases of any other regulated pollutant, so significant increases of GHGs would become newly subject to PSD at sources that are now major for other regulated pollutants. Similarly, significant increases of other pollutants would become subject to PSD if they occur at sources previously considered minor, but which become classified as major sources for GHG emissions.

Currently, EPA estimates that EPA, state, and local permitting authorities issue approximately 200-300 PSD permits nationally each year for construction of new major sources and major modifications at existing major sources. Under existing major source thresholds, we estimate that if CO_2 becomes a regulated NSR pollutant (either as an individual GHG or as a group of GHGs), the number of PSD permits required to be issued each year would increase by more than a factor of 10 (i.e. more than 2000-3000 permits per year), unless action were taken to limit the scope of the PSD program under one or more of the legal theories described below. The additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings, hotels, large retail establishments, and similar facilities. These facilities consist primarily of equipment that combusts fuels of various kinds and release their exhaust gases through a stack or vent. Few of these additional permits would be for source categories (such as agriculture) where emissions are "fugitive," because, as noted above, fugitive emissions do not count toward determining if a source is a major source except in a limited number of categories of large sources.

Because EPA and states have generally not collected emissions information on sources this small, our estimate of the number of additional permits relies on limited available information and engineering judgment, and is uncertain. Our estimate of the number of additional permits is also not comprehensive. First, it does not include permits that would be required for modifications to existing major GHG sources because the number of these is more difficult to estimate.[265] Nonetheless, we anticipate that, for modifications, coverage of GHGs would increase because the larger universe of major sources will bring in additional sources at which modifications could occur and because for "traditional" major sources, many more types of small modifications that were minor for traditional pollutants could become major due to increases in GHG emissions that exceed the significance levels. Second, EPA's estimate is uncertain because it is based on actual emissions, and thus excludes a potentially very large number of sources that would be major if they operated at their full potential-to-emit (PTE) (i.e. they emitted at a level that reflects the maximum capacity to emit under their physical and operational design), but which in practice do not. Such sources could be defined as major sources without an enforceable limitation on their PTE, but for the purposes of this estimate, we assume they have options for limiting their PTE and avoiding classification as a major source. (Nonetheless, there are important considerations in creating such PTE limits, as discussed below). Third, this estimate does not specifically account for CO_2 from sources other than combustion sources. While we know there are sources with significant non-combustion emissions of GHGs, there are relatively few of these compared to the sources with major amounts of combustion CO_2 . These non-combustion sources would likely be major for combustion CO_2 in any event, and many of these are likely already major for other pollutants, though

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[265] Among other things, any estimate of modifications must take into account the netting provisions of NSR, in which sources can avoid NSR if the increase of pollutant emissions from a project is below the significance level for that pollutant, after taking into account other increases and decreases of emissions that are contemporaneous with the project.

GHG regulation would likely mean increases in the number of major modifications at such sources.

We request any available information that would allow us to better characterize the number and types of sources and modifications that would become subject to the PSD program if CO_2 becomes a regulated NSR pollutant. As discussed below, we are particularly interested in information that would allow us to analyze the effects of different major source thresholds and significance levels.

Finally, we note that our estimates above are for CO_2. As described above in section IV, there are implications to regulating additional GHGs as pollutants, or GHGs in the aggregate. Our estimates of PSD program impacts do not include consideration of GHGs other than CO_2 because we expect that at the vast majority of these sources CO_2 will be the dominant pollutant. We ask for comment on whether there are large categories of potentially newly regulated PSD sources for individual GHGs besides CO_2. We also ask for comment on the effects of aggregating GHGs for PSD applicability. Aggregating GHGs could bring additional sources into PSD to the extent that other GHGs are present and would add enough to a source's PTE to make it a major source. On the other hand, under the netting provisions of the CAA, it may be easier to facilitate interpollutant netting if GHGs are aggregated (e.g., a source using netting to avoid PSD for a CO_2 increase based on methane decreases at the same source).

3. What Are the Key Milestones and Expected Timeline if the PSD Program Were Used for GHG Controls?

Because PSD applies to all regulated pollutants except HAP, EPA's interpretation of the Act is that PSD program requirements would become applicable immediately upon the effective date of the first regulation requiring GHG control under the Act.[266] While existing PSD permits would remain unaffected, from that point forward, each new major source of GHGs and each major modification at an existing major source that significantly increases GHGs would need to get a PSD permit before beginning construction. Control requirements could take effect as the first new and modified sources obtain their permits and complete construction of the permitted projects. Because of the case-by-case nature of the PSD permitting decisions, the complexity of the PSD permitting requirements, and the time needed to complete the PSD permitting process, it can take several months to receive a simple PSD permit, and more than a year to receive a permit for a complex facility. We ask for comment on whether there are additional timeline considerations not noted here.

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[266] Because PSD is implemented in many areas by states under EPA-approved state regulations, there may be a lag time in a small number of states if their PSD regulations are written in such a way that revision of the regulations (and EPA approval) would be required to give the state authority to issue permits for GHGs. However this would not be the case for EPA's own regulations or for any state delegated to implement EPA regulations on our behalf.

4. What Are Key Considerations Regarding Application of the PSD Program to GHGs (and How Could Potential Issues Be Addressed?)

a. Program Scope

As noted above, regulating GHGs under the PSD program has the potential to dramatically expand the number of sources required to obtain PSD permits, unless action is taken to limit the scope of the program, as described below. Since major source thresholds were enacted before this assessment of the application of the PSD program to GHGs, it is reasonable to expect that Congress could consider legislative alterations to account for the different aspects of GHGs versus traditional air pollutants noted above (e.g., the relatively uniform atmospheric concentrations of GHGs versus more localized effects of traditional pollutants.) Possible ways to limit the scope of the program without legislation are described later in this section.

In the absence of such action, we would expect (assuming a 250 tpy major source threshold, or 100 tpy for statutorily specified source categories) at least an order-of-magnitude increase in the number of new sources required to obtain PSD permits, and an expansion of the program to numerous smaller sources not previously subject to it. While such sources may emit amounts of GHGs that exceed statutory thresholds, they have relatively small emissions of non-GHG pollutants (such that they have not been regulated under PSD, and many have not been regulated under any CAA program).[267] Regulating GHGs under the PSD program would also cause a large increase in the number of modifications at existing sources that would be required to obtain PSD permits. Such modifications may occur at existing sources that have been long regulated as major for other pollutants, or at existing sources that become classified as major solely due to their GHG emissions.

Permitting smaller sources and modifications is generally less effective due to the fact that, while there are still administrative costs borne by the source and permitting authority, the environmental benefit of each permit is generally less than what results from permitting a larger source. Congress excluded smaller sources from PSD by adopting 100 and 250 tpy major source cutoffs in 1977 when PSD was enacted, and EPA rules have long excluded smaller sources and modifications from the program. This cutoff would not exclude many smaller sources of GHGs because the mass emissions (i.e., tons per year) of the relevant GHG may be substantially higher than the mass emissions of traditional pollutants for the same process or activity. Thus, while existing cutoffs for traditional pollutants capture a relatively modest number of new and modified sources per year, applying those same major source levels to CO_2, and possibly for other GHG, would capture a very large number of sources, many of which are comparatively smaller in size when compared to "traditional" sources. Similarly, for modifications, the current absence of a significance level, or the future adoption of a significance level that is below the current major source thresholds, would subject numerous small changes to PSD permitting requirements.

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[267] Some fraction of these small sources are regulated, at least in some areas, by SIPs and state minor source permit programs under section 110 of the CAA.

b. Potential Program Benefits

In the past, EPA has recognized that the PSD program can achieve significant emissions benefits over time as emissions increases from new major sources and major modifications are minimized through application of state-of-the-art technology.[268] As a result, other programs designed to reduce emissions are not compromised by growth in new emissions from PSD sources. Further emissions benefits are achieved when sources limit or reduce emissions to avoid PSD applicability.

A rationale for new source review since its inception has been that it is generally more effective and less expensive to engineer and install controls at the time a source (or major modification) is being designed and built, as BACT does, rather than retrofitting controls absent other construction.[269] In addition, the BACT determination process requires consideration of new emissions reduction technologies, which provides an ongoing incentive to developers of these technologies. There is the potential for avoiding or reducing GHG emissions if "traditional" sources begin to install abatement technologies for GHGs as they do for traditional pollutants. On the other hand, as discussed in section III,F, some suggest that regulations that apply stringent requirements to new sources and "grandfather" existing sources may create incentives to keep older and inefficient sources in use longer than otherwise would occur, diminishing the incentive for technological innovation and diffusion and reducing the environmental effectiveness and cost effectiveness of the regulation. Others believe that economic factors other than these regulatory differences tend to drive business decisions on when to build new capacity. EPA examined the effect of new source review on utilities and refineries in a 2002 report, as described in section III.F.4 of this notice.[270]

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[268] See, for example, Section II of "NSR Improvements: Supplemental Analysis of the Environmental Impact of the 2002 Final NSR Improvement Rules," U.S. EPA, November 21, 2002.

[269] Critics of this rationale suggest that under a market-oriented system covering both new and existing sources, source owners would be best placed to decide whether it is economic to place state-of-the-art controls on new sources.

EPA has not performed an analysis of the GHG emissions that might be avoided or reduced under PSD preconstruction permitting, nor of possible increases through unintended incentives. Such an analysis would necessarily involve new analysis of potential BACT technologies, considering costs and other factors, for GHGs emitted by numerous sectors. The PSD program, through the BACT requirement, might result in installation of such technologies as CCS, or the incorporation of other CO_2 reducing technologies, such as more efficient combustion processes.[271] However, it is not possible at this time to estimate these effects in light of the uncertainty surrounding the future trends in construction at new and modified sources, demonstration of commercial availability of various GHG control technology options, their control effectiveness, costs, and the aforementioned incentives to keep existing sources in operation and avoid modifying them. We ask for comment on the nature (and to the extent possible, the magnitude) of the potential effects of PSD on GHG emissions, and whether these effects vary between new and existing sources.

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[270] See U.S. EPA, "New Source Review: Report to the President, June 2002." As noted in section III.F of this notice, the report concluded (pp. 30-31) that, for existing sources, "[c]redible examples were presented of cases in which uncertainty about the exemption for routine activities has resulted in delay or resulted in the cancellation of projects which sources say are done for purposes of maintaining and improving the reliability, efficiency and safety of existing energy capacity. Such discouragement results in lost capacity, as well as lost opportunities to improve energy efficiency and reduce air pollution." With respect to new facilities, the report said, "there appears to be little incremental impact of the program on the construction of new electricity generation and refinery facilities."

Regarding the potentially large universe of smaller sources and modifications that could become newly subject to BACT, as described above, there are large uncertainties about the potential benefits of applying BACT requirements to GHG emissions from such sources. Individual emission reduction benefits from such sources would be smaller; however, the cumulative effect could theoretically be large because the requirement would cover many more sources. However, unless there are ways to effectively streamline BACT determinations and permitting for smaller sources (as discussed below), BACT would not appear to be an efficient regulatory approach for many other types of sources. We request comment on the potential overall benefit of applying the BACT requirement to GHG emissions, and how this potential benefit is distributed among categories of potentially regulated sources and modifications. Below, we discuss and ask for comment on possible tailoring of BACT for GHGs.

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[271] However, EPA notes that the BACT requirement does not require consideration of technologies that would fundamentally redefine a proposed source into a different type of source (e.g., BACT for a proposed coal-fired power plant need not reflect emission limitations based on building a gas-fired power plant instead). See, for example, In re: Prairie State Generating Company, PSD Appeal No. 05-05, slip op. at 19-37 (EAB 2006).

Finally, in considering the potential for emissions reductions from the PSD program, it is important to note that, historically, sources generally have taken action to avoid PSD rather than seeking a permit, where possible. Companies can reduce their PTE, for example, by artificially capping production or forgoing efficiency improvements. While these PSD avoidance strategies can sometimes reduce emissions (e.g., limiting operating hours or installing other controls to net out), they can sometimes result in forgone environmental benefits (e.g., postponing an efficiency project). These effects are very difficult to quantify. For example, the developer of a large apartment building that would be a major source for CO_2 might elect to provide electric space heat if it were determined that the direct and indirect costs of PSD made installation of gas heat uneconomical. From a lifecycle analysis standpoint, PSD could—depending upon the source of the electricity—lead to either a better or a worse outcome for overall emissions of GHGs. Similarly, because PSD is triggered based on increases over a past baseline, a source considering a potential modification may have an incentive to increase emissions (to the extent that can be done without a modification) for the 2-year period before the modification to artificially inflate the baseline. Similarly, in the electricity sector, a desire to avoid PSD review could be a disincentive for some projects to improve efficiency, because a small increase in utilization of the more-efficient EGU would raise CO_2 emissions sufficiently to trigger review. We solicit comments on the potential indirect effects, adverse or beneficial, that may arise from the incentive to avoid triggering PSD.

c. Administrative Considerations and Implications of Regulating Numerous Smaller Sources

The PSD program is designed to provide a detailed case-by-case review for the sources it covers, and that review is customized to account for the individual characteristics of each source and the air quality in the particular area where the source will be located. Although this case-by-case approach has effectively protected the environment from emissions increases of traditional criteria pollutants, there have been significant and broad-based concerns about PSD implementation over the years due to the program's complexity and the costs, uncertainty, and construction delays that can sometimes result from the PSD permitting process. Expanding the program by an order of magnitude through application of the 100/250-ton thresholds to GHGs, and requiring PSD permits for numerous smaller GHG sources and modifications not previously included in the program, would magnify these concerns. EPA is aware of serious concerns being expressed by sources and permitting authorities concerning the possible impacts of a PSD program for GHGs.

While the program would provide a process for reviewing and potentially reducing GHG emissions through the BACT requirement as it has done for other pollutants, we are concerned that without significant tailoring (and possibly even with significant tailoring), application of the existing PSD permitting program to these new smaller sources would be a very inefficient way to address the challenges of climate change. We ask for comment on how we should approach a determination of (1) whether PSD permit requirements could be appropriate and effective for regulating GHGs from the sources that would be covered under the statutory thresholds, (2) whether PSD requirements could at least be effective for particular groups of sources (and if so, which ones), and (3) what tailoring of program requirements (options for which are described in more detail below) is necessary to maximize the program's effectiveness while minimizing administrative burden and permitting delays. We are particularly interested in how we might make such judgments in light of the limitations on our ability to quantify the costs and emissions reduction benefits of the PSD program, and whether there are specific examples or other data that would help us with such an analysis.

For example, if 100- and 250-ton thresholds were applied to GHGs, the BACT requirement would need to be newly implemented for numerous small sources and modifications that permitting authorities have little experience with permitting. It would also likely involve, for both large and small sources, consideration of new pollutants for which there are limited add-on control options available at this time. Thus, as with setting NSPS, a BACT determination for GHGs would likely involve decisions on how proposed installations of equipment and processes for a specific source category can be redesigned to make those sources more energy efficient while taking cost considerations into account. However, unlike NSPS, because BACT is typically determined on a case-by-case basis for each facility and changes as technology improves, these decisions would have to take into account case-specific factors and constantly evolving technical information.[272] Due to the more-than-tenfold increase in the number of PSD permits that would be required if the 100- and 250-ton thresholds were applied to GHGs, and the potential complexity of those permitting decisions, state, local, federal, and tribal permitting authorities would likely face significant new costs and other administrative burdens in implementing the BACT requirement for GHGs. Large investments of resources would be required by permitting authorities, sources, EPA, and members of the public interested in commenting on these decisions. Also under this scenario, sources would likely face new costs, uncertainty, and delay in obtaining their permits to construct.

d. Definition of Regulated Pollutant for GHGs

We also note, as described above, that decisions on the definition of regulated pollutant for GHGs—whether GHGs would be regulated as individual gases or as a class—has implications for BACT determinations under the PSD program. If GHGs are regulated separately, it is possible that a control project for one GHG could trigger PSD for another (e.g., controlling methane in a way that increases CO_2). In addition, the economic and other impacts for BACT would need to be evaluated on a pollutant-by-pollutant basis. While regulating GHGs as a class would provide additional flexibility in this area, each BACT analysis would be more extensive because it would have to include combined consideration of all GHGs in the class. We ask for comment on the relative strengths and weaknesses of the various ways to define the regulated pollutant for GHGs as related to the BACT requirement.

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[272] The NSPS program does take into account improvements in technology, but does so during the 8-year review of the NSPS under 111(b)(1)(B) rather than on a permit-by-permit basis.

e. Other PSD Program Requirements

Other parts of the CAA PSD provisions and EPA regulations that could be affected by bringing GHGs into the program include the requirement to evaluate, in consultation with the Federal Land Manager (FLM), impacts on Air Quality Related Values (AQRVs) in any affected "Class I area" (national parks, wilderness areas, etc.), and the need to conduct additional analysis of the proposed source's impacts on ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility, as provided for in section 165(e) of the Act. These requirements can result in adjustments to the permit (for example, permit conditions may be added if a FLM demonstrates to a permitting authority that additional mitigation is necessary to address the impacts of GHG emissions on the AQRVs of a Class I area). Due to the increase in number of permits, permitting authorities may have to make significant programmatic changes to deal with the increased workload to conduct these analytical requirements of the PSD program, and many additional applicants will have to devote resources to satisfying these requirements. In addition, given the uneven geographic distribution of new source growth, some permitting authorities may be required to conduct more permit analyses than others.

f. GHG NAAQS Nonattainment Scenario

If nonattainment NSR were triggered under a GHG NAAQS, the most significant requirement would be the LAER requirement. Because LAER does not allow consideration of costs, energy, and environmental impacts of the emissions reduction technology, the LAER requirement would have the potential to act as a strong technology forcing mechanism in GHG nonattainment areas. On the other hand, once a technology is demonstrated, this mechanism does not allow consideration of the costs, competitiveness effects, or other related factors associated with the new technology. As with PSD requirements, the application of LAER to numerous smaller sources nationwide would raise new issues on which we request comment. For example, with LAER, any demonstrated technology for reducing CO_2 emissions, such as a new efficient furnace or boiler design, could become mandated as LAER for all future construction or modification involving furnaces or boilers. Manufacturers would have to supply technologies that could meet LAER or face regulatory barriers to the market, and could face a constantly changing regulatory level that may result in newly designed products being noncompliant shortly after, or even before, they are produced and sold. New and modified sources would be required to apply the new technology even if it is a very expensive technology that may not necessarily have been developed for widespread application at numerous smaller sources, and even if a relatively small emissions improvement came with significant additional cost. We request comment on how EPA should evaluate the LAER requirement under a NAAQS approach for GHGs. In particular, we ask for information about whether the relatively inflexible nature of the LAER requirement would lead to economic disruption for certain types of sources (and if so which ones), and whether the benefits of a NAAQS approach including LAER would warrant further evaluation and possible tailoring of LAER to address GHGs.

We also ask for comment on any other NSR program issues particular to a NAAQS approach, should EPA decide to establish a NAAQS for GHGs. Although we have not provided a comprehensive discussion of such issues, a number of questions arise that are particular to the NSR requirements that flow from a NAAQS approach. For example, if the entire country were designated nonattainment for GHGs, would the offset requirement function as a national cap-and-trade program for GHG emissions for all major sources? If so, how would such a program be administered, and would the numerous small sources described above be covered? Would the offset requirement argue for regulating GHGs as a group, rather than individually, to facilitate offset trading? What would be an appropriate offset ratio to ensure progress toward attainment? Similarly, for the air quality analysis requirements of PSD, how would a single source determine whether its contribution to nonattainment is significant? When must such a source mitigate its emissions impact, and what options are available to do so? Should EPA set a PSD increment for GHGs if a NAAQS is established? Are there additional issues of interest that we have not raised in this notice?

5. What Are the Possible Implications on Other Provisions of the Clean Air Act?

If PSD for GHGs applied to the same sources as a new market-oriented program to regulate GHGs under the Act, the interaction of the two programs would be a key issue. PSD would ensure that new and modified sources were built with the best available technology to minimize GHG emissions. A traditional argument for NSR is that it ensures that new sources are built with state-of-the-art technology that will reduce emissions throughout the lifetime of that source, which can be several decades. However if the market-oriented program is a cap-and-trade system with sufficiently stringent caps, PSD would not result in more stringent control of new GHG sources than the cap-and-trade system alone. In addition, the potential would exist for PSD to interfere with the efficient operation of the GHG cap-and-trade program. Although PSD would neither reduce nor increase the overall emission reductions achieved under the cap, it would force different choices about the stringency and location of controls than if control choices were based solely on market factors. Under this scenario, the result would be to increase costs without achieving additional GHG emissions reductions. For example, assume that a company undertakes a change that triggers PSD at a location where controls are expensive to retrofit but are required as BACT for that location. Without PSD, the company could have increased emissions and still complied with the cap by purchasing less expensive emissions reductions from another source, and the same total GHG emissions reductions would have been achieved. Notably, for GHGs, which have relatively uniform global concentrations, the location of GHG emissions does not matter to global climate impacts, so the policy reasons for the spatial component of PSD control requirement would not apply to GHG controls.

PSD program requirements also affect numerous CAA programs that require stationary source controls that may increase emissions of pollutants other than the pollutant targeted for control (i.e. "collateral increases"), such as the increased NO_x emissions that result when a thermal oxidizer is installed to control

VOC. Because there is no exemption from PSD requirements for such pollution control projects, the collateral increase must be reviewed, which can result in added costs and delay of those pollution control projects. Regulation of GHGs would exacerbate these concerns because the energy demands of many controls for criteria pollutants, HAP, and other pollutants have the potential to result in increased CO_2 emissions.

6. What Are Some Possible Tailoring Approaches to Address Administrative Concerns for GHG NSR?

The cost and potential broad applicability of PSD requirements raises questions about whether GHG regulation through PSD would be more effective in minimizing GHG increases if it operates as a broad program targeting numerous smaller sources and modifications, or as a narrow program targeting smaller numbers of large sources and modifications. We ask for comment on how these cost/benefit considerations for permitting small sources and modifications under PSD, as well as any other factors, should be considered in EPA's deliberations regarding the major source cutoffs and significance levels for GHGs as well as EPA's available legal authority in this area.

EPA believes that whether or not PSD is workable for GHGs may depend on our ability to craft the program to deal with the unique issues posed by GHG regulation.

This section discusses several options, including:

- Reducing the potential universe of sources based on "potential to emit" approaches;

- Increasing the major source thresholds and significance levels for GHGs, to permanently restrict the program to larger sources;

- Phasing in the applicability of PSD for GHGs;

- Developing streamlined approaches to implementing the BACT requirement; and

- Issuing general permits for numerous similar sources.

The options are not necessarily exclusive. Many are complementary, and we note that some combination of these options may be most effective. We also ask for suggestions on additional tailoring options not described below, and more generally on which options, if any, present an appropriately balanced means of addressing the administrative concerns.

Before discussing each option in detail, we present an overarching legal discussion that lays out possible rationales for such flexibility. For at least one of the options identified (e.g., the option of adopting higher major source sizes than those contained in the Act), the principal legal constraint is the "plain meaning" of the applicable PSD provisions, such as the major source levels. Nonetheless, we have identified two legal doctrines that may provide EPA with discretion to tailor the PSD program to GHGs: Absurd results and administrative necessity.

The Supreme Court has stated that the plain meaning of legislation is not conclusive "in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters' * * * [in which case] the intention of the drafters, rather than the strict language, controls." U.S. v. Ron Pair Enterprises, Inc., 489 U.S. 235, 242 (1989). To determine whether "the intentions of the drafters" differs from the result produced from "literal application" of the statutory provisions in question, the courts may examine whether there is a related statutory provision that conflicts, whether there is legislative history of the provisions in question that exposes what the legislature meant by those terms, and whether a literal application of the provisions produces a result that the courts characterize variously as absurd, futile, strange, or indeterminate. See, e.g., id., Nixon v. Missouri Municipal League, 541 U.S. 125 (2004); United States v. American Trucking Association, Inc. 310 U.S. 534 (1940); Rector of Holy Trinity Church v. U.S., 143 U.S. 457 (1892).

Further, the administrative burdens that would result for the federal and state permitting authorities, as well as the sources, from a literal application of the PSD provisions give rise to consideration of whether EPA can craft relief from a strict interpretation based on the judicial doctrine of administrative necessity. In Alabama Power, the D.C. Circuit addressed various instances of claimed administrative burdens resulting from the application of the PSD statutory provisions and efforts by EPA to provide regulatory relief. Alabama Power Co. v. Costle, 636 F.2d at 357-60 (D.C. Cir. 1980). In a section of its opinion titled "Exemptions Born of Administrative Necessity," the Court stated,

> Certain limited grounds for the creation of exemptions are inherent in the administrative process, and their unavailability under a statutory scheme should not be presumed, save in the face of the most unambiguous demonstration of congressional intent to foreclose them.

Id. at 357. The Court identified several types of administrative relief. One is "[c]ategorical exemptions from the clear commands of a regulatory statute," which the court stated are "sometimes permitted," but emphasized that they "are not favored." Id. at 358. A second is "an administrative approach not explicitly provided in the statute," such as "streamlined agency approaches or procedures where the conventional course, typically case-by-case determinations, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress." Id. A third is a delay of deadlines upon " 'a showing by [the agency] that publication of some of the guidelines by that date is infeasible.' " Id. at 359 (quoting NRDC v. Train, 510 F.2d 692, 712 (D.C. Cir. 1974). The Court indicated it would evaluate these choices based on the "administrative need to adjust to available resources * * * where the constraint was imposed * * * by a shortage of funds * * *, by a shortage of time, or of the technical personnel needed to administer a program." Id. at 358.

a. Potential-to-Emit: Reducing the Number of Sources Potentially Covered

Applicability of PSD is based in part on a source's "potential to emit" or PTE. The PTE concept also is used for applicability of nonattainment NSR, Title V, and the air toxics requirements of section 112. We discuss PTE in detail here, but the issues and questions we discuss in this section apply equally to these other programs. As noted above, PTE is defined as the maximum capacity of a source to emit any air pollutant under its physical and operational design. In the case of sources that are not operating for part of the year, the PTE for many types of sources counts the emissions that would be possible if those sources did emit year round.

EPA believes that an important threshold question is how to interpret "maximum capacity * * * to emit * * * under its physical and operational design" for commercial and residential buildings, and other types of source categories that might be subject to PSD and Title V solely due to GHG emissions. For example, in the case of a furnace at a residence, is it appropriate, in calculating the furnace's PTE, to assume that a homeowner would set the thermostat at a level that would require the furnace to operate continuously throughout the year? Even on a cold winter day, a furnace typically turns on and off throughout the day, and as the weather warms, the number of operating hours decreases until the weather warms to the point where the furnace is not needed at all and is shut off for an extended time.

The EPA has in a few instances provided guidance on PTE calculation methodologies to account for category-specific considerations. For example, we issued technical guidance for calculating PTE from grain elevators that took into account inherent limitations on the amount of grain that could be handled due to the fact that grain is only available for handling during a relatively short harvest period, and is further limited by the amount of grain capable of being grown (as represented by a record crop year adjusted for future increases in crop yield) on the land that would ever reasonably be served by the elevator.[273] We ask for comment on whether, for smaller GHG sources like these, there could be appropriate methodologies for defining PTE in ways that consider these common-sense limitations on a source's operation, but still reflect the maximum capacity to emit of a source.

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[273] Calculating Potential to Emit (PTE) and Other Guidance for Grain Handling Facilities: November 14, 1995 memorandum

Sources with PTE exceeding the major source threshold can become minor sources by taking legally and practically enforceable limits on their PTE, by, for example, agreeing to operate only part of the year, or only so many hours per day, or by employing control devices.[274] Many sources are able to avoid classification as "major" by taking such limits.

The estimates provided for potential new permits for GHG sources outlined in section VII.D.2 above are based on actual emissions. Were they based on PTE, and if year-round operation were assumed to represent PTE for all source categories, the estimates would likely be an order of magnitude higher (in the absence of actions to limit the scope of the programs). This emphasizes the significance of the interpretation of "potential to emit" for buildings and other categories not traditionally subject to PSD, as well as the

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from John S. Seitz, Director, U.S. EPA Office of Air Quality Planning and Standards, to EPA Regional Offices.

[274] Current regulatory language allows consideration of such limits in calculating PTE only if they are federally enforceable, but this definition was vacated or remanded in three separate cases—one for PSD/NSR (Chemical Manufacturers Assn v. EPA, No. 89-1514 (D.C. Cir. Sept. 15, 1995), one for Title V (Clean Air Implementation Project v. EPA, No. 96-1224 (D.C. Cir. June 28, 1996), and one for section 112 (National Mining Association v. EPA, 59 F. 3d 1351 (D.C. Cir. 1995). EPA is developing a rule to respond to these cases and in the meantime is following a transition policy that does not require federal enforceability.

importance of streamlined mechanisms for obtaining limits on PTE.

For traditional PSD and Title V permitting, the PTE limit is typically a source specific limit that is crafted in a facility's minor source permit and tailored to the source's individual circumstances. If it were necessary to create PTE limits for very large numbers of GHG-emitting sources nationwide, this would certainly require a more efficient approach than creating them through individual minor source permits. Not only would the sheer volume of permits and the process required for each one severely strain permitting authority resources, but some state and local agencies may lack the authority to establish minor source permit limits for non-NAAQS pollutants. In addition, while sources may not seek PTE limits for PSD until they have planned modifications that could otherwise trigger PSD, sources may seek PTE limits for Title V purposes as soon as the program is effective, meaning that the approach would need to deal with a large number of sources at essentially the same time.

We ask for comment on whether we should also therefore consider streamlined regulatory approaches for creating the legally and practically enforceable limits sources need without requiring a huge number of individual minor source permits. A possible mechanism could involve adopting a regulation that sets forth operational restrictions that limit PTE for a broad class of sources. We may wish to consider adopting—or encouraging state permitting authorities to adopt—rules for numerous categories where we expect there to be large numbers of sources whose actual emissions are not major but who have major PTE (unless addressed through interpreting maximum capacity as described above). Such a rule could, for example, limit a source's natural gas usage to 1700 MM BTU (17,000 therms) per year, which would keep it below the 100 tpy cutoff for Title V.[275] Typically, the rule would also build in some operating margin so that the limit is not right at the major source cutoff. The rule would have to include recordkeeping and reporting, which would be simple here since fuel use is metered. This approach may be a streamlined effective way to limit PTE for many sources with fuel combustion equipment, provided they can agree to comply with the limits in the rule, even in an abnormally long, cold winter. We ask for comment on stakeholders' experience with limiting PTE by rule rather than through individual permits, possible considerations in tailoring this approach to GHG sources, and identification of categories that might benefit from the use of rules limiting PTE.

Finally, where the establishment of a rule-based PTE limit for an entire source category is not recommended or is infeasible, the EPA requests comment on whether general permitting approaches might be useful. A general permit is a permit that the permitting authority drafts one time, and then applies essentially identically (except for some source-specific identifying information) to each source of the appropriate type that requests coverage under the general permit. Similar to the type of rules limiting PTE described above, a general permit could also limit PTE by setting out the operational restrictions (e.g., fuel combusted per year) necessary to assure the GHG emissions stay below major source thresholds, and would also spell out records the source would have to keep to assure it met these restrictions. To be most useful, the permit would need to address large numbers of similar sources. This approach may also work well for many types of GHG sources as well. We request comment on the use of a general permit approach to limiting PTE, and whether it would offer additional benefit over the approach of establishing operational restrictions directly by rule.

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[275] Although the PSD cutoff may in some cases be 250 tpy, sources will generally adopt PTE limits below 100 tpy to avoid both PSD and Title V applicability where they have the option to do so. For this reason, this example uses a 100 tpy cutoff, though in some cases PTE limits are taken to stay below a 250 tpy cutoff.

b. Options for Setting Higher GHG Major Source Cutoffs and Significance Levels

If the EPA ultimately determines that subjecting numerous small sources and modifications to PSD is not an effective way to address GHG emissions, one possible option for tailoring the program would be to raise the major source cutoffs (e.g., raise the threshold only for GHGs as a class, or perhaps only for certain individual GHGs) and establish a significance level for GHGs at a level high enough to assure that the program applies to larger sources and modifications, but excludes smaller sources and modifications. Since the existing major source thresholds are set forth in the CAA itself, EPA would need to find the legal flexibility to raise these thresholds above 250 and 100 tons per year. We present for discussion below several policy and legal options for higher major source cutoffs and significance levels.

i. Higher GHG major source cutoffs—possible approaches and legal basis

Regardless of how PTE is calculated, the major source size threshold will be a critical consideration in tailoring the PSD program for GHGs. There are a number of factors one might consider in choosing an appropriate cutoff for GHGs and whether to establish the cutoff for individual gases such as CO_2 or for GHGs as a class. One conceptual approach might be to identify the number of sources and modifications affected by various cutoffs, calculate the costs and benefits of a PSD program for that universe of affected sources, and select a cutoff that optimizes the benefit-cost ratio. Unfortunately, we presently have the ability to quantify in dollar terms only a subset of the climate impacts identified by the IPCC. Also, we have very limited data on the number of sources expected at various major source cutoffs, and even more limited data on the number of modifications at various significance levels. More importantly, it is very difficult to project the future number of permits or the incremental impact of any additional GHG reductions that would result from the control technology decisions therein. For these reasons, EPA cannot quantitatively determine an optimal major source size or significance level.

We could, however, consider other means of setting levels. One example is an emissions scaling approach. This approach would compare the emissions of other existing NSR pollutants for sources that are major and would calculate the corresponding GHG emissions that the same source would emit. This would be an appropriate approach if the goal were to tailor PSD applicability for GHGs to cover a similar universe of source sizes and types to the universe now regulated for other pollutants. A second option would be to base the major source size on a scientific determination of a level below which an individual source would have a de minimis contribution to any particular adverse climate-related impact on a relevant health, societal, or environmental endpoint. Although it may be possible to generally estimate such a level, we are not currently aware of any scientific literature that establishes a specific numeric threshold below which GHG emissions are de minimis, either in terms of their impact on climate, or on these endpoints. By the same token, aside from an ability to use currently available models to project temperature effects, the Agency does not have the ability to project specific climatic impacts or endpoints resulting from individual sources. Alternatively, we could potentially choose a GHG major source size that is selected to harmonize with GHG cutoffs from other regulatory programs. For example, the DOE's 1605(b) program has a threshold of 10,000 metric tons of CO_2 -equivalent, California's AB32 regulation for mandatory reporting of GHGs has a threshold of 25,000 metric tons of CO_2 -equivalent, and the Wisconsin emission inventory reporting requirements has a CO_2 threshold of 100,000 short tons. Notably, these examples are thresholds for reporting requirements only. PSD would involve much more than simply reporting emissions, so under a harmonizing approach we may need to evaluate whether it is feasible to require not only reporting, but also the other PSD elements for the sources that would be covered. We ask for comment on the range of approaches EPA could take in selecting a major source cutoff if we decide it is appropriate under existing legal authority, if available, to develop a higher cutoff for GHGs. In addition, we request data that may be useful for conducting necessary analysis to support such approaches.

A related issue to the establishment of the major source thresholds and significance levels for GHGs is the selection of the metric against which these levels are evaluated. Emissions of GHGs are typically expressed in a common metric, usually the metric called CO_2 -equivalent, although the measure known as Carbon Equivalent (CE) is also used. The use of either metric allows the impact of emissions of different GHGs to be directly compared, as some gases have a higher global warming potential or GWP than others. Since both units are measured in weight—usually tons—either could be used for purposes of PSD applicability. The use of either metric has the advantage of linking emissions of a GHG directly to its ability to impact climate, appropriately regulating more potent GHGs more stringently. The use of CO_2 -equivalent would solve the problem of leaving unreviewed significant GHG emissions of some chemicals, such as hydrofluorocarbons, but it would leave many small CO_2 sources with less climate impact still subject to PSD. However, the use of Carbon Equivalent (CE) addresses both concerns. The attached table demonstrates the possible effect of using CE in making PSD applicability decisions:

	GWP	Emissions equal to 250 tons CE
Carbon dioxide (CO^2)	1	917 tons.
Methane (CH^4)	21	44 tons.
Nitrous oxide (N^2O)	310	3 tons.
Hydrofluorocarbon (HFC)-134a	1300	1410 lbs.

As the table shows, it would take more CO_2 emissions to reach the major source size for CE. However, it would take substantially less of several other GHGs. Such an approach would likely result in fewer sources being added to the PSD program for GHGs in total. While more sources for several GHGs would be considered major, the major source population is, as noted above, dominated by CO_2, and there would be fewer sources classified as major due to CO_2 emissions. This approach arguably would regulate significant sources of potent GHG while also reducing the burden on relatively small sources of CO_2, focusing efforts on the sources with the most important climate impacts. EPA seeks comments on the potential use of the CE measure as the means to determine PSD applicability. Specifically we ask for comment on the appropriateness of the metric (considering that CO_2, rather than carbon, is the air pollutant), data regarding its effect on PSD applicability, and views concerning whether such an approach fits within the language of the CAA.

Whether, and the extent to which, EPA has flexibility to limit the application of the PSD permitting requirements (and, by extension, the nonattainment NSR permitting requirements if a NAAQS is set for GHGs) to sources that emit larger amounts of CO_2 and other GHGs than the 100/250 tpy thresholds depends on the interpretation of the key PSD definitional term, "major emitting facility." Under CAA section 165(a), the basic PSD applicability requirement is that a "major emitting facility" may not construct unless it has received a permit that covers specified requirements.[276] As defined by CAA section 169(1), a "major emitting facility" is defined to include

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[276] The requirement to obtain a permit applies to a source that commences construction after the effective date of the 1977 Clean Air Act Amendments (August 7, 1977), and that does so "in any area to which [the PSD provisions] appl[y]." All parts of the United States and its possessions are covered (see CAA sections 161, 302(d) and (q), and 110(a)(1)), but if EPA promulgates a NAAQS for GHGs and designates certain areas as nonattainment, then those areas would not be covered.

(i) "any * * * stationary source[]" that emits or has the potential to emit 100 tpy or more of any air pollutant and that falls into one of 28 specified industrial source categories; and (ii) "any other source with the potential to emit 250 tons per year or more of any air pollutant." However, the last sentence of this definition allows states to exempt "new or modified facilities which are nonprofit health or educational institutions" from the PSD program. EPA's regulations, promulgated in 1980 and revised several times since then, make clear that emissions count toward the 100/250 tpy thresholds only if they are "regulated NSR pollutant[s]" (e.g., 40 CFR 52.21(b)(1)(i)(a)), the specific meaning of which is discussed elsewhere in this notice.

Once GHGs are regulated, these PSD provisions, by their terms, would apply to sweep into the PSD program new sources that emit 100 or 250 tpy of CO_2 or other GHGs. As indicated above, the courts have held that the plain meaning of statutory provisions is generally controlling. Even so, we solicit comment on whether these PSD threshold requirements may present one of those rare cases in which congressional intent differs, based on the legislative history.

The legislative history indicates that Congress was aware of the range of stationary sources that emitted pollution and did not envision that PSD would cover the large numbers of smaller sources within that inventory. As the D.C. Circuit stated in Alabama Power, the seminal court decision regarding PSD that reviewed numerous challenges to EPA's initial set of PSD regulations, Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions of the deleterious pollutants that befoul our nation's air.

636 F.2d. 323, 353 (D.C. Cir. 1980) (emphasis added). In addition, Congress also sought to protect permitting authorities from undue administrative burdens. See S. Rep. 95-127 at 97; Alabama Power, 636 F.2d at 354.

One important indication that Congress viewed PSD as limited in scope may be found in information provided by EPA in 1976 and included in the Congressional Record: A comprehensive list of industrial and commercial source categories, which included the amounts of certain pollutants emitted by "typical" sources in those categories and the number of new plants in those categories constructed each year. 122 Cong. Rec. S 24548-50 (July 29, 1976) (statement of Sen. McClure). The pollutants included particulate matter (PM), sulfur dioxide (SO_2), carbon monoxide (CO), and hydrocarbons. The two largest of these source categories consisted of—

- Small boilers, those that generate between 10 MMbtu/hr and 250 MMbtu/hr. EPA estimated that 1,446 new plants with boilers of this size were, at that time, constructed each year, and that the amount of PM emissions with controls from a "typical" such boiler were 53 tpy.

- Very small "boilers," those that generate between 0.3 MMBtu/hr and 10 MMBtu/hr. EPA estimated that 11,215 new plants with boilers of this size were, at that time, constructed each year, and that the amount PM emissions with controls would be 2 tpy.

The D.C. Circuit indicated, in Alabama Power, that Congress did not believe sources with boilers of these small sizes should be covered by PSD: "[With respect to] the heating plant operating in a large high school or in a small community college * * * [w]e have no reason to believe that Congress intended to define such obviously minor sources as 'major' for the purposes of the PSD provision." [277] 636 F.2d at 354. To support this proposition, the Court cited a statement in the Congressional Record by Sen. Bartlett arguing that the PSD provisions should not cover "[s]chool buildings, shopping malls, and similar-sized facilities with heating plants of 250 million BTUs." Id. at 354 (citing 122 Cong. Rec. S. 12775, 12812 (statement of Sen. Bartlett)). Yet, boilers of even this small size could well emit at least 250 tpy of CO2 and therefore could fall into PSD permitting requirements if the definition of "major emitting facility" is read to include emitters of CO_2 of that size or more.

Thus, it is clear that Congress's construct of PSD—specifically, the 100/250 tpy thresholds—was based on Congress's focus on conventional pollutants at that time and its understanding that sources emitting conventional pollutants above those levels should be subject to PSD, with its attendant cost burdens, both because such sources have the financial resources and because they have the responsibility to reduce their large share of the convention pollution problems. Limited administrative resources were also part of this equation. But the equation is scrambled when CO_2 is the pollutant because many smaller sources, with limited resources, and whose share of the GHG emissions problem is no greater than their share of the conventional pollution problem, get swept into PSD at those threshold levels. Further, administrative resources become greatly stretched. Juxtaposing the limited scope of the universe of PSD sources that Congress had in mind against the broad terms that Congress used in defining "major emitting facility," which determines PSD applicability, raises the question of whether a narrower interpretation of those terms may be permissible under various judicial doctrines.

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[277] Although Congress specifically authorized the States to exempt "nonprofit health or education institutions" from the definition of "major emitting facility" this statement by the D.C. Circuit should be taken as the Court's view that Congress did not design PSD to cover sources of the small size described.

We solicit comment on whether the case law cited above, concerning narrowing the application of statutory provisions in light of other indications of congressional intent or in light of administrative necessity, support interpreting the term, "major emitting facility" in a manner that is narrower than the literal meaning of the phrase, "any other source" in the case of sources that emit amounts of CO_2 that are more than 250 tpy but less than the levels discussed above.

ii. Modifications: Options and Legal Basis for Higher GHG Significance Levels

Regarding the selection of a significance level for GHG emissions, we could follow a de minimis approach, as we have done in setting the existing PSD significance levels. We could base the significance level on the level below which an individual modification has a de minimis contribution to climate change. A scaling approach similar to that discussed above for the major source threshold is also an option for setting the significance level. We could set the significance level to a level of GHG emissions that corresponds to the same activity level as the significance levels for other pollutants, so as to roughly maintain the same permitting burden for GHGs as for "traditional" pollutants. We ask for comment on the merits of these approaches and invite suggestions on other approaches. We are also interested in specific information that would help us analyze how the selection of various significance levels would affect the number and types of modifications affected.

The legal rationale for establishing a significance level is found in the D.C. Circuit's Alabama Power decision, 636 F.2d at 405, where the Court authorized EPA to establish "a de minimis standard rationally designed to alleviate severe administrative burdens." The Court elaborated:

> A rational approach would consider the administrative burden with respect to each statutory context: what level of emission is de minimis for modification, what level de minimis for application of BACT. Concerning the application of BACT, a rational approach would consider whether the de minimis threshold should vary depending on the specific pollutant and the danger posed by increases in its emission. The Agency should look at the degree of administrative burden posed by enforcement at various de minimis threshold levels.* * * It may * * * be relevant * * * that Congress made a judgment in the Act that new facilities emitting less than 100 or 250 tons per year are not sizeable enough to warrant PSD review.

Id. (emphasis added). We believe that this approach entails broad discretion in fashioning a de minimis level, consistent with the overarching principle of obviating administrative burdens that are not commensurate with the contribution of the amount of emissions to the pollution problem. We consider the

Court's emphasized statement to leave the door open to setting significance levels at the same level as the applicability threshold levels. We solicit comment on appropriate GHG significance levels, and on the relationship of significance levels to the GHG applicability thresholds discussed above.

c. Phase-In of PSD Permitting Requirements

Absent higher major source cutoffs and significance levels, it would be necessary to formulate a strategy for dealing with the tenfold increase in required permits that EPA projects permitting authorities will experience if GHGs become regulated for PSD purposes. Even with advance notice, an increase of this magnitude over a very short time could overwhelm permitting authorities. They would likely need to fund and hire new permit writers, and staff would need to develop expertise necessary to identify sources, review permits, assess control technology options for a new group of pollutants (and for a mix of familiar and unfamiliar source categories), and carry out the various procedural requirements necessary to issue permits. Sources would also face transition issues. Many new source owners and operators would need to become familiar with the PSD regulations, control technology options, and procedural requirements for many different types of equipment. If the transition were not effectively managed, an overwhelmed permit system would not be able to keep up with the demand for new preconstruction permits, and construction could be delayed on a large number of projects under this scenario.

The size of the increase in workload that must be accommodated and the potentially serious consequences of an overly abrupt transition demonstrate that a phase-in approach may have merit. Under one concept of a phase-in approach, EPA could phase-in PSD applicability beginning with the largest sources of GHGs and gradually include smaller sources. This could be accomplished by initially adopting a relatively high major source size and significance level, and then periodically lowering the level until the full coverage level is reached. We ask for comment on what an appropriate transition time would be, what the appropriate starting, middle, and end points would be in terms of coverage, and what requirements, if any, should be put into place for sources prior to their being phased in. For example, if the ultimate goal is to reach a 250 tpy major source cutoff, what would be the appropriate starting cutoff (e.g., 10,000 tpy) and how should it be determined? Would the phase-in need to be complete by a certain date, and if so how long should the phase-in take? Alternatively, could the phase-in of the smaller sources proceed by setting up periodic EPA evaluations of the administrative necessity for deferring applicability for such sources, and applying PSD only after we determine that it is feasible to do so? We also ask for comment on what activities occurring over this time we should consider in structuring a phase-in.

As noted elsewhere, in its broad review of the initial PSD program promulgated under the 1977 Clean Air Act Amendments, the D.C. Circuit set out a range of mechanisms through which an agency can, at least under "limited" circumstances, provide relief on grounds of "administrative necessity" from even clear statutory mandates, as long as those mandates do not unambiguously foreclose such relief. Alabama Power, 636 F.2d at 357. The Court noted that an agency could establish the need for such relief based on "a shortage of funds[,] * * * time, or * * * technical personnel." Id. at 358.

As described above, the large number of sources that would become subject to the PSD requirements at the 100/250 tpy levels would strain the administrative resources of the State permitting authorities and perhaps also of the EPA regional offices that issue PSD permits. Each of the constraints noted by the Court in Alabama Power—funds, time, and technical personnel—would arise.

Elsewhere in this notice, we solicit comment on whether "administrative necessity" authorizes EPA to exempt categories of smaller GHG emitters. Here, we solicit comment on phasing-in the applicability of the permit program over a multi-year period, with successively smaller sources becoming subject. This method could allow an orderly ramp-up in funding and in essential human capital. Under such an approach, we also seek comment on whether it would be necessary to set a firm schedule for phase-in, or whether it is sufficient for the agency to select a future date to assess the level of program coverage and the associated administrative burden, and determine at that time whether it is appropriate to add them to the program, and if not, to set an additional future date to revisit the issue. We request information that would help us determine the appropriate timeframe for such assessments, including the current and anticipated state resources for processing PSD permits, including numbers of permitting personnel, and the time period and person-hours needed to issue a typical permit.

d. Streamlining Determinations of Required Controls

As previously noted, one of the most significant aspects of the PSD program for GHGs is the BACT requirement. While permitting authorities are accustomed to making BACT determinations on a case-by-case basis for major sources and modifications under the current PSD program, BACT for GHGs (particularly CO_2) presents significant additional permitting challenges. The primary challenge is the dramatic increase in the number of sources and modifications that under the 100/250-ton thresholds would be subject to BACT review and the new source categories that would be brought into the PSD program, which could exceed the capacity of the permitting system and have negative effects described above in section VII.D.4. An additional challenge stems from the fact that for some GHG-emitting activities, primarily CO_2 from combustion sources, permitting authorities will need to look at alternative approaches to determining BACT such as setting efficiency targets, if add-on controls are not viewed as adequately demonstrated. While there is much information available on efficiency for some of the various kinds of equipment used by these newly applicable sources, permit engineers will need to understand this information for a very wide range of source categories.

This section seeks comment on approaches for streamlining the BACT process for many new smaller sources that could be brought into the PSD program based on their GHG emissions. Under PSD, BACT is a case-by-case decision that reflects the state-of-the-art demonstrated control technology at the time of the permit action. Thus, BACT changes over time and requires continual updating. Determining BACT is also a decision that affords permitting authorities flexibility to consider a range of case-specific factors such as cost, energy, and environmental impacts. However, full case-by-case consideration of those factors requires significant data and analysis in order for permitting authorities to arrive at a permitting decision that is appropriate for each individual source or modification

EPA is interested in whether there would be ways to move from a PSD permit system in which BACT limits are set on an individual case-by-case basis to a system in which BACT determinations could be made for common types of equipment and sources, and those determinations could be applied to individual permits with little to no additional tailoring or analysis. EPA has previously introduced this concept, known as "presumptive BACT," as an aid to streamlining permitting for desulfurization projects at refineries as well as in other instances,[278] and some state permitting authorities have adopted similar approaches in their air permitting programs.[279] Based on our understanding of the types of sources that will become subject to PSD if GHGs are regulated with a major source size of 250 tpy of emissions, we believe the presumptive BACT process could offer significant streamlining benefits. These benefits arise because many of these smaller sources will likely have very similar emissions producing equipment, and there will be little variation across sources with respect to the cost, energy, and environmental considerations in the BACT decision.

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[278] See January 19, 2001 memo from John S. Seitz, Director, Office of Air Quality Planning and Standards to the Regional Air Division Directors entitled, "BACT and LAER for Emissions of Nitrogen Oxides and Volatile Organic Compounds at Tier 2/Gasoline Sulfur Refinery Projects."

[279] For example, Wyoming has a minor source permitting program that includes a BACT analysis, and they use a presumptive BACT process for issuing minor source permits to a particular source category—oil and gas production facilities. See Permitting Guidance for Oil and Gas Production Facilities, Wyoming Dept. of Environmental Quality, Air Quality Division (August 2007 revision).

While the CAA states that PSD permits shall be issued with BACT determinations made for each pollutant on a "case-by-case basis," the court in Alabama Power recognized that exceptions may be appropriate where "case-by-case determinations, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress." 636 F.2d at 358 (emphasis added). The court recognized that such streamlining measures may be needed when time or personnel constraints or other practical considerations "would make it impossible for the agency to carry out its mandate." See id. at 359. Given the more-than-tenfold increase in new sources that would likely be brought into the PSD program once GHGs are regulated and the other challenges described above, maintaining a traditional PSD permitting program with individual case-by-case BACT determinations may be impractical, warranting streamlined regulatory approaches as allowed under the Act. A presumptive BACT permitting program would allow EPA, state and local permitting authorities to carry out the PSD program in a timely and efficient manner necessary to promote (rather than hinder) control of GHG emissions from the many new, small source categories that would be required to have PSD permits based on their GHG emissions, while still preserving opportunities for public participation.

In considering a change from case-by-case BACT determinations to a presumptive BACT process for some specific source categories within the PSD program, EPA is considering how such presumptive BACT limits should be established and used, and what provisions in the CAA would set requirements or limits on their establishment and use. In particular, EPA recognizes the statutory requirement to set BACT limits on a case-by-case basis after taking into account site-specific energy, economic, and environmental impacts (otherwise known as collateral impacts). One option would be to allow permitting authorities to adjust any BACT limit that was based on presumptive BACT, as necessary, upon identifying significant collateral impacts applicable to a specific source. EPA also recognizes the requirement to subject proposed PSD permits, and the BACT limits contained within them, to public notice and comment before such permits become final. A presumptive BACT program could be designed to establish presumptive emissions limits for a particular category of sources through guidance that would be issued only after public notice and comment procedures. Another approach could be to allow presumptive BACT limits in each permit to become final only if public comments fail to establish that significant case-specific energy, economic, and/or environmental impacts require adjustment of the presumed limit for that particular source.

In addition, while case-by-case BACT determinations allow for the continual evolution of BACT requirements over time (as controls applied in prior permits are considered in each subsequent case-by-case BACT determination), EPA recognizes that application of presumptive BACT to a category of sources over many permitting decisions may somewhat diminish PSD's incentives for improved technology. EPA is interested in options that would help maintain advances in control technologies, such as a requirement to update and/or strengthen the presumptive BACT at set intervals (such as after 3 years). EPA seeks comment on all aspects of the use of presumptive BACT limits within the PSD program, including EPA's authority to do so, whether there is need for and value to such an approach, and suggestions for how such limits could be established, updated, and used consistent with the requirements of the CAA.

The central component of a presumptive BACT approach would be the recurring technical determination, subject to notice and comment, of the presumptive BACT levels for various categories. Because of the limited data we currently have about the number and types of sources that would become subject to the BACT requirement for GHGs, we cannot at this time predict how many or which source categories might benefit from such an approach if we opt to pursue it. We seek comment on the basis we could use in setting the presumptive BACT level. Considerable work will be needed to determine what options exist for controlling GHG emissions from these categories of smaller sources and the various emitting equipment they use. Even if a determination is made that add-on controls for CO_2 from combustion sources are adequately demonstrated, it is unlikely that the application of these controls would be cost-effective at these small sources in the relatively near future. Thus the focus of presumptive BACT for CO_2 would likely be on energy efficiency standards for the installed equipment.

While PSD permitting staff generally would not possess specialized knowledge in the area of energy efficiency for categories of small sources, there is experience within EPA and other agencies that could help inform the establishment of presumptive BACT. Both EPA and DOE, for example, have extensive experience in deploying cost effective technologies and practices to reduce greenhouse gases from a wide range of emissions sources in support of the President's GHG intensity goal. For example the Energy Star program promotes efficient technologies through a labeling program that establishes performance-based specifications for determining the most efficient products in a particular category, which then qualify for the Energy Star label. To develop these specifications, EPA and DOE use a systematic process that relies on rigorous market, engineering, and pollution savings analyses as well as input from stakeholders. While Energy Star specifications generally cover electrical appliances or fuel combusting appliances that would be smaller than those triggering the BACT requirement, the types of analyses conducted for Energy Star could inform the presumptive BACT process. In addition, DOE's Energy Efficiency and Renewable Energy program sets standards for several types of equipment, some of which may be affected by the BACT requirement if GHGs are regulated, including furnaces, boilers, and water heaters. The DOE standards are similar to the concept of presumptive BACT in that they take cost into consideration and are updated over time.[280] They also take into account effects on competitiveness among equipment manufacturers, which could be a significant concern if left unaddressed in determining presumptive BACT. We ask for comment on whether these or other similar programs could serve as a basis for the setting of presumptive BACT where applicable.

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[280] See, e.g., 42 U.S.C. 6295(o).

Regarding LAER, we note that, as previously discussed, if a NAAQS were established for GHG at levels lower than current concentrations, the relevant technology requirement would be LAER, not BACT. We ask for comment on whether the presumptive BACT approach would have utility for LAER and whether the particular statutory language of the LAER requirement would allow a presumptive approach under the same legal principles laid out for BACT.

Finally, while presumptive BACT or LAER may have the potential to help address the problem of numerous small but similar types of sources, it is likely of less value in making BACT or LAER determinations at the types of large sources that have generally been subject to PSD for traditional pollutants. This is because there is generally less similarity among these traditional sources. Nonetheless, as noted above, there may be numerous modifications that will be newly subject to PSD for GHGs at such sources, and there may also be issues unique to establishing control technology requirements for GHGs that do not presently exist for such sources. We ask for comment on whether there are issues at traditional PSD major sources that arise for GHGs and that would not be addressed by a presumptive BACT approach. If so, we ask for comment on additional options for tailoring the BACT requirement to address these issues.

e. General Permits for Streamlined Permitting of Numerous Similar Sources

An approach closely linked with the presumptive BACT concept is the concept of a general permit for PSD. A general permit is a permit that the permitting authority drafts one time, and then applies essentially identically (except for some source specific identifying information) to each source of the appropriate type that requests coverage under the general permit. Congress expressly codified the concept of general permits when it enacted the Title V program (discussed below) and states have been using general permits and similar process for years in their own permit programs, particularly for minor source NSR[281] and operating permits. Due to the case-by-case nature of PSD permitting for "traditional" major sources and the differences among individual PSD sources, there has not been much interest or activity in general permitting for PSD. However, if one or more GHGs (particularly CO_2) become regulated pollutants, this approach merits strong consideration due to the large number of sources that EPA expects will become newly subject to PSD for their GHG emissions and the similar characteristics of many of these sources.

Although there is no provision in the CAA that expressly authorizes the use of general permits in the PSD program, the D.C. Circuit, in the Alabama Power case described above, recognized that "[c]onsiderations of administrative necessity may be a basis for finding implied authority for an administrative approach not explicitly provided in the statute" and expressly identified general permits as an alternative to the exemptions that were at issue in that case. See 636 F.2d at 360. Further, courts have recognized EPA's authority to use general permits under section 402 of the Clean Water Act without an express provision authorizing such general permits. Environmental Defense Center v. EPA, 344 F.3d 832, 853 (9th Cir. 2003) ("General permitting has long been recognized as a lawful means of authorizing discharges.") (citing NRDC. v. Costle., 568 F.2d 1369, 1381 (D.C. Cir. 1977)); NRDC v. Train., 396 F. Supp. 1393, 1402 (D.D.C. 1975) (EPA has "substantial discretion to use administrative devices, such as area permits, to make EPA's burden manageable.").

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[281] The minor NSR is a NAAQS-based program for review of minor sources that is distinct from the PSD program. It is not discussed here.

In considering the use of general permits within the PSD program, EPA is considering how such general permits would be established and used, and what provisions in the CAA might limit their establishment and use. One consideration in establishing PSD general permits is the requirement in CAA section 165(a)(2) that permits be issued after "a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations." One possible approach for fulfilling the public participation requirement is the approach followed for Title V general permits in 40 CFR 70.6(d), which provide that permitting authorities may establish general permits after following notice and comment procedures required under 40 CFR 70.7(h) and then grant a source's request to operate under a general permit without repeating the public participation procedures. Other considerations for establishing general permits under the PSD program include determining BACT on a case-by-case basis (as discussed in the previous section), and the other requirements referred to earlier in this section concerning the evaluation of impacts on AQRVs in Class I areas and the analysis of air quality and other potential impacts under CAA section 165(e).

EPA seeks comment on the use of general permits within the PSD program, including both EPA's authority to do so and suggestions for how general permits would be established and used consistent with the requirements of the CAA and identification of source categories that could benefit from such an approach. We also ask for comment on whether a general permit program approach could also work for nonattainment NSR in the event the EPA promulgates a NAAQS for GHGs and designates areas as nonattainment.

f. Coordinating Timing of PSD Streamlining With GHG Regulation Under the Act

Regardless of how EPA might tailor the NSR program for GHGs, the timing of these approaches must be coordinated with other GHG actions under the CAA. As described above, the applicability of PSD is tied to whether a pollutant is subject to a control program under the Act. EPA strongly believes that we should be prepared the first time we regulate one or more GHGs under any part of the CAA to explain our approach to permitting, including full consideration of the ideas presented above for responding to the PSD implementation challenges. Coordination of the timing of tailoring strategies for PSD or nonattainment NSR to match with the effective date of the first GHG regulation is necessary to minimize confusion on the part of sources, permitting authorities, and the public, to provide for as effective a transition as possible, and to ensure that the strategies intended to avoid problems can be in place in time to prevent those problems. We seek comment on timing issues in general, and particularly on the coordination of the timing of permitting requirements with the timing of GHG regulation under other parts of the Act.

F. Title V Operating Permits Program

1. What Are the Clean Air Act Requirements Describing the Operating Permits Program?

The Title V operating permits program was enacted in 1990 to improve sources' compliance with the requirements of the CAA.[282] In summary, it provides for facility operating permits that consolidate all Act requirements into a single document, provides for review of these documents by EPA, States, and the public, and requires permit holders to track, report, and certify annually to their compliance status with respect to their permit requirements. Through these measures, it is more likely that compliance status will be known, any noncompliance will be discovered and corrected, and emissions reductions will result. Title V generally does not add new substantive requirements for pollution control, but it does require that each permit contain all a facility's "applicable requirements" under the Act, and that certain procedural requirements be followed, especially with respect to compliance with these requirements. "Applicable requirements" for Title V purposes generally include all stationary source requirements, but mobile source requirements are excluded.

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[282] The operating permits program requirements are contained in title V of the CAA, and are codified in EPA regulations at 40 CFR parts 70 and 71.

Presently there are generally not any applicable requirements for control of GHGs that would be included in Title V permits, but regulation of GHGs under any of the approaches described above, including PSD, could give rise to applicable requirements that would be included. Even if a particular source emitting 100 tpy of a GHG is not subject to GHG regulations that are "applicable requirements," under a literal reading of Title V, the Title V permit for that source must include any other applicable requirements for other pollutants. For example, while a 100 tpy CO_2 source would usually have relatively small criteria pollutant emissions that would not by themselves have subjected the source to title V, once subjected to title V for CO_2 emissions, the source would then need to include any SIP rules (e.g., generally applicable opacity limitations that exist in several SIPs) that apply to the source.

When a source becomes subject to Title V, it must apply for a permit within one year of the date it became subject.[283] The application must include identifying information, description of emissions and other information necessary to determine applicability of CAA requirements, identification and certification of the source's compliance status with these requirements (including a schedule to come into compliance for any requirements for which the source is currently out of compliance), a statement of the methods for determining compliance, and other information. The permitting authority then uses this information to issue the source a permit to operate, as appropriate. A Title V source may not operate without a permit, except that if it has submitted a complete application, it can operate under an "application shield" while awaiting issuance of its permit.

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[283] The deadline may be earlier if the permitting authority (usually an approved state or local air pollution control agency, but in some cases the EPA) sets an earlier date.

Title V permits must contain the following main elements: (1) Emissions standards to assure compliance with all applicable requirements; (2) a duration of no more than 5 years, after which the permit must be renewed; (3) monitoring, recordkeeping, and reporting requirements necessary to assure compliance, including a semiannual report of all required monitoring and a prompt report of each deviation from a permit term; (4) provisions for payment of permit fees as established by the permitting authority such that total fees collected are adequate to cover the costs of running the program; and (5) a requirement for an annual compliance certification by a responsible official at the source. An additional specific monitoring requirement, compliance assurance monitoring (CAM), also applies to some emissions units operating at major sources with Title V permits.[284] The CAM rule requires source owners to design and conduct monitoring of the operation of add-on control devices used to control emissions from moderately large emissions units. Source owners use the monitoring data to evaluate, verify, and certify the compliance status for applicable emissions limits.[285] The CAM rule is implemented in conjunction with the schedule of the operating permits program.

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[284] Specifically, CAM applies to units with add-on control devices whose pre-control emissions exceed the applicable major source threshold for the regulated pollutant.

[285] CAM requirements are codified in 40 CFR part 64.

While these are the main elements relevant to a discussion of GHGs, there are numerous other permit content requirements and optional elements, as set forth in the Title V implementing regulations at 40 CFR 70.6. One of these optional elements is of particular interest when considering the implications of GHG permitting: The provisions for general permits, which, as discussed in more detail below, can allow for more streamlined permitting of numerous similar sources.

In addition to the permit content requirements, there are procedural requirements that the permitting authority must follow in issuing Title V permits, including (1) determining and notifying the applicant that its application is complete; (2) public notice and a 30-day public comment period on the draft permit, as well as the opportunity for a public hearing; (3) notice to EPA and affected states, and (4) preparing and providing to anyone who requests it a statement of the legal and factual basis of the draft permit. The permitting authority must take final action on permit applications within 18 months of receipt. EPA also has 45 days from receipt of a proposed permit to object to its issuance, and citizens have 60 days to petition EPA to object. Permits may also need to be revised or reopened if new requirements come into effect or if the source makes changes that conflict with, or necessitate changes to, the current permit. Permit revisions and reopenings follow procedural requirements which vary depending on the nature of the necessary changes to the permit.

2. What Sources Would Be Affected If GHGs Were Regulated Under Title V?

Title V requires permitting for several types of sources subject to CAA requirements including all sources that are required to have PSD permits. However, it also applies to all sources that emit or have the potential to emit 100 tpy of an air pollutant.[286] As discussed above for the PSD program, the addition of GHG sources to the program would trigger permitting requirements for numerous sources that are not currently subject to Title V because their emissions of other pollutants are too small. The Title V cutoff would bring in even more sources than PSD because the 100 tpy (rather than 250 tpy) cutoff applies to all source categories, not just the ones specified in the Act's PSD provisions.

Using available data, which we acknowledge are limited, and engineering judgment in a manner similar to what was done for PSD, EPA estimates that more than 550,000 additional sources would require Title V permits, as compared to the current universe of about 15,000-16,000 Title V sources. If actually implemented, this would be more than a tenfold increase, and many of the newly subject sources would be in categories not traditionally regulated by Title V, such as large residential and commercial buildings. However, as described below, EPA believes that, if appropriate, there may be grounds to exclude most of these sources from Title V coverage, either temporarily or permanently, under legal theories similar to those for PSD.

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[286] Other sources required to obtain Title V permits are "affected sources" under the acid rain program, and sources subject to NSPS or MACT standards (though non-major sources under these programs can be exempted by rule). It does not apply to mobile sources.

The CAM requirement also applies to major sources that require Title V permits, meaning that a number of smaller sources are potentially newly subject to CAM as well. Under the current CAM requirements, applicability is limited to the monitoring of add-on control devices (e.g., scrubbers, ESPs). Presently there are few known add-on control devices for CO_2, and for many smaller sources, it is unlikely that there will be cost effective add-on controls for CO_2 for many years. Thus, we generally expect source owners to comply with any applicable GHG limits through the use of improved energy efficiency and other process operational changes rather than the use of add-on emissions reduction devices. As a result, even with the large number of sources that will exceed the applicability cutoffs, the CAM rule will have very limited application for sources subject to GHG rules. We ask for comment on this assessment of CAM applicability, and whether there may be CAM impacts that we have not described here.

As an additional note, if GHGs were regulated under section 112 authority, Title V could apply at an even smaller threshold. This consideration adds to the list of difficulties with using section 112 to regulate GHGs that were identified in section VII.C. Although HAPs are excluded from the definition of "regulated NSR pollutant," Title V explicitly includes major sources as defined in section 112 on the list of sources required to obtain an operating permit. While minor sources of HAP can be excluded by rule, major sources of HAP cannot. For HAPs, the major source cutoffs are (as noted previously) 25 tons for any combination of HAPs, and 10 tons for any single HAP. Thus, if GHGs were regulated as HAPs, a 10 ton CO_2 source would require an operating permit under Title V. Under this approach, the number of new Title V sources would easily number in the millions absent a means to limit PTE. In addition the major source definition under section 112 does not exclude fugitive emissions, as it does under PSD for unlisted categories. Thus, if GHGs were designated as HAPs, an uncertain number of additional new kinds of sources (e.g., agriculture, mining), would become newly subject to Title V due to fugitive emissions of GHGs. We ask for comment on whether there are factors EPA should consider in its description of the universe of potentially affected sources.

3. What Are the Key Milestones and Implementation Timeline if Title V Were Applicable for GHGs?

Under an interpretation of the Act parallel to that for PSD, Title V would become applicable for GHGs as soon as GHGs become subject to any actual control requirement. This timing is perhaps even more important for Title V than for PSD because of the potential for an extremely large number of new sources (unless EPA administratively reduced coverage) combined with the fact that Title V applications would all be due at the same time (unless a phase-in approach were adopted). This is because Title V requires permit applications within one year of a source becoming subject to the program, in contrast to the PSD program, where permitting authorities would receive applications over time as sources construct or modify.

Permitting authorities generally must act on Title V applications within 18 months. However, Congress addressed the burden imposed by the initial influx of (what turned out to be less than 20,000) initial Title V permits when it enacted Title V in 1990 by providing for a 3-year phased permit issuance timeline. Although the initial phase-in period is over, we discuss below the possibility of interpreting Title V provisions to authorize a phase-in period for GHG sources becoming newly subject to Title V as well. We ask for comment on whether there are factors EPA should consider in its description of these timelines.

4. What Are Possible Cost and Emission Impacts of Title V for GHGs?

Title V generally does not impose additional applicable requirements on a source. However, sources, permitting authorities, EPA, and the public (to the extent that they participate in the permitting process) all may incur administrative burden due to numerous activities associated with applying for, reviewing, commenting on, and complying with Title V permits. There are significant challenges that would arise if GHG sources become subject to Title V. The sheer volume of new permits would heavily strain the resources of state and local Title V programs. These programs may have to tailor their fee requirements or other program elements to address the strain caused by the influx of numerous smaller sources, even if the permits for each individual source are relatively straightforward. Many new types of sources would need to understand and comply with a new and unfamiliar program. Even under streamlined approaches like general permits (discussed below), there would be administrative burden imposed as sources would have to determine whether they are covered and, if so, would need to submit annual reports and certifications. EPA would see additional burden as well, both because we are the permitting authority in some areas and because we would probably see an increase in the number of Title V petitions. Because Title V does not create new applicable requirements, the new costs of Title V would be mainly attributable to administrative burden. Nonetheless, this overall administrative burden is likely to be unreasonable unless EPA reduces the number of covered sources as discussed below.

Title V of the CAA also contains a self-funding mechanism requiring that permitting authorities collect permit fees adequate to support the costs of running a Title V program. Title V fees must be used solely to run the permit program. For GHGs, the possibility of a huge influx of smaller sources raises questions about how permitting authorities should adjust their fee schedules to ensure that they have adequate resources to permit these sources without causing undue financial hardship to the sources. The most common approach, a cost per ton fee that is equal for all pollutants, would likely result in excessive costs to GHG-emitting sources because of the large mass emissions of GHGs compared to other pollutants. This is particularly true for the universe of small sources brought into Title V solely for their GHG emissions, because those permits are expected to be relatively simple and may even be addressed through general permits (which would not require as many resources or as high a fee). Although it may be permissible for permitting authorities to adopt lower fees specifically for GHGs, they would have to assess the new resources needed for permitting these sources and determine some basis for an appropriate fee and a workable mechanism for collecting it.

As noted above, the benefits of Title V stem primarily from the way its various provisions contribute to improved compliance with CAA requirements. However, for the particular sources that would be added to the program solely due to their GHG emissions, it is unclear whether there would be much benefit from these provisions given the small size of most of these new sources, the uniform design and operation of many of their emissions points, the anticipated lack of add-on control devices, and the relatively small number of applicable requirements that would be included in the permit. We ask for comment on the expected overall costs and benefits of running a Title V program for small GHG sources and for larger GHG sources (e.g., those emitting more than 10,000 tons per year).

5. What Possible Implications Would Use of This Authority for GHGs Have for Other CAA Programs?

Because Title V is designed to work in concert with other CAA requirements and is self-funding, we have not identified any impacts it would have on other programs.

6. What Are Possible Tailoring Approaches To Address Administrative Concerns for Title V for GHGs?

As we did in section VII.D regarding NSR, we present here for comment some possible tailoring options to address concerns about implementing Title V for GHGs. As was previously noted for NSR, we must consider how the Act's language may constrain these options. Nonetheless, we see at least two possible legal theories for reducing administrative concerns through limiting the scope of coverage of Title V that would otherwise result from regulating GHGs. First, case law indicates that in rare cases, the courts will interpret or apply statutory provisions in a manner other than what is indicated by their plain meaning. Courts will do so when Congress's intent differs from the plain meaning, as indicated by other statutory provisions, legislative history, or the absurd, futile, strange, or indeterminate results produced by literal application. Second, the administrative burden of literal application of the Title V provisions may also provide a basis for EPA, based on the judicial doctrine of administrative necessity, to craft relief in the form of narrowed source coverage, exemptions, streamlined approaches or procedures, or a delay of deadlines. Some specific options are discussed in the remainder of this section, and we invite comment on these and other suggested approaches.

a. Potential for Higher Major Source Cutoffs

As discussed above in section VII.A.5, Title V applies to several types of sources under the Act, including, among others, all PSD sources, as well as 100 tpy sources that are not subject to PSD. In section VII.D, we described the reasons why a higher major source cutoff for PSD might make sense to improve the effectiveness of the program by focusing resources away from numerous small sources for which the environmental benefits gained from permitting may not justify the associated administrative burdens. We believe such an approach might be even more important for Title V because many small sources that could become subject to the program solely because of their GHG emissions may have few or no applicable requirements. Unless GHG emissions from these small sources are regulated elsewhere under the Act, the only GHG-related applicable requirements for these sources would come from PSD permitting. Thus, if EPA adopts a higher major source size for PSD, it would arguably be incongruous to require 100 tpy GHG sources to obtain permits under Title V. In that case, adopting a higher applicability threshold for GHGs under Title V in parallel with, and at the same level as for PSD, would make even more sense. Similarly, if EPA were to regulate GHGs for certain source categories under CAA section 111 or 112, and were to include size cutoffs in those regulations, then it could make sense for the size-cutoffs for Title V purposes to reflect the cutoffs for those source categories under those regulations. Indeed, it could make sense to apply Title V only to those sources of GHGs that are themselves subject to regulation for GHG emissions.

We have found several indications of congressional intent that could serve as a basis for interpreting the Title V applicability provisions to implement the above-described size-cutoffs or other limitations, instead of interpreting them literally. First, other provisions in Title V and the legislative history indicate that the purpose of Title V is to promote compliance and facilitate enforcement by gathering into one document the requirements that apply to a particular source. See section 504(a) (each Title V permit must contain terms "necessary to assure compliance with applicable requirements" of the CAA), H.R. Rep. No. 101-490, at 351 (1990) ("It should be emphasized that the operating permit to be issued under this title is intended by the Administration to be the single document or source of all of the requirements under the Act applicable to the source."). Limiting the applicability of Title V to sources that emit GHGs in the same quantity as sources that would be subject to GHG limits under PSD (or other CAA requirements) for GHGs—and excluding sources that emit GHGs in lower quantities and therefore are not subject to CAA requirements for GHGs—would be consistent with that purpose. Second, the legislative history of Title V indicates that Congress expected the provisions to apply to a much smaller set of sources than would become subject at 100 tpy GHG levels. See S. Rep. 101-228, at 353 ("[T]he additional workload in managing the air pollution permit system is estimated to be roughly comparable to the burden that States and EPA have successfully managed under the Clean Water Act[,]" under which "some 70,000 sources receive permits, including more than 16,000 major sources").

We ask for comment on whether we should consider higher GHG applicability cutoffs for Title V, what the appropriate cutoffs might be, and whether there are additional policy reasons and legal justifications for doing so or concerns about such an approach.

b. Potential for Phase-In of Title V Requirements

Due to the severe administrative burden that would result if hundreds of thousands of sources were all to become subject to Title V at the same time, as could be the case if EPA regulates GHGs elsewhere under the Act, and because many of the sources could become subject before the development of any stationary source controls for GHGs, it may make sense to defer Title V applicability for GHG sources that are subject to Title V solely due to GHG emissions. One deferral approach would be to defer Title V for such sources until such time as they become subject to applicable requirements for GHGs. Alternatively, it may make sense to phase in Title V applicability with the largest sources applying soonest, similar to what was discussed above for PSD permitting.

Legal support for some type of deferral may be found in the case law, described above, that identifies deferral as one of the tools in the "administrative necessity" toolbox. In the case of Title V, deferral may find further legal support by reference to provisions of Title V itself: Congress addressed the burden imposed by the initial influx of tens of thousands of Title V permits when it originally enacted Title V in 1990 by providing for a 3-year phased permit issuance timeline.[287] A similar phased approach may have even greater merit here due to the even greater number of permits. We ask for comment on the legal and policy arguments for or against a phase-in approach, and request suggestions for workable permit application and issuance timelines for Title V permits for small GHG sources.

c. General Permits

The use of general permits is an additional option for addressing the potentially large numbers of GHG sources that could become subject to Title V. While general permits would not completely eliminate the resource burden, and may not work for every type of source, they clearly offer an option for meeting the Title V requirements in a more efficient way. Congress expressly provided for general permits for Title V and many states have experience issuing them. They appear to be a good fit for the numerous similar small sources we are primarily concerned about. Nonetheless, we still expect that the sheer volume of sources and number of different types of sources affected will present challenges. Further, any Title V general permit must comply with all requirements applicable to permits under Title V, and no source covered by a general permit may be relieved from the obligation to file a permit application under section 503 of the Act. We seek comment on whether source characteristics and applicable requirements are similar enough for a general permit approach to be helpful, for what categories it would provide the greatest benefit, and the degree to which it would or would not ease the expected difficulties with implementing a GHG Title V program.

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[287] CAA section 503(c).

d. Fees

Title V contains a self-funding mechanism requiring that permitting authorities collect permit fees adequate to support the costs of running a Title V program. Title V fees must be used solely to run the permit program. For GHGs, the possibility of a huge influx of new sources raises questions about how permitting authorities should adjust their fee schedules to ensure that they have adequate resources to permit these sources. Title V provides significant flexibility to permitting authorities in setting their fee schedules so long as they can demonstrate that fees are adequate to cover all reasonable costs required to develop and administer the Title V program requirements.[288] The additional resource burden imposed by GHG sources will depend heavily on what approaches EPA and states ultimately adopt for tailoring the program for these sources, but EPA does expect that some additional resources will be necessary under virtually any scenario.

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[288] See CAA section 502(b)(3), which also lists specific activities whose costs must be covered.

Most states charge Title V fees on a dollar/ton basis, and actual amounts vary from state to state. For 2008, EPA charges $43.40 per ton, but only for regulated pollutants for the fee calculation (which generally includes all regulated pollutants but excludes carbon monoxide and some other pollutants). Because of the large mass emissions of GHGs and especially of CO_2 compared to other pollutants, if EPA and states charge fees for GHG emissions based on cost/ton numbers for criteria pollutants or HAPs, we expect that the fee revenues would be grossly excessive for what is needed to process permits for GHG sources. This is particularly true for the universe of small sources brought into Title V solely for their GHG emissions because those permits are expected to be relatively simple and may be addressed through general permits. Therefore we believe that it is appropriate for permitting authorities to consider other available options for covering their GHG source permitting costs, including: substantially lower cost per ton fees for GHGs, fixed fees (e.g., one time or annual processing fee that is the same for all applicants below a certain size), and/or charging no fees for smaller GHG sources. We ask for comment on these and other suggestions for permitting authorities to use on structuring their fee provisions. We also request comment on the expected resource burden resulting from new GHG permitting, and how EPA should determine the adequacy of fees. EPA rules contain an optional method for permitting authorities to use in calculating a presumptively adequate fee. These regulations do not include GHGs as a regulated pollutant for this calculation but could in the future if GHGs were regulated under certain parts of the Act.

For permitting authorities that still use this presumptive calculation, we ask for comment on whether, for the reasons described above, EPA should specifically exclude GHGs from this calculation or address it in a different manner. Finally, because EPA itself is the permitting authority for some sources, we are also interested in comments on whether and how EPA should change its fee structure in its part 71 permitting regulations to meet its own increased resource needs from GHG permitting.[289]

e. Coordinating Timing With Other Actions

Like PSD, the timing of any approach to streamline Title V must be coordinated with other GHG actions under the CAA. We believe that any EPA determination about the applicability of the Title V program to GHGs should be accompanied by an explanation of how EPA plans to address—and how we recommend that State and local permitting authorities address—the numerous implementation challenges such a determination would pose. This timing is perhaps even more important for Title V than for PSD because of the potential for an extremely large number of new sources and the fact that Title V applications would (unless a phase-in approach is adopted) all be due at the same time, whereas PSD applications would come in over time as sources construct or modify. We seek comment on timing issues in general, and particularly on the coordination of the timing of Title V applicability with the timing of GHG regulation under other parts of the Act.

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[289] Technically these increased resources would need to be provided to EPA through increased appropriation, as the EPA fee revenues would go to the general treasury.

We specifically request comment on the timing of the applicability of Title V permit requirements in relation to the applicability of GHG control requirements. Consider the scenario where EPA issues a rule regulating GHGs from mobile sources, and then issues a series of rules regulating GHGs from categories of stationary sources. One possible interpretation of the Act and EPA's regulations is that the mobile source rule would trigger the applicability of Title V, at which point the hundreds of thousands of 100-ton and above sources would become subject to Title V and would have one year to apply for Title V permits. Generally, however, these permits would initially contain no applicable requirements for control of GHGs (mobile source requirements are not included in Title V permits), and would likely contain no applicable requirements for other pollutants, or only some generally applicable SIP rules that apply to sources which had previously not needed Title V permits. We have discussed the challenges of issuing even these minimal permits in such large numbers. However, as EPA proceeded to issue stationary source rules, each permit with three or more years remaining on its term would, under current rules, have to be reopened within 18 months of promulgation of each new rule to incorporate any applicable requirements from the new rule that would apply to the permitee. For permits with less than 3 years remaining, the applicable requirements would be incorporated at permit renewal. This scenario would result in duplicative effort as permitting authorities issued hundreds of thousands of minimal Title V permits with no GHG requirements, followed by a period of numerous reopenings for some GHG source categories, while the requirements for other GHG source categories would remain off-permit until renewal, at which point they would need to be included in the renewal permit. We ask for comment on how best to tailor the options above to minimize duplicative effort and maximize administrative efficiency in light of these timing concerns, and on whether additional options may be needed.

G. Alternative Designs for Market-Oriented Regulatory Mechanisms for Stationary Sources

EPA believes that market-oriented regulatory approaches merit consideration under section 111 or other CAA authorities for regulating stationary source emissions, along with other forms of regulation. Economic efficiency advantages of market-oriented approaches that have the effect of establishing a price for emissions were discussed in section III. This section discusses four types of market-oriented approaches:

- A cap-and-trade program, which caps total emissions from covered sources, providing certainty regarding their future emission levels, but not their costs.

- A rate-based emission credit program (also called a tradable performance standard), which imposes an average mass-based emission rate across covered sources but does not cap total emissions, so emissions could rise with increased production.

- An emissions fee, which sets a price for emissions but doesn't limit total emissions from covered sources.

- A hybrid approach, which could combine some attributes of a rate-based emissions trading system and some attributes of a tax. A variety of hybrid approaches are possible; the best-known is the combination of a cap-and-trade system with a "price ceiling." With a price ceiling, if the price of allowances exceeds a certain level, the government makes allowances available to the market at the ceiling price.

For a local pollutant, a regulatory approach that provides certainty concerning future emissions can provide a predictable level of protection, within modeling uncertainties. In the GHG context, certainty concerning the amount of emission reduction to be achieved by a U.S. program can make possible an estimated change in predicted warming, but does not provide certainty that the U.S. will achieve a desired level of climate protection. This is because GHGs are global pollutants and the level of climate protection provided depends on the actions of other countries as well as the U.S.

There is a robust debate about the respective merits of policies that provide price certainty, but not emissions certainty, and policies that provide emissions certainty, but not price certainty. A variety of cost-containment mechanisms have been proposed for GHG cap-and-trade systems; these mechanisms offer different tradeoffs between emissions certainty and price certainty.

EPA requests comment on the extent to which CAA legal authorities would accommodate each of these regulatory approaches. In the section 111 context, we note that these market-oriented approaches could be used in lieu of, or in addition to, other options including emission rate standards, technology-based standards, or work practices. With respect to section 111, EPA recognizes that these market-oriented approaches may differ in significant ways from the manner in which we have historically designed emission standards and required compliance with those standards. For this reason, we request comment on the extent to which each of these approaches could meet the statutory definition of a "standard of performance" and on what additional criteria or conditions could be considered to ensure that they do so. We also seek comment on how these options compare based on the policy design considerations listed in section III.F.1, including effectiveness of risk reduction, certainty and transparency of results, economic efficiency, incentives for technology development, and enforceability.

1. Emissions Cap-and-Trade

A cap-and-trade system limits GHG emissions by placing a cap on aggregate emissions from covered sources. Authorizations to emit, known as emissions allowances, are distributed to companies or other entities consistent with the level of the cap. Each allowance gives the holder an authorization to emit a fixed amount of emissions (e.g., one ton) during a given compliance period. At the close of the compliance period, sources must surrender allowances equal to their emissions during that period. Such a system does not impose limits on emissions from individual sources; rather, it caps emissions across a group of sources (e.g., an industry sector) and allows entities to buy and sell those allowances with few restrictions. Key features of a well-designed cap-and-trade program include accurate tracking and reporting of all emissions, compliance flexibility, and certainty (provided by the cap) in achieving emission reductions. While the cap provides certainty in future emissions, cap-and-trade does not provide certainty of the price, which is determined by the market (price uncertainty diminishes as certainty regarding control costs increases).

EPA has previously authorized emissions trading under section 111. For instance, EPA promulgated standards of performance for new and existing electric utility steam generating units on May 18, 2005 (70 FR 28606), establishing a mercury emissions cap-and-trade program for coal-fired electric generating units that states could use to meet their section 111 obligations to control mercury for coal-fired electric generating units. While the court subsequently vacated this action, the ruling did not address the legality of trading under section 111.

If EPA designed a cap-and-trade program that could cover certain source categories covered by section 111, such a program could be modeled after similar trading programs the Agency has developed under sections 110 and 111 of the Act, such as the NO_X Budget Trading Program, the Clean Air Interstate Rule NO_X and SO_2 Trading Programs, and the Clean Air Mercury Rule Trading Program. Under this model, EPA would establish appropriate state GHG emissions budgets covering emissions of GHG for each covered source category. EPA would establish consistent rules related to subjects such as monitoring, applicability and timing of allocations that states would be required to meet. EPA would develop and administer a GHG allowance tracking system, similar to tracking systems the Agency administers for SO_2, and NO_X . EPA would determine provisions for monitoring, reporting, and enforcement. If states promulgated rules consistent with the requirements set forth by EPA, sources in their State could participate in the trading program. Alternatively, states could develop alternative regulatory mechanisms to meet the emissions budgets.

A key component of an emissions cap-and-trade program is the ability to accurately monitor emissions.[290] For many, but possibly not all, large stationary sources, there are methods to monitor CO_2 that may provide enough accuracy for a cap-and-trade program. Most large utility boilers are already required to monitor and report CO_2 emissions under the Acid Rain Program. Utility and industrial boilers are well suited to cap-and-trade; many participate in SO_2 and NO_X trading under the Acid Rain and NO_X SIP Call programs. At refineries, some emission sources could be well suited to cap-and-trade, while for others, accurate monitoring methods or other ways to track and verify emissions may not be available. More analysis is needed to determine availability of monitoring methods for all refinery emission sources. The cement industry is another that may be well suited to emissions cap-and-trade, since monitoring is available and a number of facilities currently participate in NO_X trading under the NO_X SIP Call. Cap-and-trade may not be an appropriate mechanism for the landfills, except for potential use of landfill gas projects for offsets. The quantity of landfill methane captured and combusted (i.e., the emission reduction) can be measured directly; however, total emissions are difficult to measure.

We request comments generally on the use of cap-and-trade programs for GHGs under section 111 and other CAA authorities, including design elements such as opportunities for sources to opt into such programs, inter-sector trading and offsets, allowance auctions, cost containment mechanisms, and conditions or safeguards to ensure that emission reduction goals are met and that local air quality is protected. Particular issues to consider include whether it be allowable under section 111 to develop a cap-and-trade program that covered multiple source categories or would each source category have to be covered under a source-category-specific cap-and-trade program. Another issue is whether it would be legally permissible to allow offsets (i.e., obtaining emission reductions from sources outside of the capped sector) to meet the requirements of section 111.

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[290] While monitoring is important for determining compliance in all regulatory emission reduction approaches, in a cap-and-trade system monitoring is also important for functioning of the allowance market.

2. Rate-Based Emissions Credit Program

A rate-based emissions credit program—also called a tradable credit standard or intensity target program—is an emissions trading mechanism. Unlike cap-and-trade, however, a rate-based credit program does not impose a cap on aggregate emissions from covered sources. Rather, a rate-based emissions credit program establishes a regulatory standard based on emissions intensity (e.g., emissions per unit of input, emissions per unit of product produced, emissions per revenue/value-added generated). To the extent that a covered source has an emission rate below the regulatory intensity standard, the source generates credits that it can sell to sources with emission rates higher than the regulatory intensity standard. The price of credits would be determined by the market.[291]

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[291] Credits are generated by a source with emissions below the regulatory intensity (or rate). Credits are measured in a fixed unit of emissions, e.g., a ton. A source that emits at an intensity higher than the regulatory intensity must surrender credits—purchased from a source with emissions below the regulatory intensity or other entity holding credits—equivalent to the

The regulatory intensity standard might be set below the recent average intensity for a given industry.[292] Once in place, the standard would determine the average emissions intensity (or rate) of the regulated industry.

Like a cap-and-trade approach, a rate-based trading approach can reduce the cost of reducing emissions from a group of sources, relative to the cost of requiring every source to reach the same emission rate. A drawback of the rate-based approach is that it provides an incentive to increase whatever is used in the denominator of the rate (e.g., the output of a good or the amount of a particular input). Therefore, rate-based policies can encourage increased production because production can be rewarded with additional credits. This in turn has the potential to encourage increased emissions and thus to raise the overall cost of achieving a given level of emissions.

Many of the considerations described above for cap-and-trade program design would also apply to design of a rate-based credit program. Measuring outputs to determine the regulatory intensity may present some

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difference between their actual emissions and the allowable emissions.

[292] The average intensity could be set using any of a number of metrics and baselines. For example, the metric might be tons of CO—T22 emitted per ton of cement produced. The baseline year for calculating average intensity might be the same as the compliance year, i.e., after the close of the compliance year, the average tons CO—T22 emitted per ton of cement produced would be calculated across the industry and a source that produced with emissions above the average would need to buy credits while a source that produced with emissions below the average could sell credits. Alternatively, the average intensity could be based on a year prior to the initial compliance year.

difficulty. In particular, determining the intensity for facilities that generate multiple products would be challenging. Sectors that use multiple inputs (e.g., different fuels) might require use of a common metric (e.g., Btu combusted) to support a rate-based approach based on inputs.

Rate-based trading programs are most easily applied in a specific sector where facilities have similar emissions characteristics. For utility and industrial boilers, a rate-based credit standard could be established for GHG emissions. For refineries, rate-based credit standards could be established for individual processes or equipment but would be difficult to set at the facility level. A GHG emissions rate-based tradable credit standard could be developed for the Portland cement industry. This mechanism may not be appropriate for landfills (see discussion of monitoring above).

We request comments on the use of emission rate trading programs under section 111 or other CAA authorities. Similar to cap-and-trade programs, we are seeking comment on whether sector-specific programs or inter-sector programs might be more appropriate. We also request comment on issues related to defining emission rates for facilities producing multiple types of products.

3. Emissions Fee

A GHG fee would limit GHG emissions by placing a price on those emissions. The price is fixed up front (unlike cap-and-trade where the price depends on the market), and a source covered by the tax would pay to the government the fixed price for every ton of GHG that it emits. A GHG fee permits the aggregate amount of emissions to adjust in response to the tax, in contrast to a cap-and-trade system where the quantity of emissions is fixed. Some key features of a GHG fee include accurate tracking and reporting of all emissions from covered sources, compliance flexibility, and certainty in the price of emissions (but not certainty in future emissions because there is no cap). As noted in the cap-and-trade subsection above, the emissions of CO_2 from most large utility boilers are already accurately monitored; this attribute would facilitate application of an emissions tax (as well as facilitating application of a cap-and-trade system).

Depending on the specific authority granted by Congress with respect to the disposition of revenue, the revenue generated by the fee (as with potential auction revenues under a cap-and-trade approach) could theoretically be used for any number of public purposes. Note that depending on how the money was spent, the use of the revenues would have the potential either to reduce or to increase market distortions that reduce economic welfare.

The issue of whether the CAA authorizes emissions fees is discussed above in section III.F.2.

4. Hybrid Market Based Approach

A hybrid, market-oriented approach that could be used to regulate GHG borrows from pollution control options that are based on setting emissions rates, emissions credit trading, and emissions fees. This approach starts with a rate-based emissions credit program in which an average emission rate (e.g., tons of GHGs emitted per unit of output or input) would be established for a given industry. As with a typical rate-based policy, a source in the given industry would need to buy credits to the extent it produces with emissions over the average intensity, and could sell credits to the extent it produces with emissions below the average. An element of an emissions fee approach would then be added to this policy in which the government would also buy and sell credits. The government could set a price for credits based on selected policy criteria, and offer credits to sources at that predetermined price. Sources could then buy credits from the government as well as other regulated sources. Therefore, the government-set price would act as a price ceiling (or "safety-valve"), and the potential for price fluctuations in emissions credits would be diminished (because the government's predetermined price would act as a ceiling price). As long as relatively cost-effective GHG emissions reductions could occur within a covered sector over time, the average emissions intensity may decline and total reductions in emissions would occur in a relatively cost-effective manner without significant government handling of emissions fee revenues. In addition to being a seller, the government could also act as a buyer (so the government sales of credits would not result in an excess supply). A similar approach without the government's role in selling credits at a ceiling price and with a fixed schedule of allowable average annual rate of allowable emissions was actually successfully used in the phase down of lead in gasoline in the 1980s by EPA.

Some have suggested that the government could set a price for GHG credits or allowances based on its assessment of those benefits to be gained from the GHG emissions reduction per unit of output or input. In theory, under this approach the marginal compliance costs would never exceed the marginal benefits of reducing emissions. Note, however, that there are serious issues to be resolved regarding whether and how a defensible single estimate of marginal GHG reduction benefits can be developed for this purpose (see section III.G). First, whether the scope of benefits counted is global or domestic could significantly affect the marginal benefits estimate. Second, for benefits categories that can be quantified and monetized, there are many uncertainties that result in a range of legitimate estimates, making it difficult to pinpoint an appropriate number. Third, there is a bias toward underestimating benefits of GHG reductions because many impacts categories identified by the IPCC are not quantified and monetized.[293] As a result, the price might be set too low to achieve the amount of emissions reductions that would be warranted considering all benefits and policy goals.

By including this discussion, EPA is not taking a position on whether it has legal authority to pursue a hybrid market-oriented approach. (See section III.F.2 above.) However, the agency seeks comment on the general matter of how the pricing of credits within an emissions intensity approach might be designed and established, what legal authority would be necessary for this action, and what impact different price-setting approaches would have on aggregate emissions reductions, costs and benefits.

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[293] There also are policy considerations that would be neglected by an approach attempting to find a point at which marginal costs equal marginal benefits. Examples include irreversibility of changes in climate with adverse impacts affecting future generations who cannot take part in today's decision-making, and unequal geographic distribution of adverse climate change impacts.

VIII. Stratospheric Ozone Protection Authorities, Background, and Potential Regulation

A. Ozone Depleting Substances and Title VI of the Clean Air Act

Title VI of the CAA provides authority to protect stratospheric ozone, a layer high in the atmosphere that protects the Earth from harmful UVB radiation. Added to the CAA in 1990, Title VI establishes a number of regulatory programs to phase out and otherwise control substances that deplete stratospheric ozone. These ozone-depleting substances (ODS) are used in many consumer and industrial applications, such as refrigeration,

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NOTICES
ENVIRONMENTAL PROTECTION AGENCY
[FRL-7554-7]

Control of Emissions From New Highway Vehicles and Engines

Monday, September 8, 2003

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of denial of petition for rulemaking.

SUMMARY: A group of organizations petitioned EPA to regulate emissions of carbon dioxide and other greenhouse gases from motor vehicles under the Clean Air Act. For the reasons set forth in this notice, EPA is denying the petition.

EFFECTIVE DATE: September 8, 2003.

ADDRESSES: Information relevant to this action is contained in Docket No. A-2000-04 at the EPA Docket Center, Public Reading Room, Room B102, EPA West Building, 1301 Constitution Avenue, NW., Washington, DC. Dockets may be inspected at this location from 8:30 a.m. to 4:30 p.m., Monday through Friday, except on Government holidays. You can reach the Air Docket by telephone at (202) 566-1742 and by facsimile at (202) 566-1741. You may be charged a reasonable fee for photocopying docket materials, as provided in 40 CFR part 2.

FOR FURTHER INFORMATION CONTACT: Chitra Kumar, Office of Air and Radiation, (202) 564-1389.

SUPPLEMENTARY INFORMATION:

I. Background

On October 20, 1999, the International Center for Technology Assessment (ICTA) and a number of other organizations[1] petitioned EPA to regulate certain greenhouse gas (GHG) emissions from new motor vehicles and engines under section 202(a)(1) of the Clean Air Act (CAA). Specifically, petitioners seek EPA regulation of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbon (HFCs) emissions from new motor vehicles and engines. Petitioners claim these emissions are significantly contributing to global climate change.

EPA is authorized to regulate air pollutants from motor vehicles under title II of the CAA. In particular, section 202(a)(1) provides that "the Administrator [of EPA] shall by regulation prescribe * * * in accordance with the provisions of [section 202], standards applicable to the emission of any air pollutant from any class or classes of new motor vehicle * * *, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."

II. Summary of the Petition

Petitioners contend the test for regulating motor vehicle emissions under CAA section 202(a)(1) has been met for CO_2, CH_4, N_2O and HFCs. They claim statements made on EPA's Web site and in other documents constitute an Agency finding that the four GHGs may reasonably be anticipated to endanger public health or welfare. They also assert that motor vehicle emissions of the GHGs could be significantly reduced by increasing the fuel economy of vehicles, eliminating tailpipe emissions altogether, or using other current and developing technologies. Based on their analysis, they argue that EPA has a mandatory duty under section 202(a)(1) to regulate emissions of GHGs from motor vehicles.

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[1] Alliance for Sustainable Communities, Applied Power Technologies, Bio Fuels America, California Solar Energy Industries Association, Clements Environmental Corporation, Environmental Advocates, Environmental and Energy Study Institute, Friends of the Earth, Full Circle Energy Project, Green Party of Rhode Island, Greenpeace USA, Network for Environmental and Economic Responsibility of the United Church of Christ, New Jersey Environmental Watch, New Mexico Solar [Energy Association, Oregon Environmental Council, Public Citizen, Solar Energy Industries Association, SUN DAY Campaign.

Petitioners present their case for why EPA should, and even must, regulate motor vehicle GHG emissions under section 202(a)(1) in four parts. First, they assert that anthropogenic emissions of CO_2, CH_4, N_2O, and HFCs meet the CAA section 302(g) definition of "air pollutant," which is "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters ambient air. Such term includes any precursors to the formation of any air pollutant * * *." Citing international and national reports, petitioners contend that anthropogenic emissions of CO_2, CH_4, N_2O, and HFCs are accelerating global warming, and that motor vehicle emissions of these GHGs, particularly CO_2, significantly contribute to the U.S. GHG inventory. Petitioners argue that the contribution of motor vehicle GHG emissions to global climate change qualify them as "air pollutants" under the CAA.

Petitioners also claim that EPA has already determined CO_2 to be an air pollutant. They cite an April 10, 1998, memorandum from Jonathan Z.

Cannon, then General Counsel of EPA, to Carol Browner, then Administrator of EPA, entitled "EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources" (hereinafter "Cannon Memorandum"). The memorandum states that sulfur dioxide, nitrogen oxides, mercury, and CO_2 emitted from electric power generating units fall within the definition of "air pollutant" under CAA section 302(g). According to petitioners, it follows from the memorandum that the other three GHGs meet the CAA definition of "air pollutant," too.

Second, petitioners argue that GHG emissions contribute to pollution that "may reasonably be anticipated to endanger public health or welfare," a key criterion for regulation under section 202(a)(1). Petitioners state that the CAA does not require proof of actual harm, but allows the Administrator to make a precautionary decision to regulate an air pollutant if it "may reasonably be anticipated" to endanger public health or welfare. The petitioners point to statements made by the United Nations Intergovernmental Panel on Climate Change (IPCC), EPA and others about the potential effects of global climate change on public health and welfare as establishing that global climate change "may reasonably be anticipated to endanger public health and welfare." Based on these statements, the petitioners allege numerous threats to public health and welfare.

Third, petitioners argue that it is technically feasible to reduce GHG emissions from new motor vehicles and engines. In particular, they note that CO_2 emissions can be reduced by increasing the fuel economy of passenger cars and light trucks, and that a number of currently available gasoline-powered cars get significantly better fuel economy than the 27.5

mpg corporate average fuel economy (CAFE) standard currently applicable to cars under Federal law. They also point to a congressional report identifying other technologies for further improving the fuel economy of gasoline-powered cars that have yet to be fully employed. In addition, petitioners note that several foreign and domestic car manufacturers are already marketing or developing hybrid-electric vehicles that get significantly better fuel mileage than the most fuel-efficient gasoline-powered car. Looking ahead to the next generation of vehicle technology, petitioners describe the potential for electric and hydrogen-celled vehicles to eliminate tailpipe emissions altogether. Petitioners recommend that EPA set a "corporate average fuel-economy based standard" under CAA section 202 that would result in the rapid market introduction of more fuel-efficient and zero-emission vehicles.

Petitioners suggest other potential ways of reducing CO_2 emissions such as setting a declining fleet average NO_X emission standard that would require manufacturers to add zero-emission vehicles to their fleets. They also note the availability of tire efficiency standards. Petitioners do not, however, address the potential for reducing motor vehicle emissions of the other three GHGs.

Finally, petitioners maintain that the Administrator has a mandatory duty to regulate motor vehicle GHG emissions under CAA section 202(a)(1). They contend that EPA has "already made formal findings" that motor vehicle GHG emissions "pose[] actual or potential harmful effects [on] the public health and welfare." Noting that section 202(a)(1) provides the Administrator "shall" prescribe motor vehicle standards, petitioners argue that the use of "shall" creates a mandatory duty to promulgate standards when the requisite findings are made. They accordingly claim that the Administrator must establish motor vehicle standards for the four GHGs.

Petitioners further argue that "the precautionary purpose of the CAA supports" regulating these gases even if the Agency believes there is some scientific uncertainty regarding the actual impacts of global climate change. Petitioners cite several court cases recognizing the Administrator's authority to err on the side of caution in making decisions in areas of scientific uncertainty. They also assert that scientific uncertainty does not excuse a mandatory duty to regulate.

III. Request for Comment

On January 23, 2001, EPA requested public comment on the petition (see 66 FR 7486). The public comment period ended May 23, 2001.

EPA requested comment on all the issues raised in ICTA's petition. In particular, EPA requested comment on any scientific, technical, legal, economic or other aspect of these issues that may be relevant to EPA's consideration of the petition.

IV. Summary of Public Comments

EPA received almost 50,000 comments on the petition. Most comments were relatively brief expressions of support for the petition sent by electronic mail; many were virtually identical. EPA also heard from a number of business and environmental groups. Most of the comments focused exclusively on CO_2. This section describes the significant points and arguments made in the public comments.

Several commenters addressed the issue of whether the four GHGs—CO_2, CH_4, N_20 and HFCs—are "air pollutants" under the CAA and thus potentially subject to regulation under the Act. Some of the commenters agreed with the petitioners that GHGs are air pollutants under the CAA. Like the petitioners, they noted that the definition of "air pollutant" in CAA section 302(g) is very broad and that the CAA itself refers to CO_2 as an "air pollutant" (see CAA section 103(g)). These commenters also cited to and agreed with the Cannon Memorandum and statements by Gary Guzy, EPA's General Counsel following Mr. Cannon, that CO_2 falls within the CAA definition of air pollutant.

Other commenters argued that EPA has never formally determined that any GHGs are air pollutants and that the Cannon Memorandum is not such a finding. Some commenters also argued that CO_2 is not an air pollutant because it is a naturally-occurring substance in Earth's atmosphere and is critical to sustaining life. Other commenters pointed out that EPA already regulates as air pollutants substances that have natural as well as anthropogenic sources where human activities have increased the quantities present in the air to levels harmful to public health, welfare or the environment (e.g., sulfur dioxide, volatile organic compounds, particulate matter).

Another issue of concern to commenters was whether EPA has authority to regulate motor vehicle emissions of GHGs even if they meet the CAA definition of "air pollutant." Commenters supportive of the petition noted the broad authority conferred by section 202(a)(1) to regulate motor vehicle emissions that cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare. These commenters also noted that CAA section 302(h) defines "welfare" to include effects on weather and climate, as well as other aspects of the environment that may be affected by global climate change (e.g., soils, water, crops, vegetation, animals, visibility).

Other commenters argued that the CAA does not authorize regulations to address global climate change, including motor vehicle GHG emission standards. They noted that no CAA provision specifically authorizes global climate change regulations, a Senate committee's proposal for mandatory CO_2 standards for motor vehicles did not survive Senate consideration, and other contemporaneous legislative proposals for mandatory GHG emission reductions failed to pass. They also pointed out that the only CAA provision that specifically mentions CO_2 authorizes only "nonregulatory" measures and expressly precludes its use as authority for imposing mandatory controls. They cited another CAA provision that calls on EPA to determine the "global warming potential" of certain pollutants but expressly precludes regulation on that basis as further indication that Congress did not intend EPA to regulate GHGs under the CAA.

Looking at the CAA more broadly, several commenters argued that the key statutory mechanism for controlling pervasive "air pollutants"—establishing and implementing national ambient air quality standards under sections 108, 109 and 110—is unworkable for addressing an issue whose causes and effects are global in nature. Several commenters also pointed out that Congress addressed another global atmospheric issue, depletion of stratospheric ozone by man-made substances, explicitly and in discrete portions of the Act, specifically part B of title 1 prior to the CAA Amendments of 1990 and title VI following the 1990 amendments. Moreover, both incarnations of CAA stratospheric ozone authority included recognition of the international nature of the problem and provisions to facilitate and augment international cooperation in achieving a solution. These commenters argued that if Congress had intended EPA to address global climate change under the CAA, it would have made that clear by including analogous provisions.

Placing the CAA in a larger context, the commenters noted several other Federal statutes that specifically address global climate change and authorize only research and policy development, not regulation. Commenters also pointed out that Congress has expressed dissatisfaction with the Kyoto Protocol, negotiated under the auspices of the United Nations Framework Convention on Climate Change and requiring parties to the Protocol to reduce their GHG emissions by a specific amount. They further cited congressional actions taken since the 1990 CAA amendments to prevent EPA from implementing the Kyoto Protocol (the so-called Knollenberg amendments to the FY 1999 and 2000 VA-HUD and Independent Agency Appropriations Acts). Finally, they noted that Congress had rejected numerous legislative proposals mandating GHG reductions (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)) . According to the commenters, these actions clearly signal that Congress awaits further scientific information and other technological and international developments before authorizing any regulation to address global climate change.

Finally, several commenters pointed to the Supreme Court's decision in Food and Drug Administration v.

Brown & Williamson Tobacco Corp., 120 S.Ct. 1291 (2000), finding that the FDA lacks authority to regulate tobacco products despite a facially broad grant of authority. These commenters warned that a reviewing court would closely scrutinize and likely strike down an EPA assertion of CAA authority to regulate for global climate change purposes when Congress specifically addressed the issue of global climate change, not in the CAA, but in other Federal statutes that do not authorize regulation.

On the other hand, several commenters pointed to, and agreed with, a letter from then EPA General Counsel Guzy to a congressional committee explaining that explicit mention of a pollutant is not a necessary prerequisite to regulation under a statutory provision granting broad authority to regulate pollutants, provided that the statutory criteria for regulation are met. These commenters also echoed Mr. Guzy's view that a congressional decision not to require standards does not affect pre-existing discretionary authority to set standards where the applicable criteria are met.

Many commenters considered the issue of whether anthropogenic GHG emissions contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. Several commenters pointed out, as petitioners did, that EPA's climate website and other national and international reports describe hazards to human health and welfare that may result from global climate change. Other commenters claimed that there is no basis at this time for EPA to conclude that GHG emissions from U.S. motor vehicles endanger public health or welfare. Some commenters questioned whether global warming was occurring or whether humans' impact on any global warming was significant. These commenters also suggested that global warming, if real, would have beneficial impacts (e.g., helping prevent another ice age, increasing agricultural production) that could outweigh any adverse effects. Several commenters argued that since the causes and effects of global climate change occur on a worldwide basis, regulation of only U.S. motor vehicles would be neither effective nor fair.

Commenters also addressed whether it is technologically feasible to reduce GHG emissions from new motor vehicles. Some commenters described categories of technologies that can substantially reduce CO_2 emissions from gasoline-powered passenger cars and light trucks, including vehicle load reduction, engine improvements, improved transmissions, integrated starter generators, and hybrid-electric drive trains. Vehicle load reduction strategies include reduced vehicle mass, reduced aerodynamic drag, reduced tire rolling resistance, and reduced accessory loads. Engine improvement strategies include improved specific power and gasoline direct injection. Improved transmission strategies include 5- and 6-speed automatic transmissions, 5-speed motorized manual gearshifts, and continuously variable transmissions. Other commenters asserted that EPA may not regulate motor vehicle GHG emissions by setting fuel economy standards inasmuch as Congress entrusted fuel economy standard-setting to the Department of Transportation (DOT) under the Energy Policy and Conservation Act (EPCA).

Finally, commenters considered whether EPA has a mandatory duty to regulate motor vehicle GHG emissions. Some commenters agreed with petitioners that the Cannon Memorandum and EPA's website statements triggered an obligation under CAA section 202(a)(1) to set CO_2 standards. Other commenters countered that the Cannon Memorandum and EPA website statements are not formal EPA findings for the purposes of exercising statutory authority. They asserted that for findings to provide a sufficient legal basis for regulating under section 202(a)(1), they must be established through a public notice-and-comment process.

V. EPA Response

After careful consideration of petitioners' arguments and the public comments, EPA concludes that it cannot and should not regulate GHG emissions from U.S. motor vehicles under the CAA. Based on a thorough review of the CAA, its legislative history, other congressional action and Supreme Court precedent, EPA believes that the CAA does not authorize regulation[2] to address global climate change. Moreover, even if CO_2 were an air pollutant generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate CO2 emissions from motor vehicles to the extent such standards would effectively regulate car and light truck fuel economy, which is governed by a comprehensive statute administered by DOT.

In any event, EPA believes that setting GHG emission standards for motor vehicles is not appropriate at this time. President Bush has established a comprehensive global climate change policy designed to (1) answer questions about the causes, extent, timing and effects of global climate change that are critical to the formulation of an effective, efficient long-term policy, (2) encourage the development of advanced technologies that will enable dramatic reductions in GHG emissions, if needed, in the future, and (3) take sensible steps in the interim to reduce the risk of global climate change. The international nature of global climate change also has implications for foreign policy, which the President directs. In view of EPA's lack of CAA regulatory authority to address global climate change, DOT's authority to regulate fuel economy, the President's policy, and the potential foreign policy implications, EPA declines the petitioners' request to regulate GHG emissions from motor vehicles.

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[2] "Regulation" as used in this section of the notice refers to legally binding requirements promulgated by an agency under statutory authority. It does not include voluntary measures that emission sources may or may not undertake at their discretion.

A. EPA's Legal Authority Under the CAA

As summarized above, many commenters on the petition raised important legal issues regarding EPA's authority to issue global climate change regulations under the CAA. Two EPA General Counsels previously addressed the issue of EPA's authority to impose CO_2 emission control requirements. Both found that CO_2 meets the CAA definition of "air pollutant" and could therefore be subject to regulation under one or more of the CAA's regulatory provisions if the applicable statutory criteria for regulation were met. Both also noted, however, that the Agency had not made the requisite findings under any CAA provision for regulation of CO_2 emissions. Significantly, the past general counsels reached their conclusions prior to the Supreme Court's decision in Brown & Williamson, which cautions agencies against using broadly worded statutory authority to regulate in areas raising unusually significant economic and political issues when Congress has specifically addressed those areas in other statutes.

Because the petition seeks CAA regulation of GHG emissions from motor vehicles to reduce the risk of global climate change, EPA has examined the fundamental issue of whether the CAA authorizes the imposition of control requirements for that purpose. As part of that examination, EPA's General Counsel, Robert E. Fabricant, reviewed his predecessors' memorandum and statements, as well as the public comments raising legal authority issues. The General Counsel considered the text and history of the CAA in the context of other congressional actions specifically addressing global climate change and in light of the Supreme Court's admonition in Brown & Williamson to "be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such * * * magnitude to an administrative agency." In a memorandum to the Acting Administrator dated August 29, 2003, the General Counsel concluded that the CAA does not authorize EPA to regulate for global climate change purposes, and accordingly that CO_2 and other GHGs cannot be considered "air pollutants" subject to the CAA's regulatory provisions for any contribution they may make to global climate change. Accordingly, he withdrew the Cannon memorandum and statements by Mr. Guzy as no longer expressing the views of EPA's General Counsel. The General Counsel's opinion is adopted as the position of the Agency for purposes of deciding this petition and for all other relevant purposes under the CAA.

As summarized above, commenters supporting the petition claim that section 202 of the CAA provides EPA with broad authority to set standards for motor vehicle emissions of CO_2 and other GHGs to the extent those emissions cause or contribute to global climate change. At the same time, other commenters correctly note that (1) no CAA provision specifically authorizes global climate change regulation, (2) the only CAA provision specifically mentioning CO_2 authorizes only "nonregulatory" measures, (3) the codified CAA provisions related to global climate change expressly preclude the use of those provisions to authorize regulation, (4) a Senate committee proposal to include motor vehicle CO_2 standards in the 1990 CAA amendments failed, (5) Federal statutes expressly addressing global climate change do not authorize regulation, and (6) numerous congressional actions suggest that Congress has yet to decide that such regulation is warranted. These indicia of congressional intent raise the issue of whether the CAA is properly interpreted to authorize regulation to address global climate change.

Congress was well aware of the global climate change issue when it last comprehensively amended the CAA in 1990. During the 1980s, scientific discussions about the possibility of global climate change led to public concern both in the U.S. and abroad. In response, the U.S. and other nations developed the United Nations Framework Convention on Climate Change (UNFCCC). President George H. W. Bush signed, and the U.S. Senate approved, the UNFCCC in 1992, and the UNFCCC took effect in 1994.

The UNFCCC established the "ultimate objective" of "stabiliz[ing] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (Article 2 of the UNFCCC). All parties to the UNFCCC agreed on the need for further research to determine the level at which GHG concentrations should be stabilized, acknowledging that "there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof" (findings section of UNFCCC).

Shortly before the UNFCCC was adopted in May 1992, Congress developed the 1990 CAA amendments. A central issue for the UNFCCC—whether binding emission limitations should be set—was also considered in the context of the CAA amendments. As several commenters noted, a Senate committee included in its bill to amend the CAA a provision requiring EPA to set CO_2 emission standards for motor vehicles. However, that provision was removed from the bill on which the full Senate voted, and the bill eventually enacted was silent with regard to motor vehicle CO_2 emission standards. During this same time period, other legislative proposals were made to control GHG emissions, some in the context of national energy policy, but none were passed (see, e.g., S. 324, 101st Cong. (1989); S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)).

In the CAA Amendments of 1990 as enacted, Congress called on EPA to develop information concerning global climate change and "nonregulatory" strategies for reducing CO_2 emissions. Specifically, uncodified section 821 of the CAA Amendments requires measurement of CO_2 emissions from utilities subject to permitting under title V of the CAA. New section 602 of the CAA directs EPA to determine the "global warming potential" of substances that deplete stratospheric ozone. And new section 103(g) calls on EPA to develop "nonregulatory" measures for the prevention of multiple air pollutants and lists several air pollutants and CO_2 for that purpose.

Notably, none of these provisions authorizes the imposition of mandatory requirements, and two of them expressly preclude their use for regulatory purposes (sections 103(g) and 602). Only the research and development provision of the CAA—section 103—specifically mentions CO_2, and the legislative history of that section indicates that Congress was focused on seeking a sound scientific basis on which to make future decisions on global climate change, not regulation under the CAA as it was being amended. Representatives Roe and Smith, two of the principal authors of section 103 as amended, explained that EPA's "science mandate" needed updating to deal with new, more complex issues, including "global warming" (A Legislative History of the Clean Air Act Amendments of 1990, 103 Cong., 1st Sess., S. Prt. 103-38, Vol. 2, pp. 2776 and 2778). They expressed concern that EPA's research budget had been too heavily focused on supporting existing regulatory actions when the Agency also needed to conduct long-term research to "enhance EPA's ability to predict the need for future action" (id. at 2777).

In providing EPA with expanded research and development authority, however, Congress did not provide commensurate regulatory authority. In section 103(g), Congress directed EPA to establish a "basic engineering research and technology program to develop, evaluate and demonstrate" strategies and technologies for air pollution prevention and specifically called for improvements in such measures for preventing CO_2 as well as several specified air pollutants. But it expressly provided that nothing in the subsection "shall be construed to authorize the imposition on any person of air pollution control requirements." As if to drive home the point, section 103(g) was revised in conference to include the term "nonregulatory" to describe the "strategies and technologies" the subsection was intended to promote. In its treatment of the global climate change issue in the CAA amendments, Congress made clear that it awaited further information before making decisions on the need for regulation.

Beyond Congress' specific CAA references to CO_2 and global warming, another aspect of the Act cautions against construing its provisions to authorize regulation of emissions that may contribute to global climate change. The CAA provisions addressing stratospheric ozone depletion demonstrate that Congress has understood the need for specially tailored solutions to global atmospheric issues, and has expressly granted regulatory authority when it has concluded that controls may be needed as part of those solutions. Like global climate change, the causes and effects of stratospheric ozone depletion are global in nature. Anthropogenic substances that deplete stratospheric ozone are emitted around the world and are very long-lived; their depleting effects and the consequences of those effects occur on a global scale. In the CAA prior to its amendment in 1990, Congress specifically addressed the problem in a separate portion of the statute (part B of title I) that recognized the global nature of the problem and called for negotiation of international agreements to ensure world-wide participation in research and any control of stratospheric ozone-depleting substances. In the 1990 CAA amendments, Congress again addressed the issue in a discrete portion of the statute (title VI) that similarly provides for coordination with the international community. Moreover, both incarnations of the CAA's stratospheric ozone provisions contain express authorization for EPA to regulate as scientific information warrants. In light of this CAA treatment of stratospheric ozone depletion, it would be anomalous to conclude that Congress intended EPA to address global climate change under the CAA's general regulatory provisions, with no provision recognizing the international dimension of the issue and any solution, and no express authorization to regulate.

EPA's prior use of the CAA's general regulatory provisions provides an important context. Since the inception of the Act, EPA has used these provisions to address air pollution problems that occur primarily at ground level or near the surface of the earth. For example, national ambient air quality standards (NAAQS) established under CAA section 109 address concentrations of substances in the ambient air and the related public health and welfare problems. This has meant setting NAAQS for concentrations of ozone, carbon monoxide, particulate matter and other substances in the air near the surface of the earth, not higher in the atmosphere. Concentrations of these substances generally vary from place to place as a result of differences in local or regional emissions and other factors (e.g., topography), although long range transport may also contribute to local concentrations in some cases. CO_2, by contrast, is fairly consistent in concentration throughout the world's atmosphere up to approximately the lower stratosphere. Problems associated with atmospheric concentrations of CO_2 are much more like the kind of global problem Congress addressed through adoption of the specific provisions of Title VI.

In assessing the availability of CAA authority to address global climate change, it is also useful to consider whether the NAAQS system—a key CAA regulatory mechanism—could be used to effectively address the issue. Unique and basic aspects of the presence of key GHGs in the atmosphere make the NAAQS system fundamentally ill-suited to addressing these gases in relation to global climate change. Many GHGs reside in the earth's atmosphere for very long periods of time. CO_2, by far the most pervasive of anthropogenic GHGs, has a residence time of roughly 50-200 years. This long lifetime along with atmospheric dynamics means that CO_2 is well mixed throughout the atmosphere, up to approximately the lower stratosphere. The result is a vast global atmospheric pool of CO_2 that is fairly consistent in concentration, everywhere along the surface of the earth and vertically throughout this area of mixing.

While atmospheric concentrations of CO_2 are fairly consistent globally, the potential for either adverse or beneficial effects in the U.S. from these concentrations depends on complicated interactions of many variables on the land, in the oceans, and in the atmosphere, occurring around the world and over long periods of time. Characterization and assessment of such effects and the relation of such effects to atmospheric concentration of CO_2 in the U.S. would present scientific issues of unprecedented complexity in the NAAQS context. The long-lived nature of the CO_2 global pool would also make it extremely difficult to evaluate the extent over time to which effects in the U.S. would be related to anthropogenic emissions in the U.S. Finally, the nature of the global pool would mean that any CO_2 standard that might be established would in effect be a worldwide ambient air quality standard, not a national standard—the entire world would be either in compliance or out of compliance.

Such a situation would be inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS—that actions taken by individual states and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS. The statutory NAAQS implementation regime is fundamentally inadequate when it comes to a substance like CO_2, which is emitted globally and has relatively homogenous concentrations around the world. A NAAQS for CO_2, unlike any pollutant for which a NAAQS has been established, could not be attained by any area of the U.S. until such a standard were attained by the entire world as a result of emission controls implemented in countries around the world. The limited flexibility provided in the Act to address the impacts of foreign pollution transported to the U.S. was not designed to address the challenges presented by long-lived global atmospheric pools such as exists for CO_2. The globally-pervasive nature of CO_2 emissions and atmospheric concentrations presents a unique problem that fundamentally differs from the kind of environmental problem that the NAAQS system was intended to address and is capable of solving.

Other congressional actions confirm that Congress did not authorize regulation under the CAA to address global climate change. Starting in 1978, Congress passed several pieces of legislation specifically addressing global climate change. With the National Climate Program Act of 1978, 15 U.S.C. 2901 et seq., Congress established a "national climate program" to improve understanding of "climate processes, natural and man induced, and the social, economic, and political implications of global climate change" through research, data collection, assessments, information dissemination, and international cooperation. In the Global Climate Protection Act of 1987, 22 U.S.C. 2651 note, Congress directed the Secretary of State to coordinate U.S. negotiations concerning global climate change, and EPA to develop and propose to Congress a coordinated national policy on the issue. Three years later, Congress passed the Global Change Research Act of 1990, 15 U.S.C. 2931 et seq., establishing a Committee on Earth and Environmental Sciences to coordinate a 10-year research program. That statute was enacted one day after the CAA Amendments of 1990 was signed into law. Also in 1990, Congress passed Title XXIV of the Food and Agriculture Act, creating a Global Climate Change Program to research global climate agricultural issues (section 2401 of Pub. L. 101-624).

With these statutes, Congress sought to develop a foundation for considering whether future legislative action on global climate change was warranted and, if so, what that action should be. From Federal agencies, it sought recommendations for national policy and further advances in scientific understanding and possible technological responses. It did not authorize any Federal agency to take any regulatory action in response to those recommendations and advances. In fact, Congress declined to adopt other legislative proposals, contemporaneous with the bills to amend the CAA in 1989 and 1990, to require GHG emissions reductions from stationary and mobile sources (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)). While Congress did not expressly preclude agencies from taking regulatory action under other statutes, its actions strongly indicate that when Congress was amending the CAA in 1990, it was awaiting further information before deciding itself whether regulation to address global climate change is warranted and, if so, what form it should take.

Since 1990, Congress has taken other actions consistent with the view that Congress did not authorize CAA regulation for global climate change purposes. In the 1992 Energy Policy Act, Congress called on the Secretary of Energy to assess various GHG control options and report back to Congress, and to establish a registry for reporting voluntary GHG emissions. Following ratification of the UNFCCC, nations party to the Convention negotiated the Kyoto Protocol calling for mandatory reductions in developed nations' GHG emissions. While the Kyoto Protocol was being negotiated, the Senate in 1997 adopted by a 95-0 vote the Byrd-Hagel Resolution, which stated that the U.S. should not be a signatory to any protocol that would result in serious harm to the economy of the U.S. or that would mandate new commitments to limit or reduce U.S. GHG emissions unless the Protocol also mandated new, specific, scheduled commitments to limit or reduce GHG emissions for developing countries within the same compliance period. Although the Clinton Administration signed the Kyoto Protocol, it did not submit it to the Senate for ratification out of concern that the Senate would reject the treaty. Congress also attached language to appropriations bills that barred EPA from implementing the Kyoto Protocol without Senate ratification (see, e.g., Knollenberg amendments to the FY 1999 and 2000 VA-HUD and Independent Agencies Appropriations Acts). Since enactment of the 1990 CAA amendments, numerous bills to control GHG emissions from mobile and stationary sources have failed to win passage (see, e.g., H.R. 2993, 102d

Cong., 1st Sess. 137 Cong. Rec. H4611 (daily ed. 1991)).

Against this backdrop of consistent congressional action to learn more about the global climate change issue before specifically authorizing regulation to address it, the CAA cannot be interpreted to authorize such regulation in the absence of any direct or even indirect indication of congressional intent to provide such authority. EPA is urged on in this view by the Supreme Court's decision in Brown & Williamson, which struck down FDA's assertion of authority to regulate tobacco products under the Food, Drug and Cosmetic Act (FDCA). That statute contains a broadly worded grant of authority for FDA to regulate "drugs" and "devices," terms which the statute also broadly defines. However, the FDCA does not specifically address tobacco products while other Federal laws expressly govern the marketing of those products.

Notwithstanding the FDCA's facially broad grant of authority, the Supreme Court explained that "[i]n extraordinary cases, * * * there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." The Court noted that FDA was "assert[ing] jurisdiction to regulate an industry constituting a significant portion of the American economy," despite the fact that "tobacco has its own unique political history" that had led Congress to create a distinct regulatory scheme for tobacco products. The Court concluded that FDA's assertion of authority to regulate tobacco was "hardly an ordinary case." The Court analyzed FDA's authority in light of the language, structure and history of the FDCA and other federal legislation and congressional action specifically addressing tobacco regulation, including failed legislative attempts to confer authority of the type FDA was asserting. Based on that analysis, it determined that Congress did not "intend[] to delegate a decision of such economic and political significance * * * in so cryptic a fashion."

It is hard to imagine any issue in the environmental area having greater "economic and political significance" than regulation of activities that might lead to global climate change. Virtually every sector of the U.S. economy is either directly or indirectly a source of GHG emissions, and the countries of the world are involved in scientific, technical, and political-level discussions about climate change. We believe, in fact, that an effort to impose controls on U.S. GHG emissions would have far greater economic and political implications than FDA's attempt to regulate tobacco.

The most abundant anthropogenic GHG, CO_2, is emitted whenever fossil fuels such as coal, oil, and natural gas are used to produce energy. The production and use of fossil fuel-based energy undergirds almost every aspect of the U.S. economy. For example, approximately 70 percent of the electric energy used in this country is generated from fossil fuel, and the U.S. transportation sector is almost entirely dependent on oil.

Proposals to reduce CO_2 emissions from these sectors have focused on four major approaches: (1) Improve fuel efficiency; (2) capture and sequester CO_2; (3) switch to alternative non-fossil fuel sources; and (4) reduce vehicle usage by switching to alternative forms of transportation. Congress has already addressed the first approach in other statutes—not the CAA—by giving other Departments and agencies—not EPA—regulatory authority to deal with fuel and energy efficiency. For example, Congress has authorized DOT to set fuel economy standards for motor vehicles and the Department of Energy to set efficiency standards for products such as air conditioners and appliances that consume electricity.

The other approaches for reducing CO_2 emissions all have substantial economic implications. While it may eventually be possible to achieve widespread capture and sequester CO_2 emissions from power plants, such an approach would require a new generation of power plants and would be very costly, even if implemented over many years. As for the use of alternative fuels, governments and private companies around the world are investing billions of dollars to explore the possibility of using non-fossil fuels for power generation and transportation. Any widespread effort to switch away from fossil fuels in either sector would likewise require a wholesale transformation of our methods for producing power and transporting goods and people. As for alternative modes of transportation, Congress and many states have already adopted measures to encourage public transportation, car pooling, bike usage, and land-use planning designed to minimize commuting distances. EPA supports these measures and believes that they provide many environmental benefits. However, widespread substitution of alternative forms of transportation for transportation based on fossil fuel energy would also require a wholesale remaking of this sector. It is hard to overstate the economic significance of making these kinds of fundamental and widespread changes in basic methods of producing and using energy.

The issue of global climate change also has enormous political significance. It has been discussed extensively during the last three Presidential campaigns; it is the subject of debate and negotiation in several international bodies; and numerous bills have been introduced in Congress over the last 15 years to address the issue.

In light of Congress' attention to the issue of global climate change, and the absence of any direct or even indirect indication that Congress intended to authorize regulation under the CAA to address global climate change, it is unreasonable to conclude that the CAA provides the Agency with such authority. An administrative agency properly awaits congressional direction before addressing a fundamental policy issue such as global climate change, instead of searching for authority in an existing statute that was not designed or enacted to deal with the issue. We thus conclude that the CAA does not authorize regulation to address concerns about global climate change.

It follows from this conclusion, that GHGs, as such, are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112 and 202. CAA authorization to regulate is generally based on a finding that an air pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare. CAA section 302(g) defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant[.]" The root of the definition indicates that for a substance to be an "air pollutant," it must be an "agent" of "air pollution." Because EPA lacks CAA regulatory authority to address global climate change, the term "air pollution" as used in the regulatory provisions cannot be interpreted to encompass global climate change. Thus,

CO_2 and other GHGs are not "agents" of air pollution and do not satisfy the CAA section 302(g) definition of "air pollutant" for purposes of those provisions. We reserve judgment on whether GHGs would meet the CAA definition of "air pollutant" for regulatory purposes were they subject to regulation under the CAA for global climate change purposes.[3]

B. Interference With Fuel Economy Standards

Even if GHGs were air pollutants generally subject to regulation under the CAA, Congress has not authorized the Agency to regulate CO_2 emissions from motor vehicles to the extent such standards would effectively regulate the fuel economy of passenger cars and light duty trucks. No technology currently exists or is under development that can capture and destroy or reduce emissions of CO_2, unlike other emissions from motor vehicle tailpipes. At present, the only practical way to reduce tailpipe emissions of CO_2 is to improve fuel economy. Congress has already created a detailed set of mandatory standards governing the fuel economy of cars and light duty trucks, and has authorized DOT—not EPA—to implement those standards. The only way for EPA to proceed with CO_2 emissions standards without upsetting this statutory scheme would be to set a standard less stringent than CAFE for cars and light duty trucks. But such an approach would be meaningless in terms of reducing GHG emissions from the U.S. motor vehicle fleet.[4]

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[3] As General Counsel Fabricant notes in his memorandum, a substance does not meet the CAA definition of "air pollutant" simply because it is a "physical, chemical, biological, radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air." It must also be an "air pollution agent."

Congress' care in designing the CAFE program makes clear that EPCA is the only statutory vehicle for regulating the fuel economy of cars and light duty trucks. Under EPCA, DOT may set only "corporate average" standards that automakers meet on a fleetwide basis. Automakers thus have flexibility to design different vehicle models having different fuel economy so long as the average of the vehicles sold by the automaker in a given model year and class meets the CAFE standard for that year. In fact, EPCA offers automakers additional flexibility by allowing them to meet the CAFE standard for a given model year by "carrying back" or "carrying forward" the excess fuel economy performance of their fleets for the three years before or after the applicable model year.

EPCA also builds in an opportunity for congressional oversight of CAFE standard-setting that reinforces the notion that Congress intended fuel economy to be governed by EPCA alone. The statute specifies a CAFE standard of 27.5 miles per gallon for passenger cars in model years 1984 and beyond (49 U.S.C. 32902(b)), but authorizes DOT to amend the standard to the "maximum feasible average fuel economy level" for the relevant model year. However, to the extent DOT raises or lowers the standards beyond specified levels, EPCA provides an automatic opportunity for Congress to disapprove and effectively void the amended standard (49 U.S.C. 32902(c)). Given that the only practical way of reducing tailpipe CO_2 emissions is by improving fuel economy, any EPA effort to set CO_2 tailpipe standards under the CAA would either abrogate EPCA's regime (if the standards were effectively more stringent than the applicable CAFE standard) or be meaningless (if they were effectively less stringent).

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[4] Although the ICTA petition focuses on passenger cars and light duty trucks, it seeks regulation of GHG emissions generally from motor vehicles and engines, which include heavy duty engines and trucks. Passenger cars and light duty trucks are subject to CAFE standards; heavy duty trucks are not. The contribution of heavy duty trucks to the U.S. motor vehicle GHG inventory is relatively small, about 16 percent. EPA believes it would be ineffective, inefficient, and unreasonable to set CO_2 and other GHG reductions from the many types of sources of these emissions.

C. No Mandatory Duty

As explained above, in light of the language, history, structure and context of the CAA and Congress' decision to give DOT authority to regulate fuel economy under EPCA, it is clear that EPA does not have authority to regulate motor vehicle emissions of CO_2 and other GHGs under the CAA. In any event, the CAA provision authorizing regulation of motor vehicle emissions does not impose a mandatory duty on the Administrator to exercise her judgment. Instead, section 202(a)(1) provides the Administrator with discretionary authority to address emissions in addition to those addressed by other section 202 provisions (see, e.g., sections 202(a)(3) and (b)). While section 202(a)(1) uses the word "shall," it does not require the Administrator to act by a specified deadline and it conditions authority to act on a discretionary exercise of the Administrator's judgment regarding whether motor vehicle emissions cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

The Web site statements, legal memorandum and other documents cited by petitioners and commenters in support of the petition are not sufficient to satisfy the criteria for setting standards under section 202(a)(1). Exercise of section 202(a)(1) authority turns on the judgment made by the Administrator, and CAA section 301 does not permit the Administrator to delegate her standard-setting authority under section 202(a)(1). None of the statements petitioners claim constitute the requisite endangerment finding for GHGs under section 202(a)(1) were made, or subsequently adopted, by the Administrator. As the Cannon memorandum stated in 1998, no Administrator had made a finding under any of the CAA's regulatory provisions that CO_2 meets the applicable statutory criteria for regulation. (Notably, the Web site statements on which the petitioners partly rely were in existence at the time Mr. Cannon issued his memorandum.) That statement remains true today—no Administrator has made any finding that satisfies the criteria for setting CO_2 standards for motor vehicles or any other emission source. In any event, for such findings to suffice for standard-setting purposes, they must be established through a notice-and-comment process.

EPA also disagrees with the premise of the petitioners' claim—that if the Administrator were to find that GHGs, in general, may reasonably be anticipated to endanger public health or welfare, she must necessarily regulate GHG emissions from motor vehicles. Depending on the particular problem, motor vehicles may contribute more or less or not at all. An important issue before the Administrator is whether, given motor vehicles' relative contribution to a problem, it makes sense to regulate them. In the case of some types of air pollution, motor vehicles may be one of many contributors, and it may make sense to control other contributors instead of, or in tandem with, motor vehicles. The discretionary nature of the Administrator's section 202(a)(1) authority allows her to consider these important policy issues and decide to regulate motor vehicle emissions as appropriate to the air pollution problem being addressed. Accordingly, even were the Administrator to make a formal finding regarding the potential health and welfare effects of GHGs in general, section 202(a)(1) would not require her to regulate GHG emissions from motor vehicles.

D. Different Policy Approach

Beyond issues of authority and interference with fuel economy standards, EPA disagrees with the regulatory approach urged by petitioners. We agree with the President that "we must address the issue of global climate change" (February 14, 2002). We do not believe, however, that it would be either effective or appropriate for EPA to establish GHG standards for motor vehicles at this time. As described in detail below, the President has laid out a comprehensive approach to climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the climate change issue over the long term.

Petitioners cited numerous studies and other sources of information in contending that anthropogenic emissions of CO_2, CH_4, N_2O, and HFCs are accelerating global climate change and that emission of these compounds from motor vehicles contribute to the problem. Numerous commenters agreed with petitioners and a few cited additional information or studies as further support. See "Summary of Climate Petition Comments on Science" in the docket for this action. Other commenters disagreed with petitioners' contentions, citing different data and studies or in some cases interpreting the same data and studies differently or emphasizing different aspects of the information provided. Id. We reviewed the information submitted by petitioners and commenters and concluded that all of the information was widely available and in the public domain at the time we solicited comments on the petition. The information submitted does not add significantly to the body of information available to the National Research Council (NRC) when it prepared its 2001 report, Climate Change Science: An Analysis of Some Key Questions. We rely in this decision on NRC's objective and independent assessment of the relevant science. The comments submitted to the record do not include information that causes us to question the validity of the NRC's conclusions.

As the NRC noted in its report, concentrations of GHGs are increasing in the atmosphere as a result of human activities (pp. 9-12). It also noted that "[a] diverse array of evidence points to a warming of global surface air temperatures" (p. 16). The report goes on to state, however, that "[b]ecause of the large and still uncertain level of natural variability inherent in the climate record and the uncertainties in the time histories of the various forcing agents (and particularly aerosols), a casual linkage between the buildup of greenhouse gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established. The fact that the magnitude of the observed warming is large in comparison to natural variability as simulated in climate models is suggestive of such a linkage, but it does not constitute proof of one because the model simulations could be deficient in natural variability on the decadal to century time scale" (p. 17).

The NRC also observed that "there is considerable uncertainty in current understanding of how the climate system varies naturally and reacts to emissions of [GHGs] and aerosols" (p. 1). As a result of that uncertainty, the NRC cautioned that "current estimate of the magnitude of future warming should be regarded as tentative and subject to future adjustments (either upward or downward)." Id. It further advised that "[r]educing the wide range of uncertainty inherent in current model predictions of global climate change will require major advances in understanding and modeling of both (1) the factors that determine atmospheric concentrations of [GHGs] and aerosols and (2) the so-called 'feedbacks' that determine the sensitivity of the climate system to a prescribed increase in [GHGs]." Id.

The science of climate change is extraordinarily complex and still evolving. Although there have been substantial advances in climate change science, there continue to be important uncertainties in our understanding of the factors that may affect future climate change and how it should be addressed. As the NRC explained, predicting future climate change necessarily involves a complex web of economic and physical factors including: Our ability to predict future global anthropogenic emissions of GHGs and aerosols; the fate of these emissions once they enter the atmosphere (e.g., what percentage are absorbed by vegetation or are taken up by the oceans); the impact of those emissions that remain in the atmosphere on the radiative properties of the atmosphere; changes in critically important climate feedbacks (e.g., changes in cloud cover and ocean circulation); changes in temperature characteristics (e.g., average temperatures, shifts in daytime and evening temperatures); changes in other climatic parameters (e.g., shifts in precipitation, storms); and ultimately the impact of such changes on human health and welfare (e.g., increases or decreases in agricultural productivity, human health impacts). The NRC noted, in particular, that "[t]he understanding of the relationships between weather/climate and human health is in its infancy and therefore the health consequences of climate change are poorly understood" (p. 20). Substantial scientific uncertainties limit our ability to assess each of these factors and to separate out those changes resulting from natural variability from those that are directly the result of increases in anthropogenic GHGs.

Reducing the wide range of uncertainty inherent in current model predictions will require major advances in understanding and modeling of the factors that determine atmospheric concentrations of greenhouse gases and aerosols, and the processes that determine the sensitivity of the climate system. Specifically, this will involve reducing uncertainty regarding:

- The future global use of fossil fuels and future global emissions of methane,
- The fraction of fossil fuel carbon that will remain in the atmosphere and contribute to radiative forcing versus exchange with the oceans or with the land biosphere,
- The impacts (either positive or negative) of climate change on regional and local systems,
- The nature and causes of the natural variability of climate and its interactions with human-induced changes, and
- The direct and indirect effects of the changing distribution of aerosols.

Knowledge of the climate system and of projections about the future climate is derived from fundamental physics, chemistry and observations. Data are then incorporated in global circulation models. However, model projections are limited by the paucity of data available to evaluate the ability of coupled models to simulate important aspects of climate. The U.S. and other countries are attempting to overcome these limitations by developing a more comprehensive long-term observation system, by making more extensive regional measurements of greenhouse gases, and by increasing the computing power required to handle these expanded data sets.

A central component of the President's policy is to reduce key uncertainties that exist in our understanding of global climate change. Important efforts are underway to address these uncertainties. In particular, the Federal Government has expanded scientific research efforts through its Climate Change Research Initiative (CCRI). President Bush announced this new initiative in June 2001 and called for it "to study areas of uncertainty and identify priority areas where investments can make a difference." The CCRI recently issued its final "Strategic Plan for the Climate Change Research Program" to ensure that scientific efforts are focused where they are most critical and that the key scientific uncertainties identified are addressed in a timely and effective manner for decision makers.

The President has also stated, however, that "while scientific uncertainties remain, we can begin now to address the factors that contribute to climate change" (June 11, 2001). Thus, along with stepped-up efforts to reduce scientific uncertainties, the President's policy calls for public-private partnerships to develop breakthrough technologies that could dramatically reduce the economy's reliance on fossil fuels without slowing its growth. Large-scale shifts away from traditional energy sources, however, will require not only the development of abundant, cost-effective alternative fuels, but potentially wholesale changes in the way industrial processes and consumer products use fuel. Such momentous shifts do not take place quickly. As the President has explained, "[a]ddressing global climate change will require a sustained effort, over many generations' (www.whitehouse.gov/news/releases/2002/02/climatechange.html).

By contrast, establishing GHG emission standards for U.S. motor vehicles at this time would require EPA to make scientific and technical judgments without the benefit of the studies being developed to reduce uncertainties and advance technologies. It would also result in an inefficient, piecemeal approach to addressing the climate change issue. The U.S. motor vehicle fleet is one of many sources of GHG emissions both here and abroad, and different GHG emission sources face different technological and financial challenges in reducing emissions. A sensible regulatory scheme would require that all significant sources and sinks of GHG emissions be considered in deciding how best to achieve any needed emission reductions.

Unilateral EPA regulation of motor vehicle GHG emissions could also weaken U.S. efforts to persuade key developing countries to reduce the GHG intensity of their economies. Considering the large populations and growing economies of some developing countries, increases in their GHG emissions could quickly overwhelm the effects of GHG reduction measures in developed countries. Any potential benefit of EPA regulation could be lost to the extent other nations decided to let their emissions significantly increase in view of U.S. emission reductions.[5] Unavoidably, climate change raises important foreign policy issues, and it is the President's prerogative to address them.

In light of the considerations discussed above, EPA would decline the petitioners' request to regulate motor vehicle GHG emissions even if it had authority to promulgate such regulations. Until more is understood about the causes, extent and significance of climate change and the potential options for addressing it, EPA believes it is inappropriate to regulate GHG emissions from motor vehicles.

In any event, the President's policy includes efforts to reduce motor vehicle petroleum consumption through increases in motor vehicle fuel economy. As noted previously, petitioners specifically suggested that EPA set a "corporate average fuel economy-based standard," but only DOT is authorized to set motor vehicle fuel economy standards. DOT considered increasing fuel economy standards and recently promulgated a final rule increasing the CAFE standards for light trucks, including sports utility vehicles, by 1.5 miles per gallon over a three-year period beginning with model year 2005. The new standards are projected to result in savings of approximately 3.6 billion gallons of gasoline over the lifetime of the affected vehicles, with the corresponding avoidance of 31 million metric tons of carbon dioxide emissions. For the longer term, the President has established a new public-private partnership with the nation's automobile manufacturers to promote the development of hydrogen as a primary fuel for cars and trucks, with the goal of building a commercially viable zero-emissions hydrogen-powered vehicle. In the near-term, the President has sought $3 billion in tax credits over 11 years for consumers to purchase fuel cell and hybrid vehicles.

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[5] The U.S. faced a similar dilemma in its efforts to address stratospheric ozone depletion. Early U.S. controls on substances that deplete stratospheric ozone were not matched by many other countries. Over time, U.S. emission reductions were more than offset by emission increases in other countries. The U.S. did not impose additional domestic controls on stratospheric ozone-depleting substances until key developed and developing nations had committed to controlling their own emissions under the Montreal Protocol on Substances that Deplete Stratospheric Ozone.

Aside from fuel economy-based standards, petitioners only other suggestions for reducing CO_2 from motor vehicles are tire efficiency standards and a declining fleet-averaged NO_X standard to force the introduction of zero-emitting vehicles. In the case of tire efficiency standards, it is questionable whether such standards would qualify as "standards applicable to the emission" of an air pollutant from a motor vehicle under section 202(a)(1), since such standards would presumably apply to the vehicle's tires, not its CO_2 emissions (emphasis added). As for zero emission vehicles, further technological developments are needed before they could be a practical choice for most consumers.

With respect to the other GHGs—CH_4, N_2O, and HFCs—petitioners make no suggestion as to how those emissions might be reduced from motor vehicles. GHG emissions from motor vehicles primarily consist of CO_2 from fuel combustion. In 1999, N_2O represented 4 percent, HFCs 1 percent, and CH_4 less than 1 percent of transportation GHG emissions. As byproducts of combustion, there is a direct proportional relationship between CO_2 emissions and fuel economy levels. EPA believes parameters other than fuel economy are more relevant to N_2O and HFC formation. HFCs come from mobile air conditioners, while N_2O is influenced by catalytic converter design. CH_4 is a byproduct of combustion, like CO_2, but can also be affected by catalytic converter design. As noted above, N_20, HFCs, and CH_4 represent a very small percentage of total U.S. transportation GHG emissions. As such, they would not be an effective or efficient target for regulation in the absence of regulation of CO_2 emissions.

VI. Administration Global Climate Change Policy

Lack of CAA authority to impose GHG control requirements does not leave the Federal Government powerless to take sensible measured steps to address the global climate change issue. As described in this notice, the President has laid out a comprehensive approach to global climate change that calls for near-term voluntary actions and incentives along with programs aimed at reducing scientific uncertainties and encouraging technological development so that the government may effectively and efficiently address the global climate change issue over the long term. The CAA and other Federal statutes provide the Federal Government with ample authority to conduct the research necessary to better understand the nature, extent and effects of any human-induced global climate change and to develop technologies that will help achieve GHG emission reductions to the extent they prove necessary. The CAA and other statutes also authorize, and EPA and other agencies have established, nonregulatory programs that provide effective and appropriate means of addressing global climate change while scientific uncertainties are addressed.

As part of that effort, the President in February 2002 called for voluntary reductions in GHG intensity, including through fuel economy improvements. GHG intensity is the ratio of GHG emissions to economic output. The President's goal is to lower the U.S. rate of emissions from an estimated 183 metric tons per million dollars of gross domestic product (GDP) in 2002 to 151 metric tons per million dollars of GDP in 2012. Meeting this commitment will prevent GHG emissions of over 500 million metric tons of carbon equivalent (MMTCE) from entering the atmosphere cumulatively over the next ten years, and is equivalent to taking 70 million (or one out of three) cars off the road.

The "Climate VISION" (Voluntary Innovative Sector Initiatives: Opportunities Now) program, a Presidential initiative launched by the Department of Energy (DOE) in February 2003, is a voluntary public-private partnership designed to pursue cost-effective strategies to reduce the growth of GHG emissions, especially by energy-intensive industries. Working with trade associations and other groups, the program assists industry in its efforts to accelerate the transition to energy technologies and manufacturing processes that are cleaner, more efficient, and capable of capturing or sequestering GHGs. Climate VISION links these objectives with technology development and deployment activities primarily at DOE, but also at other participating agencies. Since Climate VISION was launched, 14 industry groups have become program partners with DOE.

EPA is also pursuing a number of nonregulatory approaches to reducing GHG emissions. In February

2002, EPA launched EPA's Climate Leaders program, a new voluntary partnership program between government and industry. Through Climate Leaders, companies will work with EPA to evaluate their GHG emissions, set aggressive reduction goals, and report their progress toward meeting those goals. To date, more than 40 companies from almost all of the most energy-intensive industry sectors have joined Climate Leaders.

EPA's Energy Star program is another example of voluntary actions that have substantially reduced GHG emissions. Energy Star is a voluntary labeling program that provides critical information to businesses and consumers about the energy efficiency of the products they purchase. Over the past decade more than 750 million Energy Star products have been purchased across more than 30 product categories (e.g., computers, microwaves, washing machines). Reductions in GHG emissions from Energy Star purchases were equivalent to removing 10 million cars from the road last year. Businesses and consumers not only reduced their GHG emissions, but also saved $5 billion last year through their use of Energy Star products.

EPA is also working to encourage voluntary GHG emission reductions from the transportation sector. The key elements of this effort are the SmartWay Transport Partnership and the Best Workplaces for Commuters program. The SmartWay Transport Partnership works with the trucking and railroad industry to develop and deploy more fuel-efficient technologies and practices to achieve substantial fuel savings and emission reductions. The goal of Best Workplaces for Commuters is to offer innovative solutions to commuting challenges faced by U.S.

employers and employees by promoting outstanding commuter benefits that reduce vehicle trips and miles traveled. EPA estimates that these voluntary programs have the potential to reduce GHG emissions by 9 MMTCE annually by 2010.

EPA has voluntary programs aimed specifically at reducing methane emissions from a variety of sources. For example, the Agency has partnerships with natural gas companies to reduce emissions from leaky pipelines and distribution equipment, solid waste landfill facilities to capture and reuse emissions from landfills, and coal mining companies to capture and reuse methane escaping from mines. Together, these programs are projected to reduce methane emissions to below 1990 levels through 2010.

In addition, EPA has extensive partnerships with industries responsible for emissions of the most potent industrial GHG (e.g., sulfur hexafluoride, per fluorocarbons and HFCs). Through partnerships with EPA, the aluminum sector has exceeded their goal of reducing PFC emissions by 45% from 1990 levels by 2000 and is now in discussions about a new, more aggressive goal. The semiconductor manufacturing sector has agreed to reduce their emissions by 10% below 1995 levels by 2010. This year, a new agreement was reached with the magnesium sector under which they have agreed to completely phase-out their SF6 emissions by 2010.

The Federal Government's voluntary climate programs are already achieving significant emission reductions. In 2000 alone, reductions in GHG emissions totaled 66 MMTCE when compared to emissions in the absence of these programs.

Importantly, the President's initiative will improve our ability to accurately measure and verify GHG emissions through an enhanced national GHG registry system. The U.S. will improve the voluntary registry's accuracy, reliability, and verifiability, taking into account emerging domestic and international approaches. Organizations participating in the new registry will be provided with transferable credits for achieving voluntary emissions reductions. These credits will be available for use under any future incentive-based or mandatory programs. We believe the enhanced standards for the new registry will strengthen the current voluntary trading systems.

The President's 2003 budget also seeks $4.5 billion for global climate change-related programs, a $700 million increase over 2002. This includes $1.7 billion for science research under the Climate Change Research Initiative, and $1.3 billion for climate change technologies under the National Climate Change Technology initiative. This commitment is unmatched in the world. The 2003 budget seeks $555 million in clean energy incentives to spur investments in solar, wind, and biomass energy, co-generation, and landfill gas conversion.

New and expanded international policies will complement our domestic policies, including tripled funding for the "Debt-for-Nature" Tropical Forest Conservation Program, fully funding the Global Environment Facility for its third four-year replenishment, enhanced support for climate observation systems and climate technology assistance in developing countries, and sustained level funding for USAID climate programs, including technology transfer and capacity building in developing countries.

In the transportation sector, the Administration's global climate change plan includes promoting the development of fuel-efficient motor vehicles and trucks, researching options for producing cleaner fuels, and implementing programs to improve energy efficiency. The plan calls for expanding Federal research partnerships with industry, providing market-based incentives, and updating current regulatory programs that advance our progress in this area. This commitment includes expanding fuel cell research, in particular through the "FreedomCAR" initiative.

FreedomCAR is a new public-private partnership with the nation's automobile manufacturers. It seeks to promote the development of hydrogen as a primary fuel for cars and trucks, with the goal of building a commercially viable zero-emissions hydrogen-powered vehicle. FreedomCAR focuses on technologies to enable mass production of affordable hydrogen-powered fuel cell vehicles and the hydrogen-supply infrastructure to support them.

Developing new technologies to improve the energy efficiency of transportation in the U.S. will be a key element in achieving future reductions in GHG emissions. The President's 2003 budget seeks more than $3 billion in tax credits over 11 years for consumers to purchase fuel cell and hybrid vehicles. The Administration's global climate change plan supports increasing automobile fuel economy and encouraging new technologies that reduce our dependence on imported oil, while protecting passenger safety and jobs.

EPA will play an important role in efforts to develop advanced motor vehicle technologies that improve fuel economy and reduce emissions. The Agency's Clean

Automotive Technology (CAT) program is working to develop advanced clean and fuel-efficient automotive technology. Under the program, EPA's goal is to develop technology by the end of the decade that will satisfy stringent emissions requirements and achieve up to a doubling of fuel efficiency in personal vehicles such as SUVs, pickups, and urban delivery vehicles—while simultaneously meeting the more demanding size, performance, durability, and power requirements of these vehicles. EPA will also play a leadership role in advancing fuel cell vehicle and hydrogen fuel technologies and influencing the direction of technological and policy progress in support of U.S. environmental, energy, and national security goals.

To address GHG emissions from the electric utility sector, DOE in February of this year announced FutureGen, a $1 billion government/industry partnership to design, build and operate a nearly emission-free, coal-fired electric and hydrogen production plant. The 275-megawatt prototype plant will serve as a large scale engineering laboratory for testing new clean power, carbon capture, and coal-to-hydrogen technologies. It will be the cleanest fossil fuel-fired power plant in the world. The project is a direct response to the President's Climate Change and Hydrogen Fuels Initiatives.

In all, the President's global climate change policy sets the U.S. on a path to slow the growth of GHG emissions and, as the science justifies, to stop and then reverse that growth. This policy supports vital global climate change research and lays the groundwork for future action by investing in science, technology, and institutions. In addition, the President's policy emphasizes international cooperation and promotes working with other nations to develop an efficient and coordinated response to global climate change. In taking prudent environmental action at home and abroad, the U.S. is advancing a realistic and effective long-term approach to the global climate change issue.

VII. Conclusion

For the reasons discussed above, and after considering the ICTA petition, public comment, EPA's legal authority, and other relevant information, EPA hereby denies the ICTA petition requesting that EPA regulate certain GHG emissions from new motor vehicles and engines under CAA section 202(a)(1).

RECORD
AND
BRIEFS

Nos. 12-1146, 12-1248, 12-1254, 12-1268,
12-1269, 12-1272

IN THE

Supreme Court of the United States

Supreme Court, U.S.
FILED
DEC - 9 2013
OFFICE OF THE CLERK

UTILITY AIR REGULATORY GROUP, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, *et al.*,
Respondents.

**On Writ of Certiorari to the
United States Court of Appeals for the
District of Columbia Circuit**

JOINT APPENDIX: VOLUME V OF V

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PETITION FOR CERTIORARI FILED MARCH 20, 2013
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ENVIRONMENTAL PROTECTION AGENCY
40 CFR Parts 51 and 52
[AD-FRL-7414-5]
RIN 2060-AE11

Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Baseline Emissions Determination, Actual-to-Future-Actual Methodology, Plantwide Applicability Limitations, Clean Units, Pollution Control Projects

Tuesday, December 31, 2002

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The EPA is revising regulations governing the New Source Review (NSR) programs mandated by parts C and D of title I of the Clean Air Act (CAA or Act). These revisions include changes in NSR applicability requirements for modifications to allow sources more flexibility to respond to rapidly changing markets and to plan for future investments in pollution control and prevention technologies. Today's changes reflect EPA's consideration of discussions and recommendations of the Clean Air Act Advisory Committee's (CAAAC) Subcommittee on NSR, Permits and Toxics, comments filed by the public, and meetings and discussions with interested stakeholders. The changes are intended to provide greater regulatory certainty, administrative flexibility, and permit streamlining, while ensuring the current level of environmental protection and benefit derived from the program and, in certain respects, resulting in greater environmental protection.

EFFECTIVE DATE: This final rule is effective on March 3, 2003.

ADDRESSES: Docket. Docket No. A-90-37, containing supporting information used to develop the proposed rule and the final rule, is available for public inspection and copying between 8 a.m. and 4:30 p.m., Monday through Friday (except government holidays) at the Air and Radiation Docket and Information Center (6102T), Room B-108, EPA West Building, 1301 Constitution Avenue, NW., Washington, DC 20460; telephone (202) 566-1742, fax (202) 566-1741. A reasonable fee may be charged for copying docket materials. Worldwide Web (WWW). In addition to being available in the docket, an electronic copy of this final rule will also be available on the WWW through the Technology Transfer Network (TTN). Following signature, a copy of the rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules: http:// www.epa.gov/ttn/oarpg.

FOR FURTHER INFORMATION CONTACT: Ms. Lynn Hutchinson, Information Transfer and Program Integration Division (C339-03), U.S. EPA Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711, telephone 919-541-5795, or electronic mail at hutchinson.lynn@epa.gov, for general questions on this rule. For questions on baseline emissions determination or the actual-to-projected-actual applicability test, contact Mr. Dan DeRoeck, at the same address, telephone 919-541-5593, or electronic mail at deroeck.dan@epa.gov. For questions on Plantwide Applicability Limitations (PALs), contact Mr. Raj Rao, at the same address, telephone 919-541-5344, or electronic mail at rao.raj@epa.gov. For questions on Clean Units, contact Mr. Juan Santiago, at the same address, telephone

919-541-1084, or electronic mail at santiago.juan@epa.gov. For questions on Pollution Control Projects (PCPs), contact Mr. Dave Svendsgaard, at the same address, telephone 919-541-2380, or electronic mail at svendsgaard.dave@epa.gov.

SUPPLEMENTARY INFORMATION:

Regulated Entities

Entities potentially affected by this final action include sources in all industry groups. The majority of sources potentially affected are expected to be in the following groups.

Industry group	**SIC**[a]	NAICS[b]
Electric Services	491	221111, 221112, 221113, 221119, 221121, 221122
Petroleum Refining	291	32411
Chemical Processes	281	325181, 32512, 325131, 325182, 211112, 325998, 331311, 325188
Natural Gas Transport	492	48621, 22121
Pulp and Paper Mills	261	32211, 322121, 322122, 32213
Paper Mills	262	322121, 322122
Automobile Manufacturing	371	336111, 336112, 336712, 336211, 336992, 336322, 336312, 33633, 33634, 33635, 336399, 336212, 336213

Pharmaceuticals	283	325411, 325412, 325413, 325414

Entities potentially affected by this final action also include State, local, and tribal governments that are delegated authority to implement these regulations.

Outline. The information presented in this preamble is organized as follows:

I. Overview of Today's Final Action

  A. Background

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removing the conditions limiting it to EUSGUs.

In the event that a PCP results in a significant emissions increase of a different pollutant, the reviewing authority may require an analysis of air quality impacts which would serve the same function as an air quality impacts analysis conducted as part of NSR permitting. Providing an exclusion for PCPs enables facilities to reduce emissions without having to wait for a major NSR permit to be issued. We believe that this result is consistent with the objectives of the NSR provisions in the CAA. Thus, we are revising our rules to remove disincentives to pollution control and pollution prevention projects to the extent allowed under the CAA.

D. Implementation

1. How Do You Apply For and Receive a PCP Exclusion?

The process for obtaining a PCP Exclusion basically breaks down into two separate scenarios, depending on whether your proposed project is "listed" or "non-listed" as environmentally beneficial. Both processes are presented below.

a. What Is the Process You Must Follow for Projects Involving Listed PCPs?

Before you begin actual construction on your PCP, you must submit a notice to your reviewing authority that includes the following information (and depending on your reviewing authority's requirements, this information may be submitted with a part 70, part 71 or other SIP-approved permit application such as a minor NSR permit application): (1) A description of project; (2) an analysis of the environmentally beneficial nature of the PCP, including a projection of emissions increases and decreases (speciated, using an appropriate emissions test for the emissions unit); and (3) a demonstration that the project will not have an adverse air quality impact.

You may begin construction on the PCP immediately upon submitting your notice to the reviewing authority. However, if your reviewing authority determines that the source does not qualify for a PCP Exclusion, you may be subject to a delay in the project or an order to not undertake the project.

b. What Is the Process You Must Follow for Projects Involving Non-Listed PCPs?

For projects not listed in Table 2, on a case-by-case basis your reviewing authority must consider the net environmental benefit of a non-listed project and, within a reasonable amount of time, act upon your request for the exclusion for a specific application. You must receive this approval from your reviewing authority before beginning actual construction of the PCP. Your reviewing authority will provide an opportunity for public review and comment prior to granting its approval for the PCP.

Your application for case-specific approval of a PCP Exclusion should have the same information as required above for a notice to use a listed technology. The only difference between the two processes is that the use of a listed technology allows you to commence construction on your PCP immediately after submitting your notice to the reviewing authority, whereas the use of a non-listed technology requires you to first submit an application to your reviewing authority and obtain its approval prior to construction of your PCP.

2. What Process Will We Follow To Add New Projects to the List of Environmentally Beneficial PCPs?

We will use notice and comment rulemaking procedures to add new projects to the list of PCPs that are presumed to be environmentally beneficial. We may take this action on our own initiative or you may petition us, if you believe there is a project that should be added to the list.

If you submit a petition to us requesting that a non-listed air pollution control technology (which includes pollution prevention or work practices) be determined environmentally beneficial and presumptively qualified for the PCP Exclusion, you should describe the anticipated emissions consequence of installing the PCP, both for primary and collateral pollutants. We will review your submittal within a reasonable amount of time. If we believe that the project should be added to the list, we will amend the list of approved PCPs through rulemaking. Once the rule has been amended, you may use a newly listed PCP if you proceed in accordance with the process for implementing the PCP Exclusion for listed PCPs. (See section VI.D.1.a.)

3. What Are Our Operational Expectations for an Excluded PCP?

By this rule, we are creating a general duty for all sources approved to use a PCP Exclusion. This general duty clause requires you to operate the PCP in a manner consistent with reasonable engineering practices and with the basic applicability requirements for the exclusion (i.e., being environmentally beneficial and having no adverse air quality impacts). This means that you have a legal responsibility to operate in a manner that is consistent with your analysis of the environmental benefits and air quality impacts analysis, and that you will minimize collateral pollutant increases within the physical configuration and operational standards usually associated with the emissions control device or strategy.

4. What Are the Implications of Not Complying With the PCP Exclusion Process?

The PCP Exclusion is a mechanism for bypassing the major NSR permitting requirements. If you do not comply with the steps necessary to qualify for the PCP Exclusion under the terms of the PCP provisions, you can become subject to major NSR.

VII. Listed Hazardous Air Pollutants

The 1990 Amendments to the CAA at section 112(b)(6) exempted HAP listed under section 112(b)(1) from the PSD requirements in part C. In our 1996 Federal Register Notice, we proposed changes to the regulations at §§ 51.166 and 52.21 to implement this exemption. Specifically, we proposed the following.

- The HAP listed in section 112(b)(1), as well as any pollutant that may be added to the list, are excluded from the PSD provisions of part C. These HAP include arsenic, asbestos, benzene, beryllium, mercury, radionuclides, and vinyl chloride, all of which were previously regulated under the PSD rules. This exemption applies to the provisions for major stationary sources in §§ 51.166(b)(2) and 52.21(b)(2), the significant levels in §§ 51.166(b)(23)(i) and 52.21(b)(23)(i), and the significant monitoring concentrations in §§ 51.166(i)(8) and 52.21(i)(8).

- Pollutants listed in regulations pursuant to section 112(r)(1), Accidental Release, are not excluded from the PSD provisions of part C.

- Any HAP listed in section 112(b)(1) that are regulated as constituents or precursors of a more general pollutant listed under section 108 are still subject to PSD, despite the exemption in section 112(b)(6).
- If a pollutant is removed from the list under the provisions of section 112(b)(3) of the Act, that pollutant would be subject to the applicable PSD requirements of part C if it is otherwise regulated under the Act.
- Pollutants regulated under the Act and not on the list of HAP, such as fluorides, TRS compounds, and sulfuric acid mist, continue to be regulated under PSD.

Public commenters generally agree that our proposal reflects the statutory requirements. Therefore, today we are taking final action to promulgate these proposed provisions at §§ 51.166(b)(23)(i), 51.166(i)(8), 52.21(b)(23)(i), and 52.21(i)(8).

As today's regulations provide, the following pollutants currently regulated under the Act are subject to Federal PSD review and permitting requirements.

- CO
- NO_x
- SO_2
- PM and particulate matter less than 10 microns in diameter (PM-10)
- Ozone (VOC)

- Lead (Pb) (elemental)

- Fluorides (excluding hydrogen fluoride)

- Sulfuric acid mist

- H_2S

- TRS compounds (including H_2S)

- CFCs 11, 12, 112, 114, 115

- Halons 1211, 1301, 2402

- Municipal Waste Combustor (MWC) acid gases, MWC metals, and MWC organics

- ODS regulated under title VI

The PSD program applies automatically to newly regulated NSR pollutants, which would include final promulgation of an NSPS applicable to a previously unregulated pollutant.

As we indicated in our proposal package, CAA section 112(b)(7) states that elemental Pb (the named chemical) may not be listed by the Administrator as a HAP under section 112(b)(1). Therefore, because section 112(b)(6) exempts only the pollutants listed in section 112, elemental Pb emissions are not exempt from the Federal PSD requirements. Elemental Pb continues to be a criteria pollutant subject to the Pb NAAQS and other requirements of the Act. As proposed, we are also continuing to maintain that the reference to Pb in the regulations regarding the significant levels and significant monitoring concentrations covers the Pb portion of Pb compounds. See §§ 51.166(b)(23), 51.166(i)(8), 52.21(b)(23), and 52.21(i)(8). Otherwise, the word elemental might imply that only Pb that is not part of a Pb compound is covered.

One commenter requests that we amend the regulations to include a definition of pollutants regulated under the Act. We agree with the commenter that such a provision would clarify which pollutants are covered under the PSD program. Moreover, the nonattainment NSR rules at § 51.165 would also benefit from this clarity. Therefore, today's final regulations include a definition for regulated NSR pollutant. This new definition replaces the terminology "pollutants regulated under the Act."

The term "Regulated NSR pollutant" includes the following pollutants.

- NO_X or any VOC
- Any pollutant for which a NAAQS has been promulgated
- Any pollutant that is subject to any standard promulgated under section 111 of the Act
- Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act.

The new definition excludes HAPs listed in section 112 of the Act (including any pollutants that may be added to the list pursuant to section 112(b)(2) of the Act). However, when any pollutant listed under section 112 of the Act is also a constituent or precursor of a more general pollutant that is regulated under section 108 of the Act, that listed pollutant may be regulated under NSR but only as part of regulation of the general pollutant.

As we indicated in our proposal, State and local agencies with an approved PSD program may continue to regulate the HAP now exempted from Federal PSD by section 112(b)(6) if their PSD regulations provide an independent basis to do so. These State and local rules remain in effect unless they are revised to provide similar exemptions. Such provisions that are part of the SIP are federally enforceable.

Section 112(q) retains existing NESHAP regulations by specifying that any standard under section 112 in effect before the enactment of the 1990 Amendments remains in force. Therefore, the requirements of §§ 61.05 to 61.08, including preconstruction permitting requirements for new and modified sources subject to existing NESHAP regulations, are still applicable.

Pollutants listed under section 112(r) are not included in the definition of regulated NSR pollutant. As we proposed, substances regulated under section 112(r) may still be subject to PSD if they are regulated under other provisions of the Act. For example, even though H_2S is listed under section 112(r), it is still regulated under the Federal PSD provisions because it is regulated under the NSPS program in section 111. This means that the listing of a substance under section 112(r) does not exclude the substance from the Federal PSD provisions; the PSD provisions apply if the substance is otherwise regulated under the Act.

We are not taking final action on ambient impact concentrations or maximum allowable increases in pollutant concentrations as proposed in § 51.166(b)(23)(iv) and (v) and § 52.21(b)(23)(iv) and (v). Although these provisions are included in the definition of significant, they do not relate to the new provisions for HAP. Instead, they concern Class I issues, which we have not taken final action on.

VIII. Effective Date for Today's Requirements

As discussed above, today we are changing the existing NSR requirements in five ways.

- Providing a new method for determining baseline actual emissions
- Adopting the actual-to-projected-actual methodology for determining whether a major modification has occurred
- Allowing major stationary sources to comply with PALs to avoid having a significant emissions increase that triggers the requirements of the major NSR program
- Providing new applicability provisions for emissions units that are designated Clean Units
- Excluding PCPs from the definition of "physical change or change in the method of operation"

Today's rules codify our longstanding policy for calculating the baseline actual emissions for EUSGUs, which is any consecutive 2 years in the past 5 years, or another more representative period. In today's final rules we are also including a new section that outlines how a major modification is determined under the various major NSR applicability options and clarifies where you will find the provisions in our revised rules.

All of these changes will take effect in the Federal PSD program (codified at § 52.21) on March 3, 2003. This means that these rules will apply on March 3, 2003, in any area without an approved PSD program, for which we are the reviewing authority, or for which we have delegated our authority to issue permits to a State or local reviewing authority.

To be approvable under the SIP, State and local agency programs implementing part C (PSD permit program in § 51.166) or part D (nonattainment NSR permit program in § 51.165) must include today's changes as minimum program elements. State and local agencies should assure that any program changes under §§ 51.165 and 51.166 are consistently accounted for in other SIP planning measures. State and local agencies must adopt and submit revisions to their part 51 permitting programs implementing these minimum program elements no later than January 2, 2006. That is, for both nonattainment and attainment

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accordance with the procedures contained in paragraph (b)(47)(ii) of this section, and for a new emissions unit in accordance with the procedures contained in paragraph (b)(47)(iii) of this section.

(48) [Reserved]

(49) Regulated NSR pollutant, for purposes of this section, means the following:

(i) Any pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for such pollutants identified by the Administrator (e.g., volatile organic compounds are precursors for ozone);

(ii) Any pollutant that is subject to any standard promulgated under section 111 of the Act;

(iii) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or

(iv) Any pollutant that otherwise is subject to regulation under the Act; except that any or all hazardous air pollutants either listed in section 112 of the Act or added to the list pursuant to section 112(b)(2) of the Act, which have not been delisted pursuant to section 112(b)(3) of the Act, are not regulated NSR pollutants unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

(50) Reviewing authority means the State air pollution control agency, local agency, other State agency, Indian tribe, or other agency authorized by the Administrator to carry out a permit program under § 51.165 and this section, or the Administrator in the case of EPA-implemented permit programs under § 52.21 of this chapter.

(51) Project means a physical change in, or change in method of operation of, an existing major stationary source.

(52) Lowest achievable emission rate (LAER) is as defined in § 51.165(a)(1)(xiii).

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(i) Exemptions.

* * * * *

(5) * * *

(i) * * *

(g) Fluorides—0.25 [mu]g/m^3, 24-hour average;

(h) Total reduced sulfur—10 [mu]g/m^3, 1-hour average

(i) Hydrogen sulfide—0.2 [mu]g/m^3, 1-hour average;

(j) Reduced sulfur compounds—10 [mu]g/m^3, 1-hour average; or

* * * * *

(r) * * *

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(6) Each plan shall provide that the following specific provisions apply to projects at existing emissions units at a major stationary source (other than projects at a Clean Unit or at a source with a PAL) in circumstances where there is a reasonable possibility that a project that is not a part of a major modification may result in a significant emissions increase and the owner or operator elects to use the method specified in paragraphs (b)(40)(ii)(a) through (c) of this section for calculating projected actual emissions. Deviations from these provisions will be approved only if the State specifically demonstrates that the submitted provisions are more stringent than or at least as stringent in all respects as the corresponding provisions in paragraphs (r)(6)(i) through (v) of this section.

(i) Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:

(a) A description of the project;

(b) Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and

(c) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under paragraph (b)(40)(ii)(c) of this section and an explanation for why such amount was excluded, and any netting calculations, if applicable.

(ii) If the emissions unit is an existing electric utility steam generating unit, before beginning actual construction, the owner or operator shall provide a copy of the information set out in paragraph (r)(6)(i) of this section to the reviewing authority. Nothing in this paragraph (r)(6)(ii) shall be construed to require the owner or operator of such a unit to obtain any determination from the reviewing authority before beginning actual construction.

(iii) The owner or operator shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in paragraph (r)(6)(i)(b) of this section; and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit.

(iv) If the unit is an existing electric utility steam generating unit, the owner or operator shall submit a report to the reviewing authority within 60 days after the end of each year during which records must be generated under paragraph (r)(6)(iii) of this section setting out the unit's annual emissions during the calendar year that preceded submission of the report.

(v) If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the reviewing authority if the annual emissions, in tons per year, from the project identified in paragraph (r)(6)(i) of this section, exceed the baseline actual emissions (as documented and maintained pursuant to paragraph (r)(6)(i)(c) of this section) by a significant amount (as defined in paragraph (b)(23) of this section) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to paragraph (r)(6)(i)(c) of this section. Such report shall be submitted to the reviewing authority within 60 days after the end of such year. The report shall contain the following:

(a) The name, address and telephone number of the major stationary source;

(b) The annual emissions as calculated pursuant to paragraph (r)(6)(iii) of this section; and

(c) Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

(7) Each plan shall provide that the owner or operator of the source shall make the information required to be documented and maintained pursuant to paragraph (r)(6) of this section available for review upon request for inspection by the reviewing authority or the general public pursuant to the requirements contained in § 70.4(b)(3)(viii) of this chapter.

* * * * *

(t) Clean Unit Test for emissions units that are subject to BACT or LAER. The plan shall provide an owner or operator of a major stationary source the option of using the Clean Unit Test to determine whether emissions increases at a Clean Unit are part of a project that is a major modification according to the provisions in paragraphs (t)(1) through (9) of this section.

(1) Applicability. The provisions of this paragraph (t) apply to any emissions unit for which the reviewing authority has issued a major NSR permit within the past 10 years.

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 52, and 124

[FRL 1538-2]

Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans

AGENCY: Environmental Protection Agency.

ACTION: Final rules.

* * * *

meaningful measurement of the pollutants. The values promulgated represent five times the lowest detectable concentration in ambient air that can be measured by the instruments available for monitoring each pollutant. The factor of five was chosen after reviewing test data for the various methods considered reasonably available. The decision was based in part on considerations of instrument sensitivity, potential for sampling error, problems with instrument variability (e.g., zero drift) and the capability to read recorded data. For a more thorough discussion of this determination, see the memorandum from K. Rehme to W. Peters dated May 20, 1980, which is available in the rulemaking docket and from the address given for the other reports.

There also are several changes in the use of Table B from the Table 2 proposed on September 5. First, a source deemed subject to review may claim the de minimis air quality impact exemption from only the monitoring requirement for the reasons noted earlier. Next, under the proposal, a source had to demonstrate that its ambient impact would be de minimis to obtain an exemption from monitoring. As promulgated, the regulation allows a source to be exempted from the preapplication monitoring requirement if it shows either that existing air pollution in the source impact area or its projected impact in the affected area is de minimis. In most cases, little is to be gained from preconstruction monitoring in situations where either condition applies.

Finally, because there will be situations where monitoring will be necessary even if modeling predicts de minimis conditions, the exemption is not automatic but rather must be with the approval of the reviewing authority. For example, Table B values should not be used when (1) there is an apparent threat to an applicable PSD increment or NAAQS based on modeling alone or (2) when there is a question of adverse impact on a Class I area. Questions of adverse impact on a Class I area are to be decided on a case-by-case basis with the objectives of the affected Federal Land Manager in mind.

Some of the suggestions made in the comments have not been adopted. For the reasons stated earlier, many, of the de minimis values have been increased. The automatic exemption on the basis of emissions rate is retained, although the exemption from monitoring has been made discretionary. The Administrator believes that a clear indication of applicability is necessary. It is not reasonable to expect a potential applicant to have continuous knowledge of the status of increment consumption and thus know when an application is required and when it is not. Nor have the de minimis values been promulgated as a guide only, with a screening review of all sources made mandatory as suggested by one commenter. The Administrator does not believe that there is a substantial programmatic benefit to be derived from such a stringent requirement.

Accumulation of de minimis values has not been dropped, because for most pollutants the promulgated de minimis emissions levels are now substantially higher than those proposed. The suggestion to allow sources with greater than de minimis emissions to make a showing that their air quality impact was de minimis and escape review was considered and then rejected. The higher emissions levels promulgated will offer much of the requested relief. Moreover, such an approach would not streamline the review process (i.e., a detailed air quality analysis would still be necessary), and several sources with taller stacks might avoid review and the BACT requirement. Variations in actual impact because of stack height can be a factor in the BACT review. Similarly, an equation considering stack height to determine the de minimis emissions rate cutoff has not been promulgated. It is questionable whether such an equation could be developed for application nationwide that would be any less judgmental than the fixed de minimis emissions rates promulgated. Moreover, that approach would be little more than a case-by-case applicability assessment which the Administrator believes is inadvisable for reasons already described.

Other suggestions not accepted were to raise the de minimis emissions levels to 100/250 tons per year for the criteria pollutants, and to limit the de minimis concept to only the criteria pollutants. In developing an approach to defining de minimis for PSD purposes and consequently calculating the specific de minimis values under the guidance given within the Act and Alabama Power, emissions levels as high as 100 tons per year could not be justified for most criteria pollutants. Use of the de minimis concept with respect to only the criteria pollutants suggests that any increase (i.e., a zero de minimis value) would be significant for noncriteria pollutants and must be reviewed. As mentioned earlier, a zero de minimis is not practical for this program.

XII. Geographic and Pollutant Applicability

A. Background

Alabama Power held that in determining the applicability of PSD review, EPA must look to whether a source locates in an area to which Part C of the Act applies, rather than to the impact the source would have upon such an area. Accordingly, EPA proposed on September 5 to apply PSD review to a source if the source locates in an area designated attainment or unclassifiable for a pollutant which the source emits in major amounts. Each pollutant emitted by the source would be subject to PSD review, unless the pollutant was one for which an area is designated nonattainment and the source emitted that pollutant in major amounts. A modification to a source would be subject to PSD review under the September 5 proposal if it would result in a significant net increase in the emissions of any regulated pollutant for which the source is major and for which the area is designated attainment or unclassifiable. In addition, EPA proposed on September 5 to apply PSD review to a source or modification that would significantly affect an area in another state designated as attainment or unclassifiable for a pollutant for which the source or modification would be major. See 44 FR 5190-41, 51949 (§ 51.24(i)(2)), 5193-54 (§ 52.21(i)(8)).

On January 30, 1980, EPA stated that it intended not to apply PSD review based solely on interstate impact, because the court's final interpretation of the Act in Alabama Power suggested that PSD review was not appropriate in such circumstances. EPA also noted that under its September 5 proposal, a source or modification would be exempt from PSD review if it emitted in major amounts only pollutants for which an area had been designated nonattainment. EPA solicited comments on whether this exclusion should be retained, as well as on its proposal to delete PSD review based solely on interstate impacts. See 45 FR 6803 (January 30, 1980).

B. PSD Applicability

After further evaluation of its proposed approach, and consideration of the comments submitted in response to the September 5, 1979, and January 30, 1980, notices (see discussion below), EPA has decided to modify the September 5 proposal somewhat. Under today's action, except with respect to nonattainment pollutants, PSD review will apply to any source that emits any pollutant in major amounts, if the source would locate in an area designated attainment or unclassifiable for any criteria pollutant. If the source is subject to PSD review, then PSD review will be applied to each pollutant the source emits in greater than de minimis amounts, unless the area is designated as nonattainment under section 107(d)(1) for the particular pollutant. It should be noted that in order for PSD review to apply to a source, the source need not be major for a pollutant for which an area is designated attainment or unclassifiable; the source need only emit any pollutant in major amounts (i.e., the amounts specified in section 169(1) of the Act) and be located in an area designated attainment or unclassifiable for that or any other pollutant. Therefore, sources that are major only for pollutants for which an area is designated nonattainment will not be exempt from PSD review unless the source is located in an area which is designated nonattainment for all criteria pollutants or unless all of the regulated pollutants emitted by the source in greater than de minimis amounts are nonattainment pollutants.

The applicability of the PSD regulations to modifications mirrors that for new sources (see Modification). PSD review will apply to any modification to a source which emits any pollutant subject to regulation under the Act in major amounts, if the modification would result in a significant net increase in the emissions of any pollutant, and if the source is located in an area designated attainment or unclassifiable for any criteria pollutant. PSD review would not apply to any nonattainment pollutant. Unlike the approach proposed on September 5, in order for PSD review to apply, the modification need not increase emissions of a pollutant for which the source is major, nor need the source be major for a pollutant for which the area is designated attainment or unclassifiable.

EPA believes that this approach is required by Alabama Power and sections 165(a) and 169(1) of the Act. Section 165(a) states that "[n]o major emitting facility on which construction is commenced after the date of the enactment of [Part C of the Act], may be constructed in any area to which this part applies unless" the conditions set out in section 165(a) are met. Alabama Power held that this provision must be interpreted literally and that, in particular, EPA should focus on the location of the source, not its impact. See 13 ERC at 2012-2016. Today's action provides the necessary literal interpretation. A "major emitting facility" is defined in section 169(1) as a source which would emit at least 100 or 250 tons per year (tpy) (depending on the type of source) of "any" pollutant. This would cover both critiera pollutants, for which national ambient air quality standards have been promulgated, and non-criteria pollutants subject to regulation under the Act. Section 165 refers to an "area to which this part [part C] applies," which the Court in Alabama Power interpreted to mean "clean air areas," i.e. areas designated pursuant to section 107 as attainment or unclassifiable for a particular air pollutant 13 ERC at 2013. See also sections 161, 162, and 167 of the Clean Air Act. But neither section 165 nor section 169(1) links the pollutant for which the source is major and the pollutant for which an area is designated attainment or unclassifiable. Read literally, section 165(a) applies PSD preconstruction review to all sources that are major for any pollutant subject to regulation under the Act and locate in an area designated attainment or unclassified for any pollutant.

Section 165(a) also does not link review of a particular pollutant to the attainment status for that pollutant or limit review to pollutants for which a source is major. Rather, read literally, section 165(a) applies PSD review to all pollutants subject to regulation under the Act emitted by the source provided that the source is major for some pollutant and is located in a clean air area for some pollutant. However, implicit in Alabama Power and the structure of the Act is a recognition that where nonattainment pollutants are emitted in major amounts (i.e., where a source emits in major amounts a pollutant for which the area in which the source would locate is designated nonattainment), Part D NSR rather than Part C PSD review should apply to these pollutants (see below). PSD review does not apply to the nonattainment pollutants emitted by the source otherwise subject to review.

C. Nonattainment Applicability

On May 13, 1980, 45 FR 31307, EPA promulgated a final rule setting out the applicability of nonattainment review of new and modified sources. In brief, EPA clarified that the construction moratorium under section 110(a)(2)(I) and NSR under the Offset Ruling and section 173 apply to all major construction proposed in such areas. This applicability is unaffected by the particular air quality levels within the designated nonattainment area which would be caused or impacted by the proposed major source or major modification. States still are required under section 110(a)(2)(D) to review new or modified sources locating outside of nonattainment areas, but causing or contributing to a violation of an ambient air quality standard; however, review need not meet all of the nonattainment requirements under section 173 and the offset policy.

The current regulations concerning pollutant applicability in nonattainment areas have not been changed. These rules are different from the PSD pollutant applicability rules. Major sources are subject to review under the Offset Ruling, section 173, and the construction moratorium only if they emit in major amounts the pollutant(s) for which the area is designated nonattainment. In addition, only those nonattainment pollutants which the source emits in major amounts are subject to review or the construction moratorium. Similarly, only if a modification increases emissions of a pollutant for which the source is major and for which the area is designated nonattainment do nonattainment requirements apply. The basic rationale for these restrictions is that section 110(a)(2)(I), which contains the construction moratorium, restricts the construction moratorium to pollutants for which the source is major and for which the area is designated nonattainment. Since there is no requirement similar to the one in section 165(a) that subjects a source to review for all regulated pollutants it emits once it is subject to review for one pollutant, preconstruction review under the Offset Ruling and section 173 is restricted in the same manner as the construction moratorium.

For example, construction of a new plant with potential emissions of 500 tpy PM and 50 tpy SO_2 in an area designated nonattainment for both PM and SO_2 would be subject to nonattainment requirements for PM only, since the source is minor for SO_2. Similarly, modification of this plant resulting in a net increase in emissions of 50 tpy in SO_2 would not be subject to nonattainment requirements. See also examples (3), (4), and (7).

D. Case Examples

The following additional examples illustrate how applicability of PSD requirements will work under today's final regulations:

(1) Construction of a new plant with potential emissions of 500 tpy PM and 50 tpy SO_2 in an area designated attainment for both PM and SO_2 would be subject to PSD review for both PM and SO_2.

(2) Construction of the same plant as in example (1), but in an area designated attainment for SO_2 and nonattainment for PM, would be subject to PSD review for SO_2 and nonattainment requirements for PM.

(3) Construction of the same plant as in example (1), but in an area designated attainment for PM and nonattainment for SO_2, would be subject to PSD

review for PM only. PSD 'review would not apply for SO_2, since SO_2 is a nonattainment pollutant.

(4) Construction of the same plant as in example (1), but in an area designated nonattainment for both PM and SO_2 would be subject to no PSD review and to nonattainment requirements for PM. This would be the case even if the SO_2 emissions would have an impact on a nearby Class I area for SO_2 or on an area located in another state which is designated attainment or unclassifiable for PM.

(5) Modification to the plant in example (1), where the plant is located in an area designated attainment for both PM and SO_2 resulting in a 30 tpy net increase in PM emissions, would be subject to PSD review for PM.

(6) Modification to the plant in example (1), where the plant is located in an area designated attainment for SO_2 and nonattainment for PM, resulting in increased emissions of 50 tpy in SO_2, would be subject to PSD review for SO_2. (It is a significant increase at a major source located in an attainment area.) But if the modification only were to increase the emissions of PM by 30 tpy, only nonattainment requirements would apply, since this is a modification of a major source for a nonattainment pollutant.

(7) Modification to the plant in example (1), where the plant is located in an area designated attainment for PM and nonattainment for SO_2, resulting in increased emissions of 50 tpy SO_2, would be subject to neither PSD review, nor the nonattainment NSR requirements. Nonattainment NSR would not apply since the 50 tpy increase in the nonattainment pollutant does not occur at an existing major stationary source for that pollutant. PSD does not

apply since the only change is to a nonattainment pollutant. Instead, the general NSR under the SIP would typically apply to this pollutant, and the new emissions of SO_2 would be accommodated in the SIP's allowance for area and minor source growth.

(8) Construction of a new plant with potential emissions of 500 tpy hydrogen sulfide (H_2S) in an area designated attainment for PM would be subject to PSD review for H_2S. If, in addition, the plant had potential emissions of 50 tpy PM, PSD review would be applied to both H_2S and PM.

(9) Construction of a new plant with potential emissions of 500 tpy CO and 50 tpy H_2S in an area designated nonattainment for CO and attainment for SO_2 would be subject to PSD review for H_2S and to nonattainment requirements for CO. If this plant were later modified, resulting in a net increase in emissions of 30 tpy in H_2S, PSD review would apply for H_2S.

(10) Construction of a new plant with potential emissions of 500 tpy H_2S in an area designated nonattainment for all criteria pollutants would not be subject to either PSD review or nonattainment requirements. Part D applies only to criteria pollutants, and the area here is not subject to Part C, since it is not designated attainment or unclassifiable for any criteria pollutant.

E. Interstate Pollution

The September 5 proposal, in response to the per curiam Alabama Power decision issued on June 18, 1979, would have required PSD review for a major source locating or modifying in a designated nonattainment area only if such construction would substantially impact a clean air area in another state. In its final opinion issued on December 14, 1979, the court reversed its earlier position regarding the need for a PSD review of all interstate impacts to a neighboring state's clean air area. Under both rulings, PSD review would apply in all cases where the construction would take place in a clean area. Pursuant to the court's revised ruling in Alabama Power, EPA will not apply PSD review to a pollutant emitted by a source locating in an area designated nonattainment for that pollutant, even where the source would impact a PSD area in another state. Sixteen of the nineteen comments received by EPA supported this decision. Three commenters requested EPA to propose regulations to control interstate pollution pursuant to sections 110(a)(2)(E) and 161. EPA is now evaluating how best to control interstate pollution, and may propose regulations some time in the future.

F. Geographic Applicability for VOC Sources

On September 5, EPA proposed to delete the "36 hour rule," which subjected a source of volatile organic compounds (VOC) to review, if the source proposed construction within 36 hours pollutant travel time of an ozone nonattainment area. Pollutant travel time was to be calculated using wind conditions associated with concentrations exceeding the ambient standard for ozone. Most commenters agreed with the proposal to delete this requirement. One commenter who disagreed focused on the need for the rule as a means of determining which sources locating outside a designated nonattainment area should be subject to nonattainment review. Another argued that without the rule EPA will end up unnecessarily reviewing sources in remote rural areas whose impact on the ozone nonattainmnent problem is insignificant, since ozone is a regional problem.

For the reasons expressed on September 5 (44 FR 51940), EPA has decided to delete the 38 hour rule, The commenters' concerns are taken care of by the rules on geographic applicability for nonattainment areas, as set out at 45 FR 31307 (May 13, 1980). Thus, all major VOC sources locating in a designated ozone nonattainment area will be subject to review under section 173. Major VOC sources locating outside a designated nonattainment area will be subject to PSD review and will be required to monitor for ozone. If the monitoring indicates that the area of source location is nonattainment, then the provisions of the Offset Ruling or State plans adopted pursuant to section 110(a)(2)(D) of the Act shall apply until the area is redesiginated as nonattainment and a SIP revision has been approved. Of course, a source of VOC may choose to accept nonattainment review requirements immediately (i.e., LAER, offsets, statewide compliance of other sources under the same ownership) and conduct post-approval monitoring as presently permitted under the PSD regulations.

G. Response to Comments

Additional responses to comments regarding applicability of nonattainment requirements can be found at 45 FR 31307. Comments concerning interstate pollution and the geographic applicability of VOC sources, are responded to above.

With regard to PSD review, several commenters argued that EPA's approach would be overly complex and would impose great administrative burdens with few corresponding benefits to air quality. EPA does not agree. Applicability of PSD review as outlined above is required by the Act. Congress believed that such broad applicability was needed to adequately guard against significant deterioration in existing clean areas. EPA cannot restrict applicability and override Congressional intent simply because of an added administrative burden such applicability might impose. For similar reasons, EPA disagrees with the suggestion that it should restrict PSD review to only those pollutants that a source emits in major amounts.

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EVIRONMENTAL PROTECTION AGENCY
[40 CFR parts 51 and 52]
[FRL 1300-6]

Requirements for Preparation, Adoption, and Submittal of SIP's; Approval and Promulgation of State Implementation Plans

AGENCY: Evironmental Protection Agency

ACTION: Proposed Rules.

* * * *

that a plan revision proposing less restrictive requirements affects such sources was submitted on or before the baseline date and was pending action by the Administrator on that date shall be determined from the allowable emissions under the plan as revised; and

(ii) The allowable emissions of major stationary sources and major modifications which commenced construction before January 6, 1975, but were not in operation by the applicable baseline date.

(12) "Baseline date" means, for every part of an Air Quality Control Region (AQCR) designated as unclassifiable or attainment under section 107(d)(1) (D) or (E) of the Act the date of the first complete application after August 7, 1977 for a permit under this section for any major stationary source or major modification in any part of the AQCR.

* * * *

(20) "Secondary emissions" means emissions which occur or would occur as a result of the construction or operation of a major stationary source or major modification, but do not necessarily come from the major stationary source or major modification itself. For purposes of this section, secondary emissions must

be specific and well defined, must be quantifiable, and must impact the same general area as the stationary source or modification which causes the secondary emissions. Secondary emissions may include but are not limited to:

(i) Emissions from ships or trains coming to or from the stationary source or modification: and

(ii) Emissions from any offsite support source which would be constructed or would not otherwise increase its emissions.

(21) "Innovative control technology" means any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emission reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or nonair quality environmental impacts.

(22) "Fugitive emissions" mean those emissions which do not pass through a stack, chimney, vent, or other functionally equivalent opening.

(23) "Reconstruction" will be presumed to have taken place where the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost of a comparable entirely new stationary source. However, any final decision as to whether reconstruction has occurred shall be made in accordance with the provisions of 40 CFR 60.15(f)(1)-(3). A reconstructed stationary source will be treated as a new stationary source for purposes of this section, except that use of an alternative fuel or raw material by reason of an order in effect under sections 2 (a) and (b) of the Energy Supply and Environmental

Coordination Act of 1974 (or any superseding legislation), by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act, or by reason of an order or rule under section 125 of the Act, shall not be considered reconstruction. In determining best available control technology for a reconstructed stationary source, the provisions of 40 CFR 60.15(f)(4) shall be taken into account in assessing whether a standard of performance under 40 CFR Part 60 is applicable to such stationary source.

* * * * *

(i) *Review of Major Stationary Sources and Major* Modifications—*Source Applicability and General Exemptions.*

(1) The plan shall provide that no major stationary source or major modification shall be constructed unless, as a minimum, requirements equivalent to those contained in the paragraphs (j), (I), (n), (p), (r), (t), (v) of this section have been met

(2) The plan shall provide as follows:

(i) The requirements of paragraphs (j) through (u) shall apply to any major stationary source or major modification that:

(a) Would be constructed in an area which is designated under section 107 as attainment or unclassifiable for a pollutant for which the source or modification would be major: or

(b) Would significantly impact an area in another state which is designated under section 107 as attainment or unclassifiable for a pollutant for which the source or modification would be major.

(i) A major stationary source or major modification that is major for violatile organid compounds is also major for ozone.

(3) The plan may provide that requirements equivalent to those contained in paragraphs (j) through (u) of this section do not apply to any major stationary source that would be a nonprofit health or education institution or to any major modification that would occur at such an institution.

(4) The plan may provide that a portable stationary source which has received a permit under requirements equivalent to those contained in the subparagraphs of paragraph (j) through (u) of this section, as applicable, may relocate without again being subject to those requirements, if-

(i) Emissions from the stationary source would not exceed its allowable emissions;

(ii) Emissions from the stationary source would impact no Class I area and no area where an applicable increment is known to be violated: and

(iii) Reasonable notice, not to be less than 10 days, is given to the reviewing authority prior to the relocation identifying the proposed new location and the probable duration of operation at the new location.

(j) *Control Technology Review.* The plan shall provide that—

(1) A major stationary source or major modification shall meet each applicable emission limitation under the State Implementation Plan plus each applicable emission standard and standard of performance under 40 CFR Parts 60 and 61.

(2) A major stationary source or major modification shall apply best available control technology for each

pollutant regulated under the Act that it would emit in a significant amount.

(3) In the case of a major modification. the requirement for best available control technology shall apply only to each new or modified emission unit.

(4) For phased construction projects the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time prior to commencement of construction of each independent phase of construction.

(k) *Exemptions from Impact Analyses.* (1) The plan may provide that with respect to a particular pollutant the requirements of paragraphs (l), (n) and (p) shall not apply to a proposed major stationary source or major modification if-

(i) The increase in allowable emissions of that pollutant from the stationary source or modification would impact no Class I area and no area where an applicable increment is known to be violated: and

(ii) The emissions of the pollutant are of a temporary nature including but not limited to those from a pilot plant, a portable facility, construction, or exploration.

(2) The plan may provide that with respect to sulfur dioxide or particulate matter the requirements of paragraphs (I), (n) and (p) of this section shall not apply to a modification of a major stationary source which was in existence on August 7, 1977, if-

(i) Any increase in allowable emissions of either of those pollutants after the application of best available

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ENVIRONMENTAL PROTECTION AGENCY

PART 52—APPROVAL AND PROMULGATION OF STATE IMPLEMENTATION PLANS

1977 Clean Air Act Amendments to Prevent Significant Deterioration

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: By these final regulations, EPA amends its regulations relating to prevention of significant air quality deterioration (PSD) in order to implement the new PSD requirements of the Clean Air Act Amendments of 1977 (Pub. L. 95-95). As amended, the PSD regulations are now more comprehensive and stringent than they were. States may substitute comparable requirements through implementation plan revisions pursuant to regulations also being published today.

DATES: See §52.21(i) of the regulations.

FOR FURTHER INFORMATION CONTACT:

Darryl Tyler, Chief, Standards Implementation Branch, Control Programs Development Division, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711.

SUPPLEMENTARY INFORMATION:

INTRODUCTION

In 1974, EPA promulgated regulations under Section 101(b)(1) of the Clean Air Act (Act) to prevent emissions of sulfur dioxide (SO_2) and particulate matter (PM) from significantly deteriorating air quality in areas where concentrations of those pollutants were lower than the applicable national ambient air quality standards (NAAQS). 39 FR 42510 (codified at 40 CFR 52.21). EPA incorporated those regulations into the implementation plan (SIP) of each State. The regulations, as amended before August 7, 1977, prohibited, construction of any stationary source in any of nineteen specified categories, unless EPA or delegate State had issued a permit evidencing that the source would apply "best available control technology" (BACT) for SO_2 and PM and that emissions of those pollutants from the source would not cause significant deterioration of air quality in any area. For determining what levels of deterioration were significant, the regulations set out an area classification system. Under it, clean air areas could be classified as Class I, II, or III. In Class I areas, small increases of SO2 and PM would be significant; in Class II areas, moderate increases; and in Class III areas, increases up to a NAAQS. The regulations classified all clean areas as Class II, but gave States, Indian Governing Bodies and Federal Land Managers the opportunity to reclassify their lands under specified requirements.

On August 7, 1977, the President signed into law new PSD requirements as part of the Clean Air Act Amendments of 1977 (1977 Amendments). These requirements follow the outline of the pre-existing regulations, but are in general more comprehensive and stringent. The permit requirements and classification system remain; but, among other things, many more sources are covered, Class II increments are different and sometimes more restrictive, Class III increments are now specifically defined, ambient ceiling requirements apply, BACT applies to all pollutants regulated under the Act, certain lands are permanently Class I, the procedures for reclassifying to Class III are more rigorous, the scope of the ambient impact analysis is much broader, and the opportunity for public comment on a proposed permit must include an opportunity for a public hearing. See Clean Air Act Sections 160-169 42 U.S.C. §§7470-79 (Clean Air Act Amendments of 1977, Pub. L. 95-95, §127(a), 91 Stat. 731), as amended, Pub. L. 95-190, Sections 14(a)(40)-(54), 91 Stat. 1401-02 (November 16, 1977) (technical and conforming amendments).

On November 3, 1977. EPA announced in the FEDERAL REGISTER several specific actions. The first was a final decision not to implement the new PSD requirements of Section 165 of the Act as of August 7, 1977, 42 FR 57459. The second, which embodied the first, was the promulgation of amendments to the pre-existing PSD regulations conforming them, not to Section 165, but primarily to Sections 162(a), 163(b) and 164(a) of the Act in accordance with Section 168(b). Id. Section 162(a) sets forth the new mandatory Class I areas; Section 163(b) identifies the new Class II and Class III increments and the ambient ceilings requirement; and Section 164(a) lists those areas which may not be reclassified as Class III and outlines the new Class III reclassification procedures. The third action EPA announced was the proposal of regulations giving guidance for the preparation of SIP revisions which would meet the new PSD requirements, Id. at 57471. The fourth action was the proposal of further, comprehensive amendments to the pre-existing PSD regulations. Id. at 57479. In announcing the proposals, EPA said that it intended to promulgate final regulations no later than March 1, 1978. Id. at 57459, 57471, 57479. Because Section 406(d)(2) of- the 1977 Amendments directs the States to submit required SIP revisions within nine months of the promulgation of regulations giving guidance for their preparation, EPA also said that SIP revisions incorporating the new PSD requirements would be due no later than December 1, 1978. Id. at 57471, 57479.

On December 8, 1977, EPA published a supplement to the November 3 proposals. In the supplement, EPA clarified what sources the proposed amendments would exempt from the new PSD requirements, solicited comments on two additional issues, notified the public that technical and conforming amendments to the 1977 Amendments had been enacted on November 16, 1977, and stated that it would hold public hearings on January 9, 1978. 42 FR 52020.

On December 23, 1978, EPA extended, from January 3, 1978, to January 31, 1978, the deadline for submitting written comments on the November 3 proposals and on the Air Quality Modeling Conference held on December 14-15, 1978. 42 FR 64378. The conference was announced at 42 FR 58542 and 58561 (November 10, 1977). EPA noted in the December 23, 1977 notice that it might not be able to promulgate the new PSD regulations by March 1, 1978, and that it nevertheless intended to maintain "the previously-announced 'permit deadline' of March 1, 1978, for determining whether sources will be subject to the new PSD rules * * *"

On January 9, 1978, public hearings on the proposals took place in Washington, Chicago and Denver and are included as part of the written record. Transcripts have been made of the oral comments. On January 31, the comment period ended. EPA received more than 250 written comments on the proposals. EPA has considered in preparing the final regulations not only the oral and written comments on the proposals, but also the comments submitted in connection with the modeling conference. EPA has also had occasion to measure the proposals against concrete problems arising during and after the comment period.

The discussion which follows focuses on the important issues raised by the proposed amendments to the pre-existing regulation, summarizes the comments relating to each issue, and presents EPA's resolution. Elsewhere in today's FEDERAL REGISTER, EPA is announcing the promulgation of the necessary requirements for the preparation, adoption and submittal of State PSD programs. Since those regulations parallel these, both preambles should be read together. States should submit their SIP revisions no later than nine months from today.

HIGHLIGHTS

The regulations made final today apply to any source in any of 28 categories with a potential emissions increase of 100 tons per year or more of any pollutant regulated under the Act and to any source with a potential emissions increase of 250 tons per year or more of any pollutant regulated under the Act, including a source which would have been in one of the 28 categories if it were not under the applicable size cutoff. Potential emissions mean uncontrolled emissions.

Not all covered sources will receive full PSD review. Only those which would have allowable emissions equal to or greater than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour, or would impact a Class I area or an area where the increment is known to be violated, will receive such review. However, the combined impact of sources not receiving full review will be determined periodically.

In general, only those sources with allowable emissions of 50 tons per year, 1,000 pounds per day, or 100 pounds per hour or more will undergo case-by-case review for BACT, and then only as to those pollutants regulated under the Act for which the source would be major.

To avoid duplicating State new source review, EPA will in general review a source which has allowable emissions under an enforceable SIP permit of less than 50 tons per year, 1,000 pounds per day or 100 pounds per hour, and which would impact no Class I area or area where an increment is known to be violated, only to the extent of ensuring that it would meet any applicable emission limitation and has undergone adequate public scrutiny.

Where PSD and nonattainment reviews both apply, the State must act first before EPA can issue final construction approval under PSD.

PSD applies irrespective of where a source would locate, except that it does not apply to any source which with respect to a particular pollutant is subject to the nonattainment requirements and would impact no clean air area.

The PSD increments must be protected through both preconstruction review and the SIP review process. If an increment is exceeded, the applicable plan must be revised. SIP relaxations submitted after today that would cause significant deterioration cannot be approved.

A Governor can upon written request exempt certain emission increases from consuming an applicable increment while EPA implements the PSD program. The State must submit an approvable PSD

SIP revision incorporating the exemption within 9 months to retain the exemption.

Additional guidance is provided on what constitutes commencement of construction, particularly for sources constructing in several distinct phases.

PSD sources submitting applications after August 7, 1978, may have to provide extensive air quality monitoring data.

SOURCE APPLICABILITY

A. TRANSITION

In passing the 1977 Amendments, Congress left standing contradictory indications as to when it intended the new PSD requirements to be effective. On the one hand, Section 168 of the Act provides that the pre-existing PSD regulations, with amendments conforming them only to Section 162(a), 163(b) and 164(a), are to remain in effect as to a particular area until the applicable SIP is revised to include the rest of the new requirements. Section 406(b) of the 1977 Amendments reinforces Section 168. It provides in pertinent part:

> All . . . regulations . . . duly issued . . . pursuant to the Clean Air Act as in effect immediately prior to the date of enactment of this Act . . . shall continue in full force and effect after the date of enactment of this Act until modified or rescinded in accordance with the Clean Air Act as amended by this Act.

See also 1977 Amendments section 406(c). In effect, Section 168, and Section 406(b), say that, until EPA or the States revise the SIP's to include the new requirements, construction may commence after

August 7, 1977, so long as it meets the requirements of the pre-existing regulations, as amended.

On the other hand, Section 165(a) can be read as prohibiting, until its requirements were met, most of the post-enactment construction that Section 168 would permit. It provides in pertinent part that "[n]o major emitting facility on which construction is commenced after the date of the enactment of this part, may be constructed in any area to which this part applies, unless" all of the new permit requirements are met. Also, Section 165(a) would have imposed a lengthy moratorium on new construction, since Sections 165(a)(2) and (e) require an analysis in accordance with regulations that as of August 7, 1977, had- not even been proposed. Section 168 would not have imposed such a moratorium.

Because of the contradiction between Section 165 and 168, EPA had no choice but to fashion a reasonable program for the transition from the old to the new requirements. Accordingly, on November 3, 1977, it announced its final decision not to implement the requirements of Section 165 as of August 7, 1977, and its promulgation of the Section 168 amendments to the pre-existing regulations. Then, in the subsequent November 3 proposal and the December 8 supplement, it proposed to apply the requirements of Section 165 as of March 1, 1978. 'Under the proposal,' the requirements would apply to construction of a major stationary source or major modification occuring on or after March 1, 1978, unless the source or modification had received certain permits before March 1 and construction commenced before December 1, 1978. The permit that a source subject to the pre-existing regulations would have to get was a permit under those regulations. A source not subject to the pre-existing regulations would have to get the permit or permits required under the applicable SIP.

In their comments on this proposal, industries asserted that EPA was without legal justification to implement any regulations prior to the submittal of SIP revisions. At the other extreme, some environmental groups contended that EPA was acting improperly in not making Section 165 effective as of August 7, 1977. State agencies generally indicated approval of the proposal.

Today, EPA is announcing that it has promulgated the proposed program with only a minor change. For the December 1, 1978 date, it has substituted a date nine months from today.

Three major considerations have shaped this transition program. One is that the rate of consumption of the increments should be minimized. A paramount goal of both the House and the Senate was to give the States a full opportunity to revise and implement their own PSD programs. The value and significance of this opportunity diminishes as the increments are consumed during the period from August 7, 1977, to the time EPA has approved any PSD revisions to the SIP. Hence, during that period, the rate of consumption of the increments should be minimized. The other two major considerations are that economic disruption should be minimized and that orderly administration of the new requirements should be maximized.

The first of the relevant considerations pulls sharply in the direction of implementing the new requirements as of August 7, 1977. The more sources that must apply BACT, the slower the rate of consumption of the increments. The new PSD requirements might subject up to twenty-four times[1] as many sources to a more restrictive control technology review as did the old requirements. In doing so, the new requirements will capture approximately 230,000 tons of PM, and 570,000 tons of SO_2, per year, beyond what the old requirements would have captured. [2] While such capture is clearly significant to increment consumption on a national *basis,* it could be even more significant to individual localities where more than one of the affected sources might construct and consume a large portion of the available increment. Hence, the sooner EPA implements the new requirements, the slower will be the rate of increment consumption. Other less compelling considerations pull in that direction, too. Until the new requirements are implemented, mandatory Class I areas will not have the protection Section 165(d) affords nor will variances to the Class I increments be available. In addition, until then, Federal Land Managers will continue to have the power to reclassify Federal lands, and EPA will continue to be able to disapprove reclassifications on other than procedural grounds.

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[1] The pre-existing regulations applied to sources belonging to any of nineteen specified categories, or approximately 165 per year. The new requirements apply to any source in any of 28 specified categories which has the potential to emit 100 tons per year or more of any pollutant regulated under the Act and to any other source which has the potential to emit 250 tons per year or more of any such pollutant. Defining "potential to emit" as maximum capacity in the absence of control equipment, as do these regulations, the annual number of covered sources is estimated to-be about 4,000 with approximately 1,600 sources being subject to a detailed BACT and ambient air quality review.

[2] Under the old requirements, annual emissions from all new and modified sources, whether covered or not, totalled approximately 770,000 tons of PM and 1,220,000 tons of SO_2. EPA estimates that for these same sources under the new requirements annual emissions will be reduced to 540,000 tons for PM and 650,000 tons for SO_2.

The other two major considerations, however, suggest the opposite conclusion. Immediate implementation of the new requirements would have resulted in severe economic disruption. As stated above, Section 165(a) would have imposed, because of Sections 165(a)(2) and (e), a moratorium on new construction equal to the length of time required to promulgate the necessary regulations.[3] Even if Sections 165(a)(2) and (e) were ignored, undue economic disruption would have, resulted from sudden imposition of the new requirements. Applicants had designed major construction projects to meet the old PSD requirements and the State new source review requirements as applicable. Many of them had not commenced construction by August 7, 1977, but had either obtained a permit or were about to obtain one. Reevaluation under the new requirements would have meant that construction could not have commenced until long after the time originally planned. The applicant would often have had to repropose control technology and provide analyses of the direct and indirect total environmental effects of the source. EPA would then have had to redetermine the necessary control equipment and open any redeterminations to public comment, including a public hearing.

Immediate implementation also would have promoted disorderly administration, since it would have precluded normal notice and comment and the attending opportunity to better understand the statute, anticipate its effects and establish generic ground rules. Each issue would have been refought with each new application. In the absence of generic rules, inconsistency and confusion in the treatment of applications throughout the country might well have occurred.

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[3] The legislative history contains strong indications that Congress intended not to impose a moratorium on development. See H.R. Rep. No. 95-294, at 171 (1977); Congressional Record—House, August 4, 1977.

The transition program promulgated today is reasonable. It has equitably accommodated these competing considerations. It has allowed informed development of generic rules and minimized economic disruption by avoiding entirely a lengthy moratorium on new growth and amply forewarning the public of the time when the new requirements would have to be met. At the same time, the program has minimized the period of time during which the new requirements were not working to slow consumption of the increments. It has also minimized the time during which, mandatory Class I areas lacked the protection of Section 165(d), Class I increment variances were unavailable, Federal Land Managers were able to reclassify Federal lands, and EPA was able to disapprove reclassifications on other than procedural grounds.

Four aspects of the program require further explanation. First, why is EPA implementing the new requirements as of March 1, 1978, rather than the date of promulgation? In effect, EPA has suspended the issuance of PSD permits from March 1 to the date of promulgation. The consequence of implementing them as of promulgation would have been that sources would have consumed the increments to a much greater extent than they have. In addition, the public has received early and ample warning of the March 1 deadline and therefore an adequate opportunity to plan for this short-term impact on construction schedules. Finally, in accordance with a directive dated February 22, 1978, from the Assistant Administrator for Air and Waste Management and the Assistant Administrator for Enforcement, EPA has upon request reviewed certain applications as to their approvability under the proposed regulations.

Second, why exempt from the new requirements 'those sources which have received a PSD permit before March 1, 1978, even though construction on the source may not have commenced by then? Arguably, to exempt only those sources on which construction had commenced before this date would have paralleled the approach in Section 165, better served the policy of slowing increment consumption and not disserved the policy of ensuring an adequate opportunity for public comment. It would not, however, have minimized economic disruption. In October of 1977, many sources for which PSD applications had been completed and were pending could not have both received a permit and commenced construction before March 1, 1978. Their potential consumption of the increment beyond what they would have consumed under the new requirements was not so great as to warrant denying them an opportunity for exemption. Hence, EPA proposed, and has decided, to exempt sources for which a PSD permit had been obtained before March 1, 1978, so long as construction commences by the time SIP revisions are due.

Third, EPA as previously proposed has also decided to exempt sources not subject to the pre-existing regulations if they have received before March 1, 1978, all permits required under the applicable SIP, even though construction may not have commenced by then. Not to exempt these sources, arguably, would have better served the policy of slowing increment consumption. Nevertheless, there were many such sources in circumstances not significantly different from those of sources with PSD permits pending in October of 1977. Hence, out of fairness, EPA has decided to exempt such sources, so long as construction commences by the time SIP revisions are due.

Finally, in establishing a deadline for commencement of construction, why is EPA using a date nine months from today, instead of December 1, 1978, as proposed? EPA originally set the deadline nine months from March 1, not because March 1 was the date of implementation, but rather because it was the anticipated date of promulgation. EPA selected the nine month period after promulgation because it provided ample opportunity to commence construction and it is the period within which Section 406(d) in effect requires States to submit their SIP revisions. Consequently, the Administration has revised the December 1, 1978, date to coincide with a date nine months from promulgation of these regulations.

B. EDF V. COSTLE

On February 17, 1978, the Environmental Defense Fund, Inc. (EDF) brought an action in the District Court for the District of Columbia challenging EPA's November 3, 1977 decision not to implement the new PSD requirements as of August 7, 1977. On February 24, 1978, the Court issued an order which governed the further processing of pending applications to EPA for PSD permits under the pre-existing regulations and will affect the application of the March 1, 1978, and commence construction deadlines. The order expired on March 28, 1978. It provided in pertinent part:

> 2. EPA shall process all applications for PSD permits that do not comply with the requirements of Section 165 according to its existing procedures *except that,* in the case of any permit which EPA concludes it would issue (but for the existence of this order), EPA shall, on the date on which EPA so concluded, mark every such permit:
>
> > This permit would issue this date (date), but for the order entered in *Environmental Defense Fund v. Douglas M. Castle,* No. 78-281 (D.D.C.) (Entered on February 24, 1978).
> >
> > EPA shall give prompt notice of the above action to the permittee and *all* appropriate State and local authorities. The above action shall not constitute permission to commence construction, nor shall not constitute final action for purposes of judicial review.
>
> 3. If and when any permit marked as described in paragraph 2 is issued, such permit shall be effective and considered to have been issued as of the date on which it was so marked and shall be subject to the relevant regulations applicable on such date.
>
> 4. In addition, any deadline which determines the applicability of EPA regulations under the Clean Air Act to any facilities receiving such permits shall be extended by a period of time equal to the number of days between the time EPA marks the permit as described in Paragraph 2 and the date when EPA releases the permit as described in Paragraph 7.

In accordance with paragraph 3 of the order, EPA will treat any permit marked pursuant to paragraph 2 and released after the order expired as having been issued as of the date It was marked for the purpose of determining whether the source is exempt from the new PSD requirements under the March 1, 1978, program. Also, in accordance with paragraph 4, construction on a source which has received or will receive a marked permit need commence, not within nine months from today, but rather within a period equal to nine months from today plus the number of days between the time the permit was marked and the time it was released.

C. SPECIAL EXEMPTIONS

In the March 8, 1978, FEDERAL REGISTER 42 FR 9529), EPA announced a final decision, made on February 28, 1978, to exempt from the new PSD requirements any source the evaluation of which EPA would have completed before March 1, 1978, but for an extension of the public comment period pursuant to a meritorious request for such an extension. The Administrator communicated this final decision to each of the Regional Administrators. His statement to them, which appeared in the FEDERAL REGISTER on March 8, 1978, follows:

> As some of you are aware, significant public comment has been generated in the case of certain sources that have submitted applications for PSD permits. In some of these cases, interested persons have requested additional time to comment on the propriety of granting the permit. While I do not believe that the situations are many, I am concerned about the completion of *any* PSD review of any case where an extension of the comment period has been requested on meritorious grounds. Accordingly, by this notification I am announcing a policy change regarding the March 1 PSD deadline. This policy

change will be applicable only to those situations where the normal public comment period has ended and EPA review of a permit would have been completed by March 1, were it not for a request for additional comment time requested by interested parties.

In the case of any such situation, described above, the comment period involved may be extended as provided by EPA's current PSD regulations. Where such an extension is granted, the March 1 date now designated as the effective date of the new PSD requirements will not apply to that permit application. Instead, the permit application may continue to be processed (and granted or dented) under EPA's current PSD regulations.

I intend to put a notice in the FEDERAL REGISTER to the above effect. I wish to reemphasize that the policy set forth above only applies to those situations where review would have been completed by March 1 absent our action granting a request for additional comment time.

D. POTENTIAL EMISSIONS

Section 165 of the Act requires that each new or modified "major emitting facility" undergo preconstruction or premodification review for PSD. Section 169(1) defines "major emitting facility" in terms of a source's "potential to emit." On November 3, 1977, EPA proposed to define "potential emissions" as "those emissions expected to-occur without control equipment . . . 42 FR 57479, 57483.

Virtually every comment spoke to the issue of subjecting sources to PSD review on the basis of their uncontrolled emissions. Industry and State pollution control agency comments noted that the Agency's interpretation would needlessly force through PSD review several sources whose allowable emissions would be relatively insignificant. Allowable emission are those that would occur after the application of the controls required under any air pollution control laws and regulations or more stringent controls under an enforceable permit. Many State and local agencies expressed a deep concern that subjecting sources to the PSD requirements solely on the basis of uncontrolled emissions would result in an unmanageable number of detailed and costly reviews. The organization representing State air pollution control agencies, State and Territorial Air Pollution Program Administrators (STAPPA), urged the Agency to consider both uncontrolled emissions and allowable emissions in determining which sources would be subject to review. It suggested that EPA assess the air quality impact of only those sources whose allowable emissions would be significant. Industry comments uniformly urged the Agency to interpret "potential to emit" as referring to allowable emissions.

The Agency has decided to apply PSD solely on the basis of what a source might emit without control. The final regulations published today define "potential to emit" as the "capability at maximum capacity to emit a pollutant in the absence of air pollution control equipment." See § 52.21(b)(3).

The Agency has concluded that Congress intended "potential to emit" to refer to uncontrolled, not allowable, emissions. If Congress had intended PSD to apply on the basis of allowable emissions, it would not have included Section 165(b) in the Act. Section 165(b) provides that an applicant for a PSD permit for a modification to certain major emitting facilities need not show that the modification will not cause or contribute to a violation of a Class II inclement, if the "allowable emissions" of SO_2 and PM from the modification would after the application of BACT "be less than fifty tons per year" and would not cause or contribute to a violation of the applicable NAAQS. Section 169(1) defines "major emitting facility" as a source with the "potential to emit" either, depending on its type, 100 or 250 tons per year or more. If Section 169(1) were read to subject to PSD only those modifications with allowable emissions equal to or greater than 100 or 250 tons per year before the application of BACT, no owner or operator whose modification would emit less than 50 tons per year after BACT would need the relief Section 165(b) provides. This is because, if BACT or some less stringent control could reduce the emissions of the Modification to less than 50 tons per year, the owner or operator would apply it in order to reduce the emissions of the Modification. to below, the applicable 100 or 250 ton cutoff and thereby avoid PSD altogether. Congress, however, did include Section 165(b). Hence, it appears that Congress did not intend PSD to apply on the basis of allowable emissions. *See also* Sen. Rep. No. 95-127, at 33 (1977) (last paragraph). Since the only other concept to which Congress could have been referring is that of uncontrolled emissions, it must have intended PSD to apply on the basis of such emissions.

There is another similar reason for reaching that conclusion: if Congress had intended PSD to apply on the basis of emissions after controls, it would not have used the phrase "potential to emit" in Section 169(1)[4]

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[4] Part D of the Act parallels Part C in its usage of the phrases "allowable emissions" and "potential to emit." Section 173(1)(A)

First, Congress would not have used two different phrases to refer to the same concept, and it had already used "allowable emissions" in Section 165(b). Second, Congress knew that EPA had already established in its offset policy for nonattainment areas (41 FR 55524 (December 21, 1976)) the phrase "allowable emissions" as denoting emissions after controls. Pub. L. 95-95, section 129(a)(1), 91 Stat. 745 (1977). Indeed, Congress has been careful to distinguish "allowable emissions" from at least one other concept. Prior to the enactment on November 16, 1977, of technical and conforming amendments to the 1977 Amendments, Section 165(b) contained the phrase "actual allowable emissions." Id. section 127(a), at 736. The November 16 amendments deleted the word "actual" in order to "eliminate an apparent inconsistency." 123 Cong. Rec. H11955, H11957 (November 1, 1977). Finally, the legislative history indicates that Congress knew that in the air pollution field the phrase "potential emissions" has traditionally been understood to denote uncontrolled emissions. *See e.g.* Sen. Rep. No. 95127, at 45, 96-97 (1977).

The Agency has decided to apply PSD on the basis of uncontrolled emissions also for an important practical reason. In enforcement programs, reporting systems have been and must be based on uncontrolled emissions. Otherwise a source with controls to capture 90 percent of the potential emissions might well be below the cutoff for reporting, but could virtually turn off the control equipment, emit 10 times the allowed level and—not be tracked.

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refers to "allowable emissions," whereas the section defining those sources to which Part D applies, Section 320(j), uses the phrase "potential to emit."

In its November 3 definition of "potential emissions," EPA indicated that, in determining the potential emissions of a source, it would not take into account emissions that "necessary" or "integral" control equipment would capture. Equipment was "necessary" or "integral" if business or production consequences would follow, independently of applicable air pollution laws and regulations, from removing or not using the equipment. Several comments pointed out that such a general credit could not realistically be implemented, since the permitting authority would be faced frequently with having to make difficult case-by-case factual determinations. Considerable time would be lost by both the applicant and the permitting authority in making such case-by-case decisions.

In view of these comments, the Agency will interpret the phrase "air pollution control equipment" in the definition of "potential to emit" as referring to control equipment which is not, aside from air pollution control requirements, vital to production of the normal product of the source or to its normal operation. The Agency will consider equipment vital if the source could not produce its normal product or operate without it.

E. TWO-TIERED REVIEW

By the proposed regulations, EPA indicated its intention to subject each new major stationary source and major modification to full PSD review. Full review would have consisted of (1) a case-by-case BACT determination as to each pollutant regulated under the act for which the source or modification would be considered major, (2) ambient impact analyses of whether the source or modification would cause or contribute to a violation of the applicable increments and NAAQS, (3) an assessment of the direct and indirect effects of the source or modification on visibility, soils, and vegetation, and (4) public comment, including an opportunity for a public hearing, on each material determination. Full review might also have entailed an analysis of the effects of the source or modification on air quality related values in a class I area. Finally, full review might have required the applicant to submit extensive air quality monitoring data and to commit to post-construction monitoring.

As noted above, STAPPA predicted that the States would find PSD applications too numerous, and their review too costly, to manage. STAPPA and others asserted that full PSD review would contribute unduly to the construction costs experienced by small, otherwise well-controlled sources.

In response to these comments, EPA attempted to quantify the effects of full PSD review under the proposal. It estimated that the new requirements would cover approximately 4,000 sources and modifications per year. The old PSD regulations, by contrast, covered only 165 sources per year. EPA also projected that permitting authorities would have to devote approximately 279 more man-years of new source review effort to conduct full PSD review of these new sources (or an additional 65 percent of their present effort on new source review), and that applicants would have to spend up to $6 million on modeling and $24 million on monitoring (or $30 million in total) to obtain PSD permits for these sources.

Applicants would also have to spend additional time and money meeting the requirements of a detailed PSD review. Considerable delay costs are expected from the increased planning and construction costs as well as the foregone return on investment from delaying start-up for a new source. Although it is not possible to accurately quantify the amount of these costs due to their site-specific nature, such costs could be greater than the monitoring and modeling costs of $30 million. In addition the changeover from reviewing 165 sources to 4,000 sources per year would probably lead to delays in the start-up of new sources.

Section 165(b) of the act shows that Congress shared the concern of STAPPA and the other commentators. As noted above, section 165(b) exempts certain modifications with allowable emissions of less than 50 tons per year after the application of BACT from demonstrating that they would not cause or contribute to a violation of any applicable class II increment, and thus from substantial expenditures on modeling and monitoring. The Senate Committee explained:

> Section [165(b)] exempts smaller, well-controlled sources which are expansions of existing facilities from having to demonstrate compliance with the class II increments. Many such sources which are *small and relatively insignificant with respect to air quality* would otherwise be brought under the requirements of (Part C] by the "major emitting facility" definition of 100 tons per year potential emissions of any pollutant.

Sen. Rep. No. 95-127, at 33 (1977) (emphasis added).

Following Congress lead, EPA attempted to quantify the effects of expanding the exemption in section 165(b) to all new sources and modifications with less than 50 tons per year allowable emissions. Analysis revealed that under such an exemption only 1,600 of the 4,000 sources per year are likely to undergo full

PSD review, that permitting authorities would need to devote only an additional 112 man-years to the effort of reviewing those 1,600 sources fully if the remaining 2,400 are first reviewed under the State new source review program, and that applicants might now have to spend only about $2 million on modeling and $7 million on monitoring (or $9 million in total).

Delay costs would also be reduced significantly. The sources exempted from the full PSD review would typically be small. The average size of the investment for these sources is thought to be about $1 million. If delays of two months occur for each of these 2,400 sources, this could lead to delay costs from foregone, returns on investment of about $16 million. (This is based on an estimated four percent difference between the rate of return for a new source and the investor's next best alternative, an average two-month delay and an average new source investment of $1 million.) Delay costs would be higher in those cases where the delay leads to increased construction and planning costs.

Subsequent analysis indicated that the costs of making a case-by-case BACT determination each year for each of the 2,400 sources with allowable emissions under an enforceable SIP construction permit of less than 50 tons per year far outweighed the benefits of such a determination. EPA estimated that the applicable SIP would in many cases impose its own BACT requirement. To conduct a PSD BACT review of those sources would be pointless. In the other cases, applicants would incur the expense of preparing a BACT proposal and the-associated delay for review and approval by the permitting authority. Permitting authorities would have to expend the necessary time and effort to make the BACT determination. For EPA, this determination would in general require it to duplicate much of the effort that the State permitting authority had already expended in becoming knowledgeable about the source. The benefits, in contrast, are relatively insignificant. EPA estimates that BACT applied by virtue of PSD review to the 2,400 50-ton sources would capture annually only 300 tons more of SO_2 and 8,000 tons more of PM than what those contras that the source would install in order to meet the 50 tons per year cutoff would capture. 300 tons is less than 1 percent of the estimated total new emissions of SO_2 per year, while 8,000 tons is less than 2 percent of the estimated total new emissions of PM per year.

In light of section 165(b) and these findings, EPA has decided generally to exempt from full PSD review any new major stationary source or major modification (hereafter, a "major new source") which would have allowable emissions of less than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour, whichever is more restrictive (hereafter, a"50-ton source"). The 100 pounds per hour criterion, it should be noted, would apply only with respect to a pollutant for which an increment or standard for a period less than 24 hours had been established. For example, the criterion would apply to a source with respect to SO_2, but not PM.

In accordance with the decision, under § 52.21(j), no 50-ton source need apply BACT in order to get a PSD permit. An applicant must demonstrate, however, that the source would meet all applicable emission limitations under the SIP and all applicable emission standards and standards of performance under 40 CFR part 60 and part 61. An applicant may demonstrate that the source would meet those limitations and standards by presenting an enforceable SIP permit under which the source would have to meet them. Any major new source with allowable emissions equal to or greater than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour would be subject to the case-by-case BACT requirement.

Under § 52.21(k), no applicant for a PSD permit for a 50-ton source would have to demonstrate that the source would not cause or contribute to a violation of an applicable increment or NAAQS, to assess the direct and Indirect effects of the source on visibility, soils and vegetation, and to provide monitoring data, unless the source would impact a class I area or an area where an applicable increment is known to be violated.

To ensure that air quality does not deteriorate beyond the level of any increment, EPA will periodically assess increment consumption in an area. For the same purpose, it has, in the part 51 regulations also published today, imposed on each State the same obligation as well as the obligation to revise its SIP to cure the-violation of any increment. It should be noted, too, that the assessment of increment consumption must be subject to public comment and an opportunity for a public hearing.

Finally, under § 52.21(r), the issuance of a PSD permit to a 50-ton source would be subject to public scrutiny only if and to the extent that the underlying determinations had not been previously subject to public scrutiny. For example, if the State in granting a SIP permit provided an opportunity for only written comment on whether the source would meet the applicable emission limitations and standards, then EPA would require an opportunity for a public hearing on those questions and an opportunity for written comment and a public hearing on whether the source would impact a class I area or an area where the increment is known to be violated. The purpose of this public participation exemption is to avoid duplication of effort. Applicants should be prepared to prove to what extent the public had an opportunity to scrutinize the issuance of the SIP permit.

The general exemption for 50-ton sources is consistent with the relevant purposes of the new PSD requirements as set forth in sections 101(b)(1) and 160 of the act: to prevent significant deterioration of air quality, to "preserve, protect and enhance" air quality over class I areas, and to assure that any decision to permit increased air pollution is made only after careful evaluation and informed public participation. Nondeterioration is assured since increment consumption will be assessed periodically and SIPs revised to cure any violation. Class I areas are fully protected, since the exemption does not apply as to them. Finally, each material determination behind the issuance of a PSD permit will be subject to at least one round of public participation.

The exemption, moreover, is within the spirit of section 165(b). Each year it will avoid imposing an unnecessary expenditure of up to $21 million on approximately 2,400 controlled sources of relatively insignificant air quality impact. It will, in addition, conserve substantial Federal and State resources for other, more important air pollution control tasks Finally, the exemption will encourage improvements in control technology, since potential applicants will strive to reduce their emissions below 50 tons per year in order to be eligible for the streamlined review process.

EPA has included the short-term criteria of pounds per day or per hour to ensure that seasonal or intermittent operation of sources which have significant short-term emissions will be subject to review. Industries which commented uniformly felt that the Agency was without legal ability to implement the short-term criteria. The act does not, however, preclude the use of short-term criteria and, in fact, seems to require their use in those cases where short-term increments and NAAQS have been established. The short-term criteria would not apply under the regulations where no counterpart increment or standard had been established. State agency comments agreed that short-term criteria would be an important and necessary mechanism to assist in the protection of short-term increments and national ambient air quality standards.

F. OTHER EXEMPTIONS

The regulations promulgated today incorporate several other review exemptions. These exemptions will streamline the review process so that the review will focus on those sources of real air quality significance.

The exemptions are effective only when the public has been afforded an opportunity to comment on any material determinations. Also, protection of increment is assured by, first, not allowing a review exemption that might affect a class I area or an area where an applicable increment is known to be violated and, second, by EPA (or the State when implementing PSD) periodically reviewing the aggregate air quality impacts of unreviewed sources. Such periodic reviews of aggregate impacts, as mentioned above, shall be subject to public comment and an opportunity for public hearing. Additionally, the relevant impact of emissions of all previously unreviewed sources must be included in the review of any source subject to ambient air impact analysis.

Under the first exemption, any major source subject to nonattainment offset requirements for a particular pollutant which would impact no clean air area is not subject to PSD review for that pollutant. Review of such a source would be pointless. The nonattainment requirements would impose LAER, a limitation more stringent than BACT, and would ensure that the source would not contribute to a violation of any applicable NAAQS. Since the source would impact no clean air area, ambient review would be unnecessary to forestall-any significant deterioration.

Temporary sources are also exempt from full PSD review, since their ambient air impacts are short-lived. Temporary emissions include, but are not limited to, those from a pilot plant, portable facility, construction or exploration. Emissions occurring for less than 2 years at one location would generally be considered temporary. Emissions for longer periods of time might also be considered to be temporary (such as the emissions related to the construction of power plants or other large sources), but should be dealt with on a case-by-case basis. Additionally, once a portable facility has received a PSD permit, it may relocate - without undergoing PSD review: *Provided,* That the source notifies the reviewing agency of such relocation 30 days in advance, the proposed relocation would impact no class I area and no area where the increment is known to be violated, and emissions from the facility would not exceed allowable emissions.

The Agency's proposed PSD regulations stated that if an emitting unit within a source were modified so as to increase potential emissions by 250 tons per year

(100 tons for certain listed source types), the unit be required to install best available control technology even if accompanying emission reductions within the source totally offset the new emissions. Industry roundly criticized this proposal as an unauthorized extension of the PSD program to situations where no threat of worsening air quality would exist. After a careful review of the meaning of "modification" in the PSD provisions of the act and consideration of the potential air quality effects of intrasource pollutant tradeoffs, the Agency has decided to adopt a regulatory scheme that in part accommodates industry's expressed concerns.

The regulations apply the definition of "modification" to the entire source (plant), with the result that if net emissions from the source do not increase when an existing unit is revamped, the source would not require full PSD review. This exemption would not be applicable as to BACT in situations where a major facility is added to or is reconstructed at a source, whether the addition is to replace previous production capacity or for growth.

The Agency believes that this approach is consistent with Congress' use of the term "modification" in section 169(2)(C). In adopting that section, one of the November 1977 "technical and conforming amendments" to the 1977 amendments, Congress said that it was honoring the conference agreement by conforming the terminology to its use in section 111, the provision on new source performance standards. At the time the conferees reached agreement and at the time the technical amendments were enacted, "modification" in section 111 had been interpreted by EPA regulation to allow source owners and operators to avoid the application of new source performance standards to changed existing facilities whose emissions would increase, if that increase were totally offset elsewhere in the source. Although the EPA interpretation was overturned by a United States court of appeals in early 1978 *(ASARCO v. EPA,* 11 ERC 1129 (D.C. Cir.)), there is no reason to believe that the Congress in late 1977 did not regard the definition which had existed as law since 1975, as being well-suited to its purposes in the PSD program.

Under the regulations, source owners or operators who claim to be undertaking a modification exempt from the PSD program because of Intrasource tradeoffs will typically not be allowed to obtain credit for reducing emissions from stacks while increasing emissions from roof monitors or other low-level emission points. Stack and nonstack emissions generally have very different impacts on air quality in areas near a source. Since the PSD program is ultimately concerned with effects on air quality, EPA does not feel bound to apply mechanically the pre *ASARCO* case definition of "modification" in section 111, a section directed toward technology, so as to frustrate the air quality protection purpose of PSD.

The effects of treating "modifications" as discussed above will be that modifications to existing facilities will not require installation of best available control technology determined on a case-by-case basis, if the owner or operator demonstrates that zero net emissions would attend the change. The delay and expense Involved in those determinations will, therefore, be avoided. Any applicable new source performance standards will, however, apply to modified facilities in accordance with the *ASARCO* decision.

The Administrator intends to use the following criteria in determining whether a no net increase exemption for a modified facility from the BACT requirement would apply: (1) All emission reductions from sources included in the baseline will be credited in terms of actual emissions using reasonable assumptions for operating conditions, except in two cases. Where a SIP revision was pending as of August 7, 1977, the applicable SIP as later relaxed would represent the baseline for crediting emission reduction. Changes in allowable emissions will also be used to credit reductions from major construction which commenced before January 6, 1975, but was not yet operating by August 7, 1977. per emission reductions from major construction previously approved to consume portions of an increment, allowable emissions as expressed in the PSD permit will be the basis for' determining reduction credit. (2) All reductions must be enforceable (e.g., contained in the permit) and proposed in Conjunction with the source undergoing pre-construction review. Proposed reductions must occur or have occurred before construction is complete. In determining whether no net increase would occur, credit will be given only for emission reductions accomplished in conjunction with the proposed modification. (3) The reduction(s) must equal or exceed those allowable emissions approved for the proposed construction. This determination will generally be made on a pounds-per-hour basis when all facilities involved are operating at their maximum expected production rate. When reductions are proposed on a tons-per-year basis, actual annual operating hours for the previous 1- or 2-year period will be used, as appropriate. (4) All proposed emission reductions must not be otherwise needed to provide for additional growth already approved. Finally, (5) air quality need not improve at every location affected by the proposed construction but on balance the affected area should not be adversely impacted.

The Administrator further believes that all new or modified facilities within sources without a net emission increase should generally be exempt on a pollutant-specific basis from the detailed ambient review requirements. In most cases no useful purpose is served by requiring an air quality impact review of sources that would obviously not degrade air quality. This exemption is not intended to apply when the source would impact a class I area or an area where the increment is known to be violated. The Administrator generally intends to use the same criteria as mentioned above for BACT exemptions in determining if a zero emission increase exemption for ambient review would apply. However, in contrast to the analysis required in the case of modified facilities seeking exemption from BACT review, the no net emission increase analysis employed for purposes of exemption from the ambient review shall take into account all emission increases and decreases occurring at the source since August 7, 1977.

G. FUGITIVE DUST

Several comments from representatives of strip mine and other surface mining interests questioned whether Congress intended dust emissions from surface mines resulting from mobile source activity and the action of the wind on exposed surfaces to be taken into account in reviewing the mines for PSD. The commentors contended that Congress only intended PSD review to apply to "stationary" sources and that mobile source activity and the action of the wind were not stationary sources. While Congress apparently did intend PSD to apply to stationary sources only, surface mines are stationary sources. Consequently, dust emanating from them should not be excluded from PSD review merely on the basis of what causes it to become airborne.

It was also argued that surface mines should receive some relief from strict consideration of ambient particulate concentrations associated with surface mining activities. A number of arguments were presented: that a large majority of the associated particulate matter is nonrespirable; that mining activity occurs in areas with limited population; that the particulate matter arises at ground level and falls out within very short distances; that visibility is not affected because the light scattering which hinders visibility is caused by smaller particles; and that even after the application of BACT, short-term particulate standards for NAAQS and PSD increments might not be met.

In view of these comments and other studies,[5] EPA has decided to exclude from any air quality -impact assessment of a source or modification any fugitive dust that would emanate from it. "Fugitive dust", as defined in the regulations, consists of particles of native soil which is uncontaminated by pollutants resulting from industrial activity. Fugitive dust may come from haul roads or exposed surfaces through the action of man or the wind or both.

Additional support for this exclusion can be found in the legislative history. It points to the utilization of

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[5] *NW Colorado Environmental Impact Statement,* Department of Interior, 1976; *Survey of Fugitive Dust from Coal Mines,* EPA 908/1-78-003, February, 1978; *Impact of Significant Deterioration Proposals Upon Western Surface Coal Mining Operations,* Federal Energy Administration. May 5, 1976.

"administrative good sense" regarding fugitive dust (see *S*. Rep. No. 95-127, at 98 (1977)) and suggests that Congress did not intend PSD to prohibit surface mines of an economically viable size (see H. Rep. No. 95-294, at 165-66 (1977)). In addition, accurately assessing the short-term ambient impact of fugitive dust is often not possible. The Agency will continue its efforts to develop better short-term modeling techniques for fugitive dust.

Certain aspects of this exclusion for fugitive dust should be noted. First, the burden of showing to what extent emissions from the proposed source or modification would be made up of fugitive dust rests with the applicant. Second, the regulations do not exclude fugitive dust from the determination of potential emissions. Any source or modification which, taking into account emissions of fugitive dust, would have potential emissions equal to or greater than 250 tons per year would be subject to the applicable PSD requirements, especially in many instances the BACT requirement. Finally, EPA will treat emissions of fugitive dust as not consuming increment for the purpose of evaluating other sources under PSD.

The Administrator would like to emphasize that EPA intends to implement the above policy of excluding the fugitive dust only on an interim basis. EPA will reassess the implications of the policy and any possible technical improvements in modeling fugitive dust, and will adjust the policy as appropriate.

H. COMMENCE CONSTRUCTION

It is important in many cases to determine whether a source has commenced construction by a certain date. If a source commenced construction before June 1, 1975, it would be exempt (or "grandfathered") from

PSD review altogether. 40 CFR 52.21(d). If a source commenced construction before August 7, 1977, it would be exempt from the amendments that EPA promulgated on November 3, 1977. 42 PR 57459. Finally, certain major stationary sources or major modifications will be exempt from today's final regulations if they obtained all applicable air pollution permits by March 1, 1978, and commence construction before 9 months from today.

In determining whether construction has "commenced," as that term is defined in section. 169(2) of the act, it is first necessary to determine whether the owner or operator has obtained and continues to hold all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations under the applicable State implementation plan. If all such permits have not been obtained or maintained, the inquiry can stop; this requirement is a prerequisite for finding that construction has commenced.

Assuming that the permit requirement is satisfied, it is still necessary to determine whether the source meets one of two additional requirements. The first requirement is that a continuous, physical on-site construction program has begun by the date in question and will be completed within a reasonable time. The words "continuous" and "on-site" are key to this test. It will not suffice merely to have begun erection of auxiliary buildings or construction sheds unless there is clear evidence (through contracts or otherwise) that construction of the entire facility will definitely go forward in a continuous manner (no breaks greater than 18 months). Nor will it suffice that erection of certain components began off-site.

The second requirement is that by the date in question binding agreements were established for construction of the facility to be completed within a reasonable time. From the legislative history, it is clear that boiler contracts, even those with penalty clauses, will typically not suffice. See S. Rep. No. 95-127, at 32-33 (1977). The source must enter into a site-specific commitment through contracts.

The act specifies that the agreements must be ones "which cannot be cancelled or modified without substantial loss". The word "substantia"1 is clearly key to this test. EPA proposed for public comment on November 3, 1977, a "10 percent" test. Under this test, if the amount the owner would have had to pay to cancel construction agreements as of the date in question would have totalled more than 10 percent of the total project cost, the loss would be deemed "substantial."

Several comments were received, particularly from industry, on the "10 percent" test. Many of the commentators thought that the 10 percent rule was arbitrary since they regarded even smaller percentage losses on a $100,000,000 project as clearly being substantial. In response to these comments, EPA has abandoned the proposed 10 percent test as a firm rule. However, in order to help minimize administrative burdens and to provide some certainty, the Administrator will consider a loss as being substantial if it would be more than 10 percent of the total project cost. Whether a loss equal to or less than 10 percent is substantial will be determined on a case-by-case basis. The dominant consideration will be whether the "source has so committed itself, financially and otherwise, to the use of a particular site for a particular facility that relocation is not an option and delay or substantial modification would be severely disruptive." Id. at 32.

For a phased construction project for which a permit has been given for a number of phases (additional guidance below), EPA will apply the 10 percent guide to each phase of the project. Thus, if the loss for a phase would exceed 10 percent of the total cost of the phase, then EPA will treat the substantial loss criterion as having been met for that phase.

I. PHASED CONSTRUCTION PROJECTS

Multifacility sources approved for construction in distinct phases require special guidance. In general, if the phases of the major facilities involved are mutually dependents[6] and one of the major facilities has, by an applicable grandfather date, commenced construction, then all other dependent facilities specifically approved for construction at the same time will also hold such status. Conversely, each independent facility must individually commence construction by the prescribed grandfather date(s). For example, if a power company commenced construction on the first boiler of a three-boiler project in 1977 and plans to commence construction on the second in 1980, and on the third in 1982, the fact that there may be a phased construction process at the same general site does not mean that the boilers to be constructed in 1980 and 1982 can escape the new PSD requirements promulgated today.

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[6] The dependence of facilities within a source will be determined on an individual basis. Two or more facilities will generally be considered dependent if the construction of one would necessitate the construction of the other facility(ies) at the same site in order to complete a given project or provide a given type (not level of) service. A kraft pulp mill is an example of a source with dependent facilities, whereas a three-boiler power plant is a typical example of a source with major independent facilities.

The Administrator is concerned about the issuance of permits for phased construction projects that would have the effect of "reserving" the increment for a single source, thereby limiting growth options in the area. The options are to not issue phased construction permits at all or to limit the conditions under which a phased construction may reserve an increment well into the future: The Administrator intends to implement the latter option when plans for a phased project are certain and well-defined. One mechanism to be used is to reassess the BACT determination for the later phases of the project prior to construction to ensure that the most up-to-date control technology will be used. The Administrator will specify at the time that the original permit is issued which BACT determinations will be reassessed. The Administrator may also adopt regulations in the future to deal with this issue more comprehensively.

Also, for phased construction projects, the Administrator does not generally intend to limit the time for construction of the project. However, the first phase must be commenced within 18 months after permit approval, and each construction phase thereafter must commence within 18 months of the date approved in the permit and must not have breaks exceeding 18 months. The Administrator will further evaluate the 18 month criteria as it applies to breaks in construction to determine if a shorter time period (e.g., 6 months) should be used.

J. MISCELLANEOUS SOURCE APPLICABILITY QUESTIONS

EPA also sought comments as to the applicability of PSD to proposed sources below the stated size cutoffs present on the list of 28 source types. The Administrator specifically asked

> in the December 8, 1977 supplement to the November 3 proposal if fossil-fuel fired steam electric plants rated at or below 250 million British thermal units per hour heat input, municipal incinerators charging not more than 250 tons per day of refuse, fossil-fuel boilers rated at or below 250 million British thermal units per hour heat input, and petroleum storage and transfer units with a capacity of 300,000 barrels or less should be subject to PSD review under the general 250 tons per year potential emission applicability criterion.

EPA has decided that the 250 tons per year criterion should apply even though a source may be below a stated size cutoff. For example, a modification that increases capacity by more than 300,000 barrels for a petroleum storage unit would be subject to review if it has 100 tons per year potential emissions. Also, if a modification increases capacity by only 290,000 barrels but would have more than 250 tons per year potential emissions, then it, too must be reviewed. It should also be noted that the capacity size cutoff like the increased potential emission criteria for defining major modification is cumulative in nature. This approach prevents the "sized" sources from avoiding PSD review merely by limiting an increase to just below the size cutoff. It also ensures that all sources with potential emissions of 250 tons per year or more are treated equally.

In the November 3, 1977 proposal, EPA proposed not to treat a voluntary switch to an alternative fuel or raw material as a modification, if, prior to January

6, 1975, the source were capable of accommodating such fuel or material. Environmentalists opposed this treatment of voluntary fuel switches on the ground that Congress intended all such switches to be treated as modifications. EPA disagrees with this contention. Section 169(2)(C) of the Act by its reference to Section 111(a) in effect adopts the definition of "modification" under Section 111(a) for the purposes of PSD. In adding Section 169(2)(C) to the Act, Congress indicated that it intended to conform the meaning of "modification" to "usage in other parts of the Act." 123 Cong. Rec. H11955, 11957 (November 1, 1977). At the time, regulations promulgated under Section 111 had defined "modifications" to exclude voluntary fuel switches when the source, "prior to the date any standard under this part becomes applicable to that source type * * * [,] was designed to accommodate that alternative use." 40 CFR 60.14(e)(4) (1977). Apparently, Congress intended voluntary fuel switches to be treated similarly for PSD purposes. The PSD regulations first became applicable on January 6, 1975. Consequently, it would appear that Congress did not intend voluntary fuel switches to be treated as modifications for PSD purposes, if the source could have accommodated the fuel prior to January 6, 1975. In any event, the proposed treatment of voluntary fuel switches has been an integral part of the PSD regulations since their original promulgation in 1974. *See* 39 FR 42510 (December 5, 1974) § 52.01(d)(2)(iii)).

Since the proposed treatment of voluntary switches is consistent with Congressional intent and since that treatment was already a part of the pre-existing regulations, EPA has retained it in the revisions promulgated today. It should be noted, however, that although such switches will not be subject to PSD review, they will consume increment.

EPA also asked on November 3 whether it should treat a conversion to an alternative fuel by reason of an order under the Energy Supply and Environmental Coordination Act of 1974 or a natural gas curtailment plan pursuant to the Federal Power Act as a modification or not. Shortly thereafter, Congress answered this question. On November 16, it enacted technical and conforming amendments to the 1977 Amendments. Among those amendments was Section 169(2)(C). It in effect defined a modification as not including such conversions. *See* Clean Air Act Sections 111(a)(8) and 169(2)(C) (the latter added by Pub. L. 95-190, Sections 14(a)(54), 91 Stat. 1393, 1402 (November 16, 1977)).

In order to conform the final regulation to the Act and avoid confusion, EPA has further qualified the definition of "major modification" by adding the provision that a switch to an alternative fuel by reason of an order or rule under Section 125 of the Act is not a modification. *See* Clean Air Act Section 125(e).

BEST AVAILABLE CONTROL TECHNOLOGY

The November 3, 1977 proposal solicited comment on the use of a de minimis level of 100 tons per year potential emissions for each pollutant for triggering the BACT requirement. The Agency stated the issue:

> For example, if a source is subject to PSD review either because it is one of the named sources or because it has potential emissions of 250 tons per year of a given pollutant, BACT would be required only for those pollutants whose potential emissions exceed 100 tons per year.

Comments received indicated that if a source were subject to PSD on the basis of the 250 tons per year criterion, then the BACT de minimis level should be made consistent for such sources (i.e., BACT would be required only for those pollutants for which the potential emissions exceed 250 tons per year). The Administrator agrees with this argument and appropriate changes are made in the regulations set forth below.[7]

Some questions have been raised regarding what "subject to regulation under this Act" means relative to BACT determinations. The Administrator believes that the proposed interpretation published on November 3, 1977, is correct and is today being made final. As mentioned in the proposal, "subject to regulation under the Act" means any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations for any source type. This then includes all criteria pollutants subject to NAAQS review, pollutants regulated under the Standards of Performance for new Stationary Sources (NSPS), pollutants regulated under the National Emission Standards for Hazardous Air Pollutants (NESHAP), and all pollutant regulated under Title II of the Act regarding emission standards for mobile sources.

BACT determinations are to be made on a case-by-case basis by the reviewing authority, taking into account several factors, including cost, energy, and technical feasibility. Efforts are now underway within EPA to assist States (and EPA itself in the interim) in making BACT determinations when they assume responsibility for implementing the PSD program. The "Agency is preparing and will distribute a guidance document to assist reviewing authorities in implementing the BACT requirement. In addition, the

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[7] It should be remembered that a 50-ton source is exempt from BACT review only as to the pollutant for which it is such a source.

Agency, in response to numerous comments, will establish a national clearinghouse for distributing BACT determinations. The Administrator intends that such a clearinghouse will serve to advise reviewing authorities of each other's determinations and thereby promote a consistent basis of experience. The clearinghouse is not, however, intended to substitute for a case-by-case analysis on the part of the reviewing authority to assess what control technology is required under BACT for the specific source undergoing review.

Other questions have arisen concerning the possibility for requiring control technology transfer for installing control technology to meet the BACT requirement. In general, the BACT requirement does not preclude consideration of technology used in other types of sources but not yet demonstrated for the specific source type undergoing review. However, due consideration of the other factors (economic costs, energy, etc.) must also be given before requiring such technology transfer in order to comply with the BACT requirement.

In addition, some questions, predominantly from the industrial sector, were raised during the public comment period concerning EPA's ability to impose a design, equipment, work practice, or operational standard under the review for BACT. The Administrator continues to believe that using such a standard is well within the intent of Congress. Under Section 111 (Standards of Performance for New Stationary sources (NSPS)) such a standard, or a combination of such standards, can be promulgated by the Administrator if in his judgment such a standard is achievable and a conventional standard of performance is not feasible. Since an applicable NSPS forms the minimum BACT requirement, it follows that the Administrator should be able to prescribe a design, equipment, work practice, or operational standard for BACT. In addition, EPA's Interpretative Ruling of December 21, 1976 (41 FR 55524) to Section 110 governing new source review in nonattainment situations in an opportunity for the Administrator to prescribe such a standard where emission limits are not feasible. The Administrator should also have this ability under PSD. It should be emphasized that the Administrator will prescribe a design, equipment, work practice, or operational standard only when technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible.

Finally, it has come to the Administrator's attention that it may be appropriate to make the innovative technology waiver for NSPS under Section 111(j) of the Act applicable to BACT determinations under the PSD program. Briefly, Section 111(j) allows additional time for a source to comply with an applicable NSPS if: (1) The source plans to use innovative technology which has a substantial likelihood of meeting the NSPS at lower cost in terms of energy, economic, or non-air quality environmental impacts; and (2) the source would not cause an unreasonable risk to public health or welfare in its operation or malfunction. The addition of similar provisions to the PSD regulations would seem consistent with Congressional intent under NSPS and perhaps necessary to avoid the BACT determinations from negating the provisions of Section 111(j). Comments are solicited on this issue.

GEOGRAPHIC APPLICABILITY

The regulations made final today require any major source that affects air quality in areas with air quality cleaner than NAAQS (both internal and external to areas designated as nonattainment under Section 107) to meet the applicable preconstruction requirements of Section 165. In this respect, the Section 107 designations are not binding on source obligations. This reflects a continuation of EPA's policy of reviewing sources in nonattainment areas to prevent the transport of any emissions which would cause significant deterioration in an affected clean area. Conversely, any source which can make a specific demonstration, subject to public comment and opportunity for public hearing, that no impact will occur in a clean area (whether the area in question is designated as attainment or nonattainment) is exempt from PSD preconstruction review for the applicable pollutant.

Due to several comments received regarding the applicability of the PSD review in rural areas impacted by dust consisting of native soil, the Administrator wishes to reaffirm Agency policy that PSD preconstruction review generally applies to these areas. In general, a new major source to be located in a rural area with infrequent short-term violations of the total suspended particulate matter NAAQS should be allowed to construct after applying the required controls provided that the dust in question is uncontaminated by pollutants from industrial activity and the emissions of the source in conjunction with emissions from other sources in the vicinity (excluding such dust) would not cause a violation of the applicable increment(s) or the applicable NAAQS, assuming as to the NAAQS an appropriate "non-urban" background concentration.[8]

MODELING

In the regulations published today, EPA's assessment of the air quality impacts of new major sources and modifications will be based on EPA's "Guideline on Air Quality Models," OAQPS 1.2-080, U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711, April, 1978. This guideline is incorporated by reference into the regulations. Sources may request approval from the Administrator to use air quality dispersion models other than those noted in the "Guideline." If the Administrator determines that the model recommended in the "Guideline" and the model proposed by a source are comparable, the proposed model may be used. Methods outlined in EPA's "Workbook for the Comparison of Air Quality. Models," U.S. EPA, Research Triangle Park, N.C. 27711, November 1977, may be used to determine comparability of models.

The comments on the "Guideline" received in connection with the November 3 proposal and the Modeling Conference addressed three basic policy issues regarding implementation of the modeling guidelines. The first is whether a preliminary screening technique should be used to determine if full scale modeling would be necessary for preconstruction review. The second is whether the modeled estimate of source impact should be limited to a certain distance or a minimum numerical impact or both. Finally, the need to create an arbitration board to resolve modeling disputes was raised.

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[8] Guideline on Air Quality Models, OAQPS 1.2-080, U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711, 1978.

Industry and State agency comments on the first issue favored the use of some type of screening technique to alleviate resource burdens, i.e., the costs and time involved in sophisticated computer modeling of ambient air impacts. For screening purposes, conservative estimates of emission characteristics and ambient impacts would be modeled using relatively straightforward mathematical formula. However, industry comments stated that the specific screening techniques proposed on November 3, 1977, would be of little real value because of what they considered undue conservatism in the techniques. Environmental groups, however, felt screening techniques would improperly allow deterioration beyond increment allowances.

EPA intends to retain the screening procedures set forth in "Guidelines for Air Quality Maintenance Planning and Analysis; Vol. 10 (Revised), Procedures for Evaluating Air Quality Impact of New Stationary Sources," (October 1977, U.S. EPA, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711). The purpose of such procedures is to reduce resource burdens where there is little or no threat to the PSD increments or NAAQS. However, as the threat to the increment increases, more sophisticated techniques would be used. If these procedures indicate that the ambient concentration increase would exceed one-half of the remaining ambient increment or ceiling allowance, then refined analytical techniques would be used. Thus, as the available increment becomes smaller, sources that can be quickly estimated as impacting less than half the remaining increment will necessarily be those with smaller and smaller impacts.

As a result of comments received on the second policy issue, the Administrator intends to limit generally the application of air quality models to a downwind distance of no more than 50 kilometers. This is because dispersion parameters commonly in use are based on experiments relatively close to sources, and extending these parameters to long downwind distances results in great uncertainty as to the accuracy of the model estimates at such distances. Also, since the air quality impact of many sources falls off rapidly to insignificant levels, EPA does not intend to analyze the impact of a source beyond the point where the concentrations from the source fall below certain levels (which are generally based on the Class I increments). These levels shown below are therefore interpreted by the Administrator as representing the minimum amount of ambient impact that is significant.

	Averaging time				
Pollutant	Annual	24-Hour	8-Hour	3-Hour	1-Hour
SO_2	1 ug/m^3	5 ug/m^3	—	25 ug/m^3	—
TSP	1 ug/m^3	5 ug/m^3	—	—	—
NO_2	1 ug/m^3	—	—	—	—
CO	—	—	0.5 ug/m^3	—	2 ug/m^3

However, since the 1977 Amendments provide special concern for Class I areas, any reasonably expected impacts for these areas must be considered irrespective of the 50 kilometer limitation or the above significance levels.

Comments were also received urging the creation of an arbitration board to resolve disputes in situations where refined assessment techniques are not readily available and where significant professional judgment must be made on a case-by-case basis, such as those involving fugitive dust and complex terrain problems, and long range transport. The Agency feels that such an approach would serve to unduly delay the decision making process. The Agency realizes that special concern will have to be addressed to these situations and that EPA Regional Office consistency will have to be assured. EPA intends to use the requirements under section 301(a)(2) of the Act as the mechanism for ensuring Regional consistency. Additionally, the Agency intends to establish an external advisory group to review periodically the modeling guidance and recommend proposed changes as necessary.

Many other comments of a technical nature were made regarding the Agency's modeling guidance. In many cases, solutions to the issues raised must rely on further scientific development. Some inherently must rely on case-by-case technical judgments by qualified scientists. EPA is actively working in the areas of model validation and improvement, turbulence characterization and the use of representative meteorological data and will provide additional guidance on these areas as it becomes available. Any proposed revisions to the currently issued "Guideline on Air Quality Models" will be subjected to review by the scientific community and interested and affected parties. Procedural mechanisms for effecting a thorough review are currently being investigated. It is anticipated that the "Guideline on Air Quality Models" will be reviewed and updated every 18-24 months. Notice of any proposed revisions will at a minimum be published in the FEDERAL REGISTER for review and comment prior to final issuance.

MONITORING REQUIREMENTS

Another issue frequently raised in the comments was that of the proposed monitoring requirements. Through sections 165 (a)(2) and (e) of the Act, Congress imposed on the owner or operator of a proposed major source who submits an application after August 7, 1978, the task of gathering and analyzing air quality monitoring data for inclusion in the application. Such data must be related to and gathered over the year preceding submittal of the complete application. In addition, through section 165(a)(7), the owner or operator may be required to conduct such post-construction monitoring as may be necessary to determine the effect the source or modification may have or is having on air quality in any area it might affect. It is apparent that Congress included the monitoring requirements as a means of checking the accuracy of the modeling results. However, in many cases, monitoring data may not provide an adequate "real world" check on the accuracy of modeling as it applies to increment consumption.

As proposed, EPA has decided generally not to require preconstruction or postconstruction ambient monitoring to determine how much, of the increment has been used up. First, the year-to-year variability of air quality data limits the usefulness of certain data collected. Next, the increments are generally consumed by new or modified sources on the basis of allowable emissions, whereas ambient monitoring will measure air quality as it is affected by changes in actual emissions. Moreover, several emission changes that would be detected by an ambient monitor may not consume increment. That is because certain emissions which do or will affect air quality levels do not count against the Increments (e.g., emissions from any source commencing construction prior to January 6, 1975, but completed at some later date; emissions resulting from compliance with an order under section 125). In addition, the State may exempt certain emission changes which otherwise would consume a portion of the available PSD increment (e.g., Federally ordered fuel switches, temporary emissions, and new sources outside the United States). Finally, the stack height provisions of section 123 of the Act require in any case where a source uses a stack the height of which exceeds good engineering practice that dispersion modeling efforts assume a good engineering practice stack height. In actual practice, assessment of the available increment will normally be accomplished through an accounting procedure whereby atmospheric modeling of individual sources will be used to keep track of changes in actual and allowable emissions as appropriate.

Although increment consumption must of necessity be tracked through modeling, EPA does not intend that there be no "real world" checks on the accuracy of modeling. If an applicant or other party believes that a model used by EPA has either overpredicted or underpredicted the air quality impact of a source, EPA welcomes the submission of data which will more precisely define the impact of the source. For isolated sources, air quality monitoring may be sufficient for this purpose. However, model validation using air quality monitoring is generally expensive, since a complex monitoring network is usually required to ensure that maximum concentrations are measured. Other model validation methods may be less expensive and more reliable (e.g., tracer studies and wind tunnel experiments), especially where more than one source may contribute to the increment consumption. In any case, where subsequent data demonstrate to EPA's satisfaction that the modeling is in error, EPA will make appropriate adjustments so as to provide more (or less) of the increment for future use.

Since PSD review now includes a review against the applicable NAAQS, EPA intends to focus the preconstruction and postconstruction monitoring requirements on obtaining the necessary data for this purpose. To that end existing air quality data will be used to the maximum extent practicable and preconstruction monitoring will only be required as necessary. Also, if preliminary modeling or other data indicate that the new source would not pose a threat to a NAAQS, EPA will exempt the source from the preconstruction monitoring requirements altogether. For example, if an SO. source plans to construct in an area with no other SO_2 sources, no preconstruction monitoring for SO_2 would be required. On the other hand, because of the long range transport of oxidants, if a major source of volatile organic compounds intends to locate in an attainment or unclassified area for photochemical oxidant, EPA will routinely require that the source submit oxidant monitoring data. Finally, since certain sources with allowable emissions of less than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour, are exempt from an air quality impact analysis, air quality monitoring would not be required for such sources.

All air quality monitoring must adhere to EPA's monitoring procedures in effect at the time of the monitoring. Currently, these requirements include criteria for siting monitors and instrument probes, the specification of reference methods and equivalent methods, and a minimum quality assurance program. EPA will implement the monitoring requirements promulgated in this rulemaking primarily through guidance found in "Ambient Air Monitoring Guidelines for Prevention of Significant Deterioration," OAQPS 1.2-096, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, May 1978. EPA encourages permit applicants to consult with the reviewing authority regarding the need for and implementation of the monitoring requirements.

The number of monitors will be based on a case-by-case determination considering source emission characteristics, terrain and meteorology. In some cases, one instrument per pollutant may be adequate. The source will be permitted to use existing data where appropriate. Judgments on the representativeness of existing data taken near the source must be made on a case-by-case basis.

Twenty-four hour samples for SO_2 (bubbler method) will not be acceptable, since 3-hour values would not be available for comparison with the 3-hour secondary NAAQS standard and increment. Also, if bubblers were to be used, detailed quality assurance requirements would be required because of known temperature instability problems with the bubbler methods. In most situations, the cost of running a bubbler may not be significantly different from a continuous analyzer due to the more rigid quality assurance procedures and the need for laboratory support.

Existing 24-hour particulate samples on 6-day intervals will generally be acceptable. In many areas, such data have been collected for a period of years. As to such areas, additional monitoring will generally be unnecessary. However, the Administrator may require sample collection more often than every sixth day.

BASELINE CONCENTRATION

The term "baseline concentration" is used in an abstract sense to establish the starting point for defining significant deterioration. This term is applicable for only sources of SO, and PM. Changes in the emission levels of these pollutants from sources contributing to the baseline concentration will in turn affect the amount of air quality increment that remains available to accommodate additional growth.

On November 3, 1977, EPA proposed a definition of baseline concentration that reflected a January 6, 1975, starting date for most sources. Additionally, this proposal contained specific guidance on how a baseline concentration might be established in a given area. Due to several implementation and legal concerns raised during the public comment period, the proposal of November 3 has been amended in three respects. The regulations promulgated today reflect an August 7, 1977, baseline date, place primary emphasis on tracking emission changes rather than on establishing a baseline concentration, and provide additional guidance as to what emission levels contribute to the baseline concentration.

Section 169(4) of the Act generally defines-baseline in terms of the ambient concentration existing at the time of the first application for a permit in an area.

However, major construction commencing after January 6, 1975, is specifically acknowledged to consume increment and cannot be considered as contributing to the baseline concentration. Both the November 3 proposal and the regulations promulgated today recognize the severe technical and administrative problems with implementing a definition of baseline concentration that relates to the date of first permit application in an area. The administrator believes that a strict interpretation of the Act's language would create thousands of different areas each with different baseline starting points. Moreover, these areas would eventually overlap as more and more sources applied for PSD permits. The final regulations and those proposed on November 3, 1977, resolve those problems by establishing a uniform starting date for defining the baseline concentration in all areas. The November 3 proposal, however, differs with the final regulations as to what the starting date should be.

The Administrator believes that an August 7, 1977, baseline date rather than one of January 6, 1975, better fulfills the requirements of the Act and is the earliest possible time that could be used as a uniforms starting date. This date coincides with the time that PSD review under some of the new Act provisions could have taken place and with the time, that States were given affirmative responsibility to protect the applicable PSD increments in their plans. As required by the Act, major source construction commencing after January 6, 1975, is not included in the baseline. Such activities consume increments as discussed below.

The November 3, 1977, proposal also contained guidance for establishing a baseline concentration through the use of existing air quality data. That proposal also suggested an alternative means to construct a baseline concentration using air quality dispersion modeling when appropriate air quality data did not exist. The regulations promulgated today no longer suggest that the baseline concentration be formally established. The Administrator feels that increment consumption can be best tracked by tallying changes in the emission levels of sources contributing to the baseline concentration and increases in emissions due to new sources. Data to establish baseline air quality in an absolute sense would be needed only if increment consumption were to be tracked using ambient measurements. Thus, to implement the air quality increment approach set forth in the Act, the reviewing authority needs to verify that all changes from baseline emission rates (decreases or increases as appropriate) in conjunction with the increased emissions associated with approved new source construction will not violate an applicable increment or NAAQS. However, before this concept can be carried out, some additional guidance must be given regarding the type of emission changes that must be tracked.

EPA generally intends to use an actual emissions concept in implementing the above baseline approach. The concept of an actual emissions baseline has been used in implementing EPA's previous PSD regulations, and the Administrator believes that the Act intends for this concept to be continued. Section 169(4) defines baseline concentration in terms of existing air quality. In carrying out an actual emissions baseline, EPA will use reasonable assumptions for various factors affecting the level of source operation. 1977 values will generally be used for hours of operation, capacity utilization, and the types of materials combusted, processed and/or stored, unless another previous year would be more representative or such use would not be allowed under established permit conditions. Actual emissions also includes into the baseline any future increases in hours of operation or capacity utilization as they occur if such are allowed to the source as of August 7, 1977, and if the source could have been reasonably expected to make these increases on this date This policy is consistent with the intent of the Act to base increment consumption on all emission increases from new and modified sources, but to allow consumption of the increment to occur from only certain non-modification activities (e.g., some fuel-switches) of existing sources. Thus, with the exceptions mentioned below, the Administrator will implement an actual emissions baseline in the regulations promulgated today.

An actual emissions baseline would be inappropriate to address situations where a SIP relaxation had been submitted to EPA, and was still pending, on August 7, 1977. Application of an actual emissions baseline would penalize those States that required sources which the SIP relaxation would affect to comply with the allowable rates under the existing SIP while EPA was in the process of reviewing the proposed SIP revision. Such States should not be forced to lose substantial portions of the applicable increments when other States allowed their sources to emit at the relaxed SIP level in advance of formal EPA approval. Therefore, the regulations promulgated today require that contributions to the baseline concentration from existing sources affected by a SIP relaxation pending as of August 7, 1977, would be based on the allowable emissions under the SIP as revised.

In addition, the actual emissions concept does not apply to those sources on which construction commenced before January 6, 1975, but which were not in operation by August 7, 1977. In such cases, the allowable emissions as defined in the construction approval will be used to define the contribution of those sources to baseline.

INCREMENT CONSUMPTION

The comments raised a number of specific issues related to the consumption of PSD increments. The Administrator wishes to clarify first that increment consumption occurs in general as a result of new major stationary sources and major modifications commencing construction after January 6, 1975. The degree of such consumption is in general determined on the basis of approved allowable emissions. This procedure is consistent with the Act language of Part C to restrict increases in ambient concentration above baseline levels less than certain specified increments. Increases In the baseline emissions of sources contributing to the baseline concentration will also consume increment (see discussion on baseline concentration). Conversely, reductions in the baseline emissions, of sources existing in 1977 generally expand the available PSI) increment(s). As indicated above, the degree of increment expansion that is creditable will generally be determined through air quality dispersion modeling of the source's emission clean-up ¯beyond its 1977 actual emissions level. For a new source permitted under PSD before August 7, 1977, any renegotiated emission limits more restrictive than those previously permitted will count toward expanding the PSD increment available for other new source construction. States are free to choose the mechanisms for allocating the allowable increment to sources, including reversing any expansion of the increment achieved by control of existing sources for those sources which have installed additional controls.

In addition, offsets (i.e., additional control of existing sources) may be permitted in order to allow the construction of a new source in an area where the increment would not otherwise permit the construction of the source. Such offsets have always been acceptable under the Agency's PSD regulations, and the regulations promulgated below do not change this policy. To be acceptable, such reductions must be expressed in terms of actual emissions when the offsetting source has its emissions included in the baseline. An exception to this would be a major source commencing construction prior to January 6, 1975, but not yet operating by August 7, 1977. For such sources and for situations involving reductions from major construction projects commencing construction after January 6, 1975, offsets are to be transacted on the basis of allowable emissions.

In an area where the PSD increments are known to be exceeded, then the plan must be revised to correct any such violation. Applicable SIP revisions may include the use of economic incentives such as emission charges or the development of offset markets. In such areas major construction cannot continue to be approved unless all increment violations significantly impacted by the proposed emission increase are corrected prior to operation of the proposed source. Accordingly, if acceptable offsets are secured by the proposed source, then such source can be approved for construction. Alternatively, the SIP can be revised by the State to restore an increment and thus accommodate the new construction. Where a proposed major construction project would cause a new violation of the applicable increment, offsetting reductions must be obtained that are sufficient to avoid causing the violation.

The Administrator intends that any increment analysis as appropriate include the effects of growth and reduction in emissions of other sources in the area affected by the proposed source occurring since the date of the effective baseline. Sources will be generally required to obtain such information, but the information will be available from the State air pollution control agency.

Questions have also arisen regarding how SIP relaxations are to be taken into account in terms of consuming available PSD increments. As stated above, increments are consumed as allowable emissions are increased, and this is true whether those increases are a result of new source growth or SIP relaxations. The regulations promulgated elsewhere in today's FEDERAL REGISTER require that any SIP relaxation that would affect a PSD area must include a determination that the applicable increment will not be exceeded. Whether a plan relaxation would consume the available increment would be typically determined through modeling the difference between the allowable emissions resulting from the new relaxed SIP limit and the emissions of the applicable source(s) which were included in the baseline.

SIP relaxations received by EPA after August 7, 1977, but before today's FEDERAL REGISTER do consume increment. However, EPA believes that such revisions require special consideration due to the uncertainty of how the new Act would apply to such SIP relaxations. To review these proposed revisions as to the degree of anticipated increment consumption without advance notice would have caused considerable delay and economic disruption. Therefore, the Administrator feels that these SIP relaxations need not be individually assessed to determine the precise amount of consumed increment before such relaxations may be approved. The periodic assessment requirement to verify that the applicable increments have not been exceeded is thought to be sufficient protection. This assessment would result in revisions to the SIP if an increment were found to have been violated. All SIP relaxations received after today will be individually reviewed against the available PSD increments. If deterioration beyond that allowed under the available increments would occur under a SIP relaxation, then such a SIP revision would be disapproved to the extent that it would cause significant deterioration.

The Administrator is concerned that while States are developing their own PSD regulations and EPA is implementing the PSD program, EPA should not make decisions which would have a significant impact upon future growth options of the States. In the interim, EPA generally will allocate use of the increments on a first-come, first-served basis as has been done under the previous PSD regulations. The Administrator recognizes that this approach may not be adequate on a long-term basis to achieve the purposes of the Act. Other options are available and should be pursued by the States in the development of their plans for PSD. Under 40 CFR 51.24, published today, States are required to develop a program for increment allocation and a number of program options are suggested for their consideration. EPA will be assessing the merits and feasibility of several allocation options (including first-come, first-served) and thereafter issue guidance for the submission of revised State implementation plans. This evaluation will consider alternatives in which carefully designed economic incentives serve as an adjunct to or a replacement for an administrative permitting procedure. The economic incentive programs to be considered include marketable permits, emission fees, and emissions density zoning.

While EPA is administering the PSD permit program, the Administrator will solicit and give careful consideration during the permit process to the views of State and local officials regarding the impact of proposed permit decisions on an area's potential for economic development. Additionally, where a source is expected to consume the entire remaining increment, the Administrator will notify the Governor of this proposed action.

In response to comments from the Department of Energy, EPA while implementing the PSD program will exclude, if so requested by a Governor, certain concentrations in calculating increment usage as provided in section 163(c) of the Act. These concentrations include ambient impacts from federally ordered fuel switches, fuel switches caused by gas curtailment plans, temporary emissions and new sources outside the United States. The Administrator will assume that all fuel conversion operations consume portions of the available increment unless otherwise requested by the Governor.

The Governor's ability to effect exclusions under section 163(c) will not automatically extend beyond nine months from today. No exclusion beyond this time will occur unless the Governor has submitted a plan which meets all requirements of 40 CFR 51.24 (published elsewhere in today's FEDERAL REGISTER. The Administrator would also like to point out that exclusions under section 163(c) are not always of a permanent nature. Exclusions from increment consumption for stationary sources affected by a natural gas curtailment plan or by orders under the Energy Supply and Environmental Coordination Act of 1974 may occur no later than 5 years after the effective date of the applicable plan or order. A Governor should realize that full use of such exclusions may lead to plan revisions in the future in order to preserve the PSD increment. The exclusions will allow more sources to be approved than could be otherwise in the interim. Consequently, when the exclusions expire, the excluded concentrations may well cause exceedences.

To allow the Governor to make use of section 163(c) prior to plan approval reflects a change from the Agency's preliminary position. In the November 3, 1977, proposal, the Agency stated that the Act does not appear to make such exclusions available as to a particular State until EPA has approved a PSD SIP revision for that State. Behind that position was the Agency's perception that Congress had conditioned the availability of the exclusions on approval of such revisions in order to give the States added incentive for submitting them. The Agency still believes that that was Congress' purpose. It has concluded, however, that making the exclusions unavailable nine months from today to States which have failed to submit an approvable PSD revision will serve that purpose as well as making them available at that time only to States which have submitted such a revision. A State will have as much reason to submit a plan revision under the present rule as it would have had under the old. In addition, making the exclusions available now will give the States more flexibility than they would have had for permitting growth.

Another issue related to increment consumption and EPA involvement concerns the review of major construction that would impact interstate areas. The Administrator is pursuing various mechanisms to allocate the amount of increment consumption to such sources when affected States are in disagreement. If an interstate dispute arises before more definitive guidance can be prepared, the Administrator intends to restrict increment consumption to equal amounts at the State line. In other words, when two States are involved in an interstate dispute over increment consumption, no source or series of sources in either State can be approved for construction if they would consume over one-half of the total applicable increment at the State line. Applicable increment here refers to that increment applying in the State where such construction would occur.

FEDERAL LANDS

A number of comments suggested that EPA prepare and publish guidance on determining the impacts a source may have on "air quality related values." Such general guidance is not currently available and, until such time as it is, determinations should be made on a case-by-case basis. Sources which may' impact Federal Class I areas should consult with the EPA Regional Offices on questions concerning the possibility of adverse impacts on air quality values and the type of analysis that must be included with the permit application.

Environmental groups pointed out that the proposed regulations did not specifically require Federal Land Managers to protect "affirmatively" air quality related values in Federal Class I areas. Federal Land Managers do have such a responsibility, and the regulations now say so explicitly. It was also suggested that a Federal Land Manager is obligated to withhold any other permits for which he or she is the issuing authority or over which he or she may have control, if EPA did not concur with the Federal Land Manager's determination that air quality related values would be adversely impacted. Part C of the Act and therefore the regulations promulgated today do not require this, but neither do they prohibit a Federal Land Manager from withholding a permit.

Section 165(d)(2)(C)(ii) of the Act would bar the issuance of a PSD permit "[i] in any case where the Federal Land Manager (of lands in a Class I area) demonstrates to the satisfaction of the State" that the proposed source or modification would adversely impact the air quality related values of such lands. Section 165(d)(2)(C)(iii), on the other hand, would allow the "State" to issue a permit if the Federal Land Manager were to certify that the source or modification would not adversely' impact such values, even though it would cause or contribute to a violation of the applicable Class I increments. Both sections presuppose that the "State" would be the permitting authority. The final regulations published today contain provisions (§52.21(q) (3) and (4)) which for the most part parallel Sections 165(d)(2)(C) (ii) and (iii). The regulations, however, treat the "Administrator' as the permitting authority, not the "State". This is appropriate. Congress must have recognized that there would be instances in which EPA, and not a State, would be the permitting authority. Furthermore, Congress would have expected, in such instances, that the safeguard of Section 165(d)(2)(C)(ii) and the variance of Section 165(d)(2)(C)(iii) would be available.

NATIONAL AMBIENT AIR QUALITY STANDARDS

Under the regulations published today, no PSD permit for a source whose increased allowable emissions are equal to or greater than 50 tons .per year, 1,000 pounds per day, or 100 pounds per hour may be granted without assurance that emissions from the source will not cause or contribute to a violation of a NAAQS. If an initial determination shows that such a source may interfere with an applicable ambient standard, the owner or operator must reduce emissions or secure appropriate emission offsets from other nearby sources. While EPA is implementing the PSD program, it does not intend to be involved directly in approving emission offsets for a proposed source except where EPA is also implementing a State new source review program. Thus, the owner or operator would first have to obtain offsets through the State agency new source review program before EPA could approve the source under PSD. An EPA permit cannot be issued until the State permit is granted. Sources are encouraged to seek concurrent review from the State when applying for a PSD permit to minimize review delays. Such action will assist the source to commence construction on schedule as required under the PSD permit.

OTHER ISSUES

A number of other important concerns were raised by comments, including undue review delays, the effects of pending reclassifications on preconstruction reviews, guidance on other impact analyses, the definition of source and the high costs of required newspaper advertisements.

Several comments raised the 'concern that PSD review might be unduly long, especially for those sources which would have only minimal air quality impacts. The Administrator will take steps to expeditiously evaluate permit applications and will inform applicants as to the completeness of their submittals within 30 days or less of receiving the application. In addition, the exemption for 50-ton sources discussed above will greatly reduce the permit delays that were possible under the proposed regulation. The Administrator expects that such sources will satisfy most, if not all, their PSD requirements by going through the State new source review programs. Although such a source must still obtain a PSD permit the Administrator does not intend generally to duplicate the analyses and determinations made during the State new source review. In reviewing a 50-ton source, every effort will be made to complete the required analyses within 30 days after receiving a complete application and the public participation process to the extent necessary within 45 days thereafter. If a public comment period is necessary, it will run for 30 days from the first day of the 45-day period. On that day EPA will give due notice of the Agency's determinations and tentative decision. At this time, EPA will also solicit comment on the need to conduct a public hearing, if one is necessary. If no response to the latter is received by day15, no public hearing will be held. If no supportable concerns are received during the scheduled 30-day public comment period (or the public hearing if one is held), the Administrator intends to issue final approval to construct within 15 days after the public comment period has ended. These are current estimates of the maximum time required for PSD review of smaller sources. Every effort will be made to shorten this review time.

In response to comments received, EPA has excluded from the final regulations the proposed provision requiring that final action on a permit be delayed if the source would impact upon an area where a proposed redesignation to a more stringent class was pending. The original intent of this provision was to protect potential class I areas during start-up of the new PSD program. Under the previous PSD regulations, all areas were initially class II. Now Congress has designated several mandatory class I areas. Moreover, States have had considerable opportunity to designate any others. Thus, this provision is no longer necessary. States may establish such a requirement as part of their own implementation plans.

The analysis related to a source's impact on soils, vegation, and visibility should focus primarily on such impacts in class I areas, since final approval may turn on the effects of the source on air quality related values in class I areas. Where there would be no class I impacts, impacts elsewhere may affect the BACT determination, but would typically not have a significant bearing on the final approval decision. The impact assessment should generally be qualitative in nature and designed to inform the general public of the relative impact of the source on those values. It should be noted, too, that the Administrator intends to base approval or disapproval of a major source regarding its ambient air quality impact on both the direct emissions of that source and those secondary emissions that can be accurately quantified. [9] All secondary emissions that cannot be accurately estimated during the preconstruction review will consume the applicable increment(s) as they occur.

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[9] Where a new source will result in specific and well defined secondary emissions which can be accurately quantified, the

Pursuant to comments on the November 3, 1977, proposal, the Administrator is revising the definition of source to mean any structure, building, facility, equipment, installation, or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and owned or operated by the same person or persons under common control. This precludes a large plant from being separated into individual production lines for purposes of determining applicability of the PSD requirements. This in turn resolves the Issue raised in the proposal regarding PSD applicability to a facility which is constructed at the site of, but is different than, a source listed in the 28 categories. Such a facility would be part of the source under the above definition, and thus would be subject to PSD review as a modification to it.

A number of State agencies commented that the cost of "prominent newspaper advertisement" of the opportunity for public comment at a hearing could become prohibitively expensive, especially if the number of PSD reviews under the act increases as expected. Therefore, the regulations have been changed to remove the requirement for "prominent"

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reviewing authority should consider such secondary emissions in determining whether the source would cause or contribute to a violation of an ambient ceiling or increment. However, since EPA's authority to perform or require indirect source review relating to mobile sources regulated under Title II of the Act (motor vehicles and aircraft), has been restricted by statute, consideration of the indirect impacts of motor vehicles and aircraft traffic is not required under this Ruling.

newspaper advertisement. Nevertheless, whatever notice is given must provide a meaningful opportunity for public comment.

FINAL ACTION

The following regulatory amendments are nationally applicable, and this action is based upon determinations of nationwide scope and effect. Therefore, under section 307(b)(1) of the act, judicial review may be sought only in the United States Court of Appeals for the District of Columbia. Petitions for judicial review must be filed on or before August 18, 1978.

(Sec. 101(b)(1), 110. 114, 123, 125(e), 160-169. and 301(a) of the Clean Air Act, as amended (42 U.S.C. 7401(b)(1), 7410, 7414, 7423, 7425(e), 7470-7479, 7601(a)).)

Dated June 9, 1978.

DOUGLAS M. COME, *Administrator.*

Title 40, Part 52 of the Code of Federal Regulations is amended as follows:

1. Section 52.21 is revised as follows:

52.21 Prevention of significant deterioration of air quality.

(a) *Plan disapproval.* The provisions of this section are applicable to any State implementation plan which has been disapproved with respect to prevention of significant deterioration of air quality in any portion of any State where the existing air quality is better than the national ambient air quality standards. Specific disapprovals are listed where applicable, in subparts B through DDD of this part. The provisions of this section have been incorporated by reference into the applicable implementation plans for various States, as provided in subparts B through DDD of this part. Where this_section is so incorporated, the provisions shall also be applicable to all lands owned by the Federal Goverment and Indian Reservations located in such State. No disapproval with respect to a State's failure to prevent significant deterioration of air quality shall invalidate or otherwise. affect the obligations of States, emis-sion sources, or other persons with respect to all portions of plans approved or promulgated under this part.

(b) *Definitions.* For the purposes of this section:

(1) "Major stationary source" means—'

(i) Any of the following stationary sources of air pollutants which emit, or have the potential to exalt, 100 tons per year or more of any air pollutant regulated under the Clean Air Act (the "Act"): Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, Portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric. sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total· storage capacity exceeding 300 thousand barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants; and

(ii) Notwithstanding the source sizes specified in paragraph (b)(1)(i) of this section, any source which emits, or has the potential to emit, 250 tons per year or more of any pollutant regulated under the Act.

(2) "Major modification" means any physical change in, change in the method of operation of, or addition to a stationary source which increases the potential emission rate of any air pollutant regulated under the act (including any not previously emitted and taking into account all accumulated increases in potential emissions occurring at the source since August 7, 1977, or since the time of the last construction approval issued for the source pursuant to this section, whichever time is more recent, regardless of any emission reductions achieved elsewhere in the source) by either 100 tons per year or more for any source category identified in paragraph (b)(1)(i) of this section, or by 250 tons per year or more for any stationary source.

(i) A physical change shall not include routine maintenance, repair and replacement.

(ii) A change in the method of operation, unless previously limited by enforceable .permit conditions, shall not include:

(a) An increase in the production rate, if sixth increase does not exceed the operating design capacity of the source;

(b) An increase in the hours of operation;

(c) Use of an alternative fuel or raw material by reason of an order in effect under Sections 2 (a) and (b) of the Energy Supply and Environmental

Coordination Act of 1974 (or any superseding legislation), or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act;

(d) Use of an alternative fuel or raw material, if prior to January 6, 1975, the source was capable of accommodating such fuel or material; or

(e) Use of an alternative fuel by reason of an order or rule under Section 125 of the Act;

(f) Change in ownership of the source.

(3) "Potential to emit" means the capability at maximum capacity to emit a pollutant in the absence of air pollution control equipment. "Air pollution control equipment" includes control equipment which is not, aside from air pollution control laws and regulations; vital to production of the normal product of the source or to its normal operation. Annual potential shall be based on the maximum annual rated capacity of the source, unless the source is subject to enforceable permit conditions which limit the annual hours of operation. Enforceable permit conditions on the type or amount ofmaterials combusted or processed may be used in determining the potential emission rate of a source.

(4) "Source" means any structure, building, facility, equipment, installation, or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control).

(5) "Facility" means an identifiable piece of process equipment. A source is composed of one or more pollutant-emitting facilities.

(6) "Fugitive dust" means particulate matter composed of soil which is uncontaminated by pollutants resulting from industrial, activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces and soil storage piles and other activities' in which soil is either removed, stored, transported, or redistributed.

(7) "Construction" means fabrication, erection, installation, or modification of a source.

(8) "Commence" as applied to construction of a major stationary source or major modification means that the owner or operator has all necessary preconstruction approvals or permits and either has:

(i) Begun, or caused to begin, a continuous program of physical on-site construction of the source, to be completed within a reasonable time; or

(ii) Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the source to be completed within a reasonable time.

(9) "Necessary preconstruction approvals or permits" means those permits or approvals required under Federal air quality control laws and regulations and those air quality control laws and regulations which are part of the applicable State implementation plan.

(10) "Best available control technology" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction. for each pollutant subject to regulation under the act which would be emitted from any proposed major stationary source or major modification which the

Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by_any applicable standard under 40 CFR part 60 and part 61. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

(11) "Baseline concentration" means that ambient concentration level reflecting actual air quality as of August 7, 1977, minus any contribution from major stationary sources and major modifications on which construction commenced on or after January 6, 1975. The baseline concentration shall include contributions from:

(i) The actual emissions of other sources in existence on August 1, 1977, except that contributions from facilities within such existing sources for which a plan revision proposing less restrictive requirements was submitted on or before August 7, 1977, and was pending action by the Administrator on that date shall be determined from the allowable emissions of such facilities under the plan as revised; and

(ii) The allowable emissions of major stationary sources and major modifications which commenced construction before January B, 1975, but were not in operation by August ‘*1,* 1977.

(12) “Federal Land Manager” means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

(13) “High terrain” means any area having an elevation 900 feet or more above the base of the stack of a facility.

(14) “Low terrain” means any area other than high terrain.

(15) “Indian Reservation” means, any Federally-recognized reservation established by Treaty, Agreement, Executive Order, or Act of Congress.

(16) “Indian Governing Body” means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.

(17) “Reconstruction” will be presumed to have taken place where the fixed capital cost of the new components exceed 50 percent of the fixed capital cost of a comparable entirely new facility or source. However, any final decision as to whether reconstruction has occurred shall be made in accordance with the provisions of 40 CFR 60.15(f)(1)-

(3). A reconstructed source will be treated as a new source for purposes of this section, except that use of an alternative fuel or raw material by reason of an order in effect under section 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act, or by reason of an order or rule under section 125 of the act, shall not be considered reconstruction. In determining best available control technology for a reconstructed source, the provisions of

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ENVIRONMENTAL PROTECTION AGENCY

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

Subchapter C—Air Programs

[FRL 904-3]

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

Prevention of Significant Air Quality Deterioration

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: The Clean Air Act Amendments of 1977 (Pub. L. 95-95) include comprehensive new requirements for the prevention of significant air quality deterioration (PSD). EPA is today publishing final guidance to assist States in preparing State implementation plan (SIP) revisions meeting the new requirements. Each State is to submit such a revision to EPA for approval within nine months of today.

DATES: State implementation plan .revisions due within nine months after this publication date (March 19, 1979).

FOR FURTHER INFORMATION CONTACT:

Darryl Tyler, Chief, Standards Implementation Branch (MD-15), Office of Air Quality Planning and Standards, Research Triangle Part, N.0 27711, 919-541-5425.

SUPPLEMENTARY INFORMATION:

PRE-1977 Amendments

On December 5, 1974, EPA published regulations under the 1970 version of the Clean Air Act (Pub. L. 91-604) for the prevention of significant air quality deterioration (PSD). These regulations, codified at 40 CFR 52.21, established a program for protecting areas with air quality cleaner than the national ambient air quality standards (NAAQS).

Under EPA's regulatory program, clean areas of the Nation could be designated under any of three "Classes." Specified numerical "increments" of air pollution were permitted under each class up to a level considered to be "significant" for that area. Class I increments permitted only minor air quality deterioration; class II increments, moderate deterioration; class III increments, deterioration up to the secondary NAAQS.

EPA initially designated all clean areas of the Nation as class II. States, Indian Governing Bodies, and officials having control over Federal lands (Federal land managers) were given authority to redesignate their lands under specified procedures. The area classification system was administered and enforced through a preconstruction permit program for nineteen specified types of stationary air pollution sources. This preconstruction review in addition to limiting future air quality deterioration required that any source subject to the requirements would apply best available control technology (BACT).

1977 AMEMDMENTS

On August 7, 1977, the Clean Air Act Amendments of 1977 became law. The 1977 amendments changed the 1970 act and EPA's regulations in many respects, particularly with regard to PSD. (See Clean Air Act sections 160169, 42 U.S.C. 7470-79 (Clean Air Act

Amendments of 1977, Pub. L. 95-95, 127(a), 91 Stat. 731), as amended, Pub. L. 95-190, section 14(a) (40)-(54), 91 Stat. 1401-02 (November 16, 1977) (technical and conforming amendments).) In addition to mandating certain immediately effective changes to EPA's PSD regulations, the new Clean Air Act, in sections 160-169, contains comprehensive new PSD requirements. These new requirements are to be incorporated by States into their implementation plans (under section 110 of the act). By virtue of section 406(d) of the amendments, such State implementation plan revisions are due nine months after EPA issues these regulations published today which provide the States with guidance on submitting approvable plan provisions. In the interim, implementation of the PSD program under 40 CFR 52.21 will continue but as amended today.

In a rulemaking action appearing elsewhere in today's FEDERAL. REGISTER, EPA amends its own PSD regulations (40 CFR 52.21) to incorporate all of the new requirements of sections 160-169. The two rulemaking actions promulgated today are essentially identical, with the difference in reviewing agency, EPA as opposed to a State, being the major distinction. The issues discussed below as supplementary information to this rulemaking focus on concerns inherent to State PSD implementation. Other topics of concern to States choosing to develop their own PSD programs are discussed in the rulemaking affecting EPA's current implementation of the PSD program (40 CFR 52.21). Thus, the two rules should be read together.

PROTECTION OF INCREMENTS

New section 163(b) of the act sets forth immediately effective ambient air increments for particulate matter and sulfur dioxide in class I, class II, and class III areas. EPA specifically solicited public comments as to whether the PSD "increments" were to be protected only through the preconstruction review process of section 165 of the act. Section 161 of the act requires that each implementation plan "contain emission limits and such other measures as may be necessary * * * to prevent significant deterioration * * *. Section 163 requires plans to "contain measures assuring protection of ambient increments and ceilings."

State agencies and major industries that addressed the question uniformly felt that preconstruction review alone was the mechanism considered by Congress to protect increment consumption. Environmental groups felt that the increments should be treated in basically the same regulatory manner as the ambient air quality standards established under Section 109. A careful review of the legislative history indicates that the latter approach is the approach intended by Congress. The legislative history is particularly clear in the conference report on the bill that was finally adopted by Congress and signed into law. (H.R. Rep. No. 95-564, at 149 (1977).) The conference report describes the approach taken in the House bill regarding increment protection: "If increments are exceeded, the State must revise the State implementation plan to insure that the increment is not exceeded. Sources receiving new emission limitations would be eligible for compliance date extensions under the compliance ate extension section of the bill." (Id.) This approach differs considerably from the approach in the Senate bill which was specifically limited, to the review of major sources. Since Congress had a clear choice to make and as the language in the final act is that of the House bill, States are required to secure appropriate emissions reductions where the increment has been exceeded.

Any SIP relaxations submitted after today that would affect a PSD area must include a demonstration that the applicable increment will not be exceeded. Increment consumption due to, a plan relaxation would be typically determined through modeling the difference between the allowable emissions resulting from the new relaxed SIP limit and the emissions of the applicable sources which would be included in the baseline. SIP relaxations received by EPA after August 7, 1977, but before today's FEDERAL REGISTER will consume increment. However, EPA believes that such revisions require special consideration due to the uncertainty of how the new Act would apply to such SIP relaxations. To review these proposed revisions as to the degree of anticipated increment consumption without advance notice would have caused considerable delay and economic disruption. Therefore, the Administrator feels that these SIP relaxations need not be individually assessed to determine the precise amount of consumed increment before such relaxations may be approved. The periodic assessment requirement to verify that the applicable increments have not been exceeded is thought to be sufficient protection.

The State must include a program to assess periodically whether emissions from exempted or unreviewed sources are endangering an applicable increment. Such periodic reviews must be subject to the opportunity for public hearing. If a periodic review or the ambient impact review of a major source shows an area to be in violation of an increment, then the plan must be revised within 60 days or such time as determined by the Administrator. The SIP revision should be designed to roll back emissions to a level such that the increment is no longer exceeded. This may induce the use of economic incentives such as emissions charges or the development of offset markets. SIP revisions are more thoroughly discussed in the supplementary information to EPA's PSD regulation published elsewhere in today's FEDERAL REGISTER.

The comments raised a number of other issues related to consumption of increments. The Administrator wishes to clarify first that States can expand. the available PSD increment(s) by requiring emission reductions from existing sources. Similarly, the procurement of acceptable emission offsets (i.e., additional control of existing sources) may be used by a source, if a State so permits, in order to allow its construction where the increment would not otherwise allow approval. For further discussion of increment consumption, see the preamble to EPA's PSD regulations published elsewhere in today's FEDERAL REGISTER.

State implementation plan revisions to implement the new PSD requirements are required to specify the measures both to protect the increments and allocate their use. States under today's 40 CFR part 51 regulations are encouraged to examine alternative approaches to the allocation of available increments in order to pro-Vide for their individual growth objectives and planning concerns. To support this effort, the Agency is initiating studies to assess the merits and feasibility of various allocation programs. The Agency will evaluate approaches in which economic incentives serve as a supplement to, or a replacement for, an administrative permitting procedure and variations on first-come, first-served permitting. The economic incentive based approaches to be considered include marketable permits, emissions fees, and emissions density zoning.

A marketable permit program would allow, among other things, a permitted source to sell portions of its permit to other sources. An ordinary permit specifies certain conditions on the maximum emissions from the source but provides no incentive to reduce emissions below the level specified in the permit. A marketable permit allows the source to sell a portion of its permit proportional to the degree to which it reduces emissions below the level specified in the original permit through the application of improved control technology. Thus, a source would have an incentive to reduce emissions since it could sell the emission reduction to another source. A source would purchase this offsetting reduction if it were cheaper than its own cost of reduction. Thus, a marketable permit program could lead to the same emission reduction as a standard permit program but at a lower total cost. Sources with higher marginal costs of compliance would control less and sources with lower marginal costs would control more.

Under another approach, emission fees would be charged to a source according to the quantity of pollutants it emits. These would serve as an incentive to minimize pollution since reducing pollution will lower costs to the source. Emissions fees might be used as a supplement to or replacement for ordinary permits.

Emission density zoning classifies each land area according to the quantity of pollutants that could be emitted into the air over that land. This might be based on some allowable ambient pollutant concentration. Thus, each acre of land translates to a fixed quantity of emissions allowed. Sources would then purchase the "air rights" to enough land to cover their emissions. If these rights are expensive, sources will control more than if these air rights were cheap. In general, these air rights will be more expensive in areas where there is high demand from many sources than in areas where there are fewer sources of comparable size. More expensive air rights would lead to higher levels of control, since more costly equipment would be justified in order to buy the remaining air rights.

EPA in the past has implemented the PSD program on a first-come, first-served basis. However, it does not appear that this approach alone may be adequate to achieve the purposes of the act on a long-term basis. While EPA is administering the PSD permit program, the Administrator will solicit and give careful consideration during the permit review process to the views of State and local officials regarding the impact of proposed permit decisions on an area's potential for economic development. For further discussion, see the preamble to EPA's PSD regulations published elsewhere in today's FEDERAL REGISTER.

PERMIT REVIEW PROCESS

Virtually every comment spoke to the issue of subjecting sources to PSD review on the basis of their uncontrolled emissions as EPA proposed. Many State and local agencies expressed a deep concern that to make sources subject to the full PSD requirement on this basis would result in an unmanageable number of detailed and resource intensive reviews. The rulemaking allows States generally to exempt from air quality reviews those sources with minimal emissions. Only those sources which would have allowable emissions equal to or greater than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour (50/1,000/100), or would impact a class I area or an area where the increment is known to be violated, must receive an ambient review. In addition only these sources must undergo case-by-case review for BACT and then only as to those pollutants regulated under the act for which the source would be major.

The rulemaking also allows States to exempt sources with .allowable emissions of less than 50 tons per year from a case-by-case BACT review where the State feels such an. exemption is appropriate. It should be noted that this approach is based on analysis which indicates that, on a national basis, such sources are a very small part of emissions growth. In some States such sources may be a more significant portion of the emissions inventory and thus BACT review of smaller sources may be appropriate. States should examine this issue carefully in preparing their implementation plan. EPA will also consider this issue in evaluating plan revisions submitted by States.

State implementation plans must include procedures for expeditiously informing a PSD permit applicant of the completeness of the application. The permitting authority must specify a time period within which the completeness of a permit application would be determined. For example, EPA specifies 30 days when implementing the PSD program under 40 52.21.

BACT

The November 3, 1977, proposal solicited comment on the use of a de minimis level of 100 tons per year potential emissions for each pollutant for triggering the BACT requirement. The Agency stated the issue:

> For example, if a source is subject to PSD review either because it is one of the named sources or because it has potential emissions of 250 tons per year of a given pollutant, BACT would be required only for those pollutants whose potential emissions exceed 100 tons per year.

Comments received indicated that if a source is subject to PSD on the basis of the 250 tons per year criterion, then the BACT de minimis level should be made consistent for such sources (i.e., BACT should be required only for those pollutants for which the potential emissions exceed 250 tons). The Administrator agrees with this argument and appropriate changes are made in the regulations set forth below.

MONITORING AND MODELING

Extensive public comment was received on the proposed requirements for monitoring and modeling. These issues are extensively discussed in the Part 52 rulemaking published elsewhere in today's FEDERAL REGISTER. As noted, EPA intends that monitoring should generally focus on obtaining data necessary for required review against NAAQS. Although the increment consumption must of necessity be tracked through the use of modeling, EPA does not intend that there be no "real world" checks on the accuracy of modeling. If a source or other party believes that the recommended models have either overpredicted or underpredicted the air quality impact of a source, the State may accept the submission of data which will more precisely define the impact, of the source.

REDESIGNATION

In response to comments, a number of changes have been made regarding redesignations of areas. The analysis and public hearing requirement have been modified to conform to the language in the 1977 Amendments. The requirement for public availability of information relating to sources which may be permitted only if an area is redesignated has been limited to sources for which an ambient impact analysis must be done. Finally, this rulemaking removes the provision requiring that final action on a permit be delayed if the source would impact upon an area where a proposed redesignation to a more stringent class was pending. The original intent of this provision was to protect potential class I areas during startup of the new PSD program. All areas were then class II. Now Congress has specifically designated Federal class I areas and States have had considerable opportunity to designate any others. States may establish such a requirement at their own discretion.

Several other issues are discussed in the "Supplementary Information" to the part 52 PSD rulemaking also published today. That discussion should be considered in conjunction with this one.

FINAL ACTION

The following regulatory amendments are nationally applicable, and this action is based upon determinations of nationwide scope and effect. Therefore, under section 307(b)(1) of the Act, judicial review may be sought only in the U.S. Court of Appeals for the District of Columbia. Petitions for judicial review must be filed on or before August 18, 1978.

(Secs. 101(b)(1), 110, 114, 123, 125(e), 160169, 301(a) of the Clean Air Act, as amended (42 U.S.C. 7401(b)(1), 7410, 7414, 7423, 7425(e), 7470-7479, 7601(a)).)

Dated: June 9, 1978.

DOUGLAS M. COSTLE, Administrator.

Title 40, Part 51 of the Code of Federal Regulations is amended by adding § 51.24 as follows:

$ 51.24 Prevention of significant deterioration of air quality.

(a) (1) Plan requirements. In accordance with the policy of section 101(b)(1) of the act and the purposes of section 160 of the Act, each applicable State implementation plan shall contain emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality.

(2) Plan revisions. If a State implementation plan revision would result in increased air quality deterioration over any baseline concentration, the plan revision shall include a demonstration that it will not cause or contribute to a violation of the applicable increment.

(3) Required plan revision. If the State or the Administrator determines that a plan is substantially inadequate to prevent significant deterioration or that an applicable increment is being violated, the plan shall be revised to correct the inadequacy or the violation. The plan shall be revised within 60 days of such a finding by a State or within 60 days following notification by the Administrator, or by such later date as prescribed by the Administrator for after consultation with the State.

(4) Plan assessment. The State shall review the adequacy of a plan on a periodic basis and within 60 days of such time as information becomes available that an applicable increment is being violated.

(5) Public participation. Any State action taken under this paragraph shall be subject to the opportunity for public hearing in accordance with procedures equivalent to those established in § 51.4.

(b) Definitions. For the purposes of this section:

(1) "Major stationary source" means:

(i) Any of the following stationary sources of air pollutants which emit, or have the potential to emit, 100 tons per year or more of any air pollutant regulated under the Clean Air Act (the "Act"): Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants; and

(ii) Notwithstanding the source sizes specified in paragraph (b)(1)(1) of this section, any source which emits, or has the potential to emit, 250 tons per year or more of any air pollutant regulated under the Act.

(2) "Major modification" means any physical change in, change in the method of operation of, or addition to a stationary source which increases the potential emission rate of any air pollutant regulated under the Act (including any not previously emitted and taking into account all accumulated increases in potential emissions occurring at the source since regulations were approved under this section, or since the time of the last construction approval issued for the source pursuant to such regulations approved under this section, whichever time is more recent, regardless of any emission reductions achieved elsewhere in the source) by either 100 tons per year or more for any source category identified in paragraph (b)(1)(1) of this section, or by 250 tons per year or more for any stationary source.

(i) A physical change shall not include routine maintenance, repair and replacement.

(ii) A change in the method of operation, unless previously limited by enforceable permit conditions, shall not include:

(a) An increase in the production rate, if such increase does not exceed the operating design capacity of the source;

(b) An increase in the hours of operation;

(c) Use of an alternative fuel or raw material by reason of an order in effect under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act;

(d) Use of an alternative fuel or raw material, if prior to January 6, 1975, the source was capable of accommodating such fuel or material; or

(e) Use of an alternative fuel by reason of an order or rule under section 125 of the Act.

(f) Change in ownership of the source.

(3) "Potential to emit" means the capability at maximum capacity to emit a pollutant in the absence of air pollution control equipment. "Air pollution control equipment" includes control equipment which is not, aside from air pollution control laws and regulations, vital to production of the normal product of the source or to its normal operation. Annual potential shall be based on the maximum annual rated capacity of the source, unless the source is subject to enforceable permit conditions which limit the annual hours of operation. Enforceable permit conditions on the type or amount of materials combusted or processed may be used in determining the potential emission rate of a source.

(4) "Source" means any structure, building, facility, equipment, installation or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control).

(5) "Facility" means an identifiable piece of process equipment. A stationary source is composed of one or more pollutant-emitting facilities.

(6) "Fugitive dust" means particulate matter composed of soil which is uncontaminated by pollutants resulting from industrial activity. Fugitive dust may include emissions from haul roads, wind

erosion of exposed soil surfaces and soil storage piles, and other activities in which soil is either removed, stored, transported, or redistributed.

(7) "Construction" means fabrication, erection, installation, or modification of a source.

(8) "Commence" as applied to construction of a major stationary source or major modification means that the owner or operator has all necessary preconstruction approvals and either has:

(i) Begun, or caused to begin, a continuous program of physical on-site construction of the source to be completed within a reasonable time; or

(ii) Entered into binding agreements or contractual obligations, which cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the source to be completed within a reasonable time.

(9) "Necessary preconstruction approvals or permits" means those permits or approvals required under Federal air quality control laws and regulations and those air quality control laws and regulations which are part of the applicable State implementation plan.

(10) "Best available control technology" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the act which would be emitted from any proposed major stationary source or major modification which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of

production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of the best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Part 60 and Part 61. If the reviewing agency determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, it may instead prescribe a design, equipment, work practice or operational standard, or combination thereof, to require the application of best available control technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice or operation and shall provide for compliance by means which achieve equivalent results.

(11) "Baseline concentration" means that ambient concentration level reflecting actual air quality as of August 7, 1977, minus any contribution from major stationary sources and major modifications on which construction commenced on or after January 6, 1975. The baseline concentration shall include contributions from:

(i) The actual emissions of other sources in existence on August 7, 1977, except that contributions from facilities within such existing sources for which a plan revision proposing less restrictive requirements was submitted on or before August 7, 1977, and was pending action by the Administrator on that date shall be determined from the allowable emissions of such facilities under the plan as revised; and

(ii) The allowable emissions of major stationary sources and major modifications which commenced construction before January 6, 1975, but were not in operation by August 7, 1977.

(12) "Federal Land Manager" means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

(13) "High terrain" means any area having an elevation of 900 feet or more above the base of the stack of a facility.

(14) "Low terrain" means any area other than high terrain.

(15) "Indian Reservation" means any federally-recognized reservation established by treaty, agreement, Executive order, or act of Congress.

(16) "Indian Governing Body" means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.

(17) "Allowable emissions" means the emissions rate calculated using the maximum rated capacity of the source (unless the source is subject to enforceable permit conditions which limit the operating rate or hours of operation, or both) and the most stringent of the following:

(i) Applicable standards as set forth in 40 CFR Part 60 and Part 61,

(ii) The applicable State implementation plan emission limitation, or

(iii) The emission rate specified as a permit condition.

(18) "Reconstruction" will be presumed to have taken place where the fixed capital cost of the new components exceed 50 percent of the fixed capital cost of a comparable entirely new facility or source. However, any final decision as to whether reconstruction has occurred shall be made in accordance with the provisions of 40 CFR 60.15(f)(1)-(3). A reconstructed source will be treated as a new source for purposes of this section, except that use of an alternative fuel or raw material by reason of an order in effect under Sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act, or by reason of an order or rule under Section 125 of the Act, shall not be considered reconstruction. In determining best available control technology for a reconstructed source, the provisions of 40 CFR 60.15(f)(4) shall be taken into account in assessing whether a standard of performance under 40 CFR. dart 60 is applicable to such source.

(19) "Fixed capital cost" means the capital needed to provide all the depreciable components.

(c) Ambient air increments. The plan shall contain emission limitations and such other measures as may be necessary to assure that in areas designated as Class I, II, or III, increases in pollutant concentration over the baseline concentration shall be limited to the following:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
CLASS I	
Particulate matter:	
Annual geometric mean	5
24-hr maximum	10
Sulfur dioxide:	
Annual arithmetic mean	2
24-hr maximum	5
3-hr maximum	25
CLASS II	
Particulate matter:	
Annual geometric mean	19
24-hr maximum	37
Sulfur dioxide:	
Annual arithmetic mean	40
24-hr maximum	182
3-hr maximum	512
CLASS III	
Particulate matter:	
Annual geometric mean	37
24-hr maximum	75
Sulfur dioxide:	
Annual arithmetic mean	40
24-hr maximum	182
3-hr maximum	700

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(d) Ambient air ceilings. The plan shall provide that no concentration of a pollutant shall exceed:

(1) The concentration permitted under the national secondary ambient air quality standard, or

(2) The concentration permitted under the national primary ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.

(e) *Restrictions on area classifications*. The plan shall provide that—

(1) All of the following areas which were in existence on August 7, 1977, shall be Class I areas and may not be redesignated:

(i) International parks,

(ii) National wilderness areas which exceed 5,000 acres in size,

(iii) National memorial parks which exceed 5,000 acres in size, and

(iv) National parks which exceed 6,000 acres in size.

(2) Areas which were redesignated as Class I under regulations promulgated before August 7, 1977, shall remain Class I, but may be redesignated as provided in this section.

(3) Any other area, unless otherwise specified in the legislation creating such an area, is initially designated Class II, but may be redesignated as provided in this section.

(4) The following areas may be redesignated only as Class I or II:

(i) An area which as of August 7, 1977, exceeded 10,000 acres in size and was a national monument, a national primitive area, a national preserve, a national recreational area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore; and

(ii) A national park or national wilderness area established after August 7, 1977, which exceeds. 10,000 acres in size.

(f) *Exclusions from increment consumption*. (1) The plan may provide that the following concentrations shall be excluded in determining compliance with a maximum allowable increase:

(i) Concentrations attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, natural .gas, or both by reason of an order in effect under Sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) over the emissions from such sources before the effective date of such an order;

(ii) Concentrations attributable to the increase in emissions from sources which have converted from using natural gas by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act over the emissions from such sources before the effective date of such plan;

(iii) Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities; and

(iv) The increase in concentrations attributable to new sources outside the 'United States over the concentrations attributable to existing sources which are included in the baseline concentration.

(2) If the plan provides that the concentrations to which paragraph (f)(1) refers shall be excluded, it shall also provide that—

(i) No exclusion of such concentrations shall apply more than five years after the effective date of the order to which paragraph (f)(1)(i) refers or the plan to which paragraph (f)(1)(ii) refers, whichever is applicable.

(ii) If both such order and plan are applicable, no such exclusion shall apply more than five years after the later of such effective dates.

(g) *Redesignation*. (1) The plan shall provide that all areas of the State (except as otherwise provided under paragraph (e) of this section) shall be designated either Class I, Class II, or Class III. Any designation other than Class II shall be subject to the redesignation procedures of this paragraph. Redesignation (except as otherwise precluded by paragraph (e) of this section) may be proposed by the respective States or Indian Governing Bodies, as provided below, subject to approval by the Administrator as a revision to the applicable State implementation plan.

(2) The plan may provide that the State may submit to the Administrator a proposal to redesignate areas of the State Class I or Class II: Provided, That:

(i) At least one public hearing has been held in accordance with procedures established in § 51.4.

(ii) Other States, Indian Governing Bodies, and Federal Land Managers whose lands may be affected by the proposed redesignation were notified at least 30 days. prior to the public hearing;

(iii) A discussion of the reasons for the proposed redesignation, including a satisfactory description and analysis of the health, environmental, economic, social, and energy effects of the proposed redesignation, was prepared and made available for public inspection at least 30 days prior to the hearing and the notice announcing the hearing contained appropriate notification of the availability of such discussion;

(iv) Prior to the issuance of notice respecting the redesignation of an area that includes any Federal lands, the State has provided written notice to the appropriate Federal Land Manager and afforded adequate opportunity (not in excess of 60 days) to confer with the State respecting the redesignation and to submit written comments and recommendations. In redesignating any area with respect to which any Federal Land Manager had submitted written comments and recommendations, the State shall have published a list of any inconsistency between such redesignation and such comments and recommendations (together with the reasons for making such redesignation against the recommendation of the Federal Land Manager); and

(v) The State has proposed the redesignation after consultation with the elected leadership of local and other substate general purpose governments in the area covered by the proposed redesignation.

(3) The plan may provide that any area other than an area to which paragraph (e) of this section refers may be redesignated as Class III if—

(i) The redesignation would meet the requirements of provisions established in accordance with paragraph (g)(2) of this section;

(ii) The redesignation, except any established by an Indian Governing Body, has been specifically approved by the Governor of the State, after consultation with the appropriate committees of the legislature, if it is in session, or with the leadership of the legislature, if it is not in session (unless State law provides that such redesignation must be specifically approved by State legislation) and if general purpose units of local government representing a majority of the residents of the area to be redesignated enact legislation (including resolutions where appropriate) concurring in the redesignation;

(iii) The redesignation would not cause, or contribute to, a concentration of any air pollutant which would exceed any maximum allowable increase permitted under the classification of any other area or any national ambient air quality standard; and

(iv) Any permit application for any major stationary source or major modification subject to provisions established in accordance with paragraph (1) of this section which could receive a permit only if the area in question were redesignated as Class III, and any material submitted as part of that application, were available, insofar as was practicable, for public inspection prior to any public hearing on redesignation of any area as Class III.

(4) The plan shall provide that lands within the exterior boundaries of Indian Reservations may be redesignated only by the appropriate Indian Governing Body. The appropriate Indian Governing

Body may submit to the Administrator a proposal to redesignate areas Class I, Class II, or Class III: Provided, That:

(i) The Indian Governing Body has followed procedures equivalent to those required of a State under paragraphs (g)(2), (g)(3)(iii), and (g)(3)(iv) of this section; and

(ii) Such redesignation is proposed after consultation with the State(s) in which the Indian Reservation is located and which border the Indian Reservation.

(5) The Administrator shall disapprove, within 90 days of submission, a proposed redesignation of any area only if he finds, after notice and opportunity for public hearing, that such redesignation does not meet the procedural requirements of this section or is inconsistent with paragraph (e) of this section. If any such disapproval occurs, the classification of the area shall be that which was in effect prior to the redesignation which was disapproved.

(6) If the Administrator disapproves any proposed area designation, the State or Indian Governing Body, as appropriate, may resubmit the proposal after correcting the deficiencies noted by the Administrator.

(h) Stack heights. The plan shall provide, as a minimum, that the degree of emission limitation required for control of any air pollutant under the plan shall not be affected in any manner by—

(1) So much of a stack height, in existence before December 31, 1970, as exceeds good engineering practice, or

(2) Any other dispersion technique implemented before then.

(i) *Review of major stationary sources and major modifications—Source applicability and general exemptions.* (1) The plan shall provide that no major stationary source or major modification shall be constructed unless, as a minimum, requirements equivalent to those contained in the subparagraphs of paragraphs (j), (1), (n), (p), and (r) of this section, have been met. The plan may provide that such requirements shall apply to a proposed source or modification only with respect to those pollutants for which the proposed construction would be a major stationary source or major modification.

(2) The plan may provide, as a minimum, that requirements equivalent to those contained in the subparagraphs of paragraphs (j), (1), (n), and (p) of this section shall not apply to a major stationary source or major modification with respect to a particular pollutant if the owner or operator demonstrates that-

(i) As to that pollutant, the source or modification is subject to the emission offset ruling (41 FR 55524) as it may be amended or to regulations approved or promulgated pursuant to Section 173 of the Act, and

(ii) The source or modification would impact no area attaining the national ambient air quality standards (either internal or external to areas designated as nonattainment under Section 107 of the Act).

(3) The plan may provide that requirements equivalent to those contained in the subparagraphs of paragraphs (j), (1), (n), (p), and (r) shall not apply to nonprofit health or education institutions.

(4) The plan may provide that a portable facility which has received construction approval under

requirements equivalent to those contained in the subparagraphs of paragraphs (j), (1), (n), (p), (q), and (r) may relocate without being subject to such requirements if-

(i) Emissions from the facility would not exceed allowable emissions; and

(ii) Such relocation would impact no Class I area and no area where an applicable increment is known to be violated; and

(iii) Notice is given to the reviewing authority at least 30 days prior to such relocation identifying the proposed new location and the probable duration of operation at such location.

(j) Control technology review. The plan shall provide that—

(1) A major stationary source or major modification shall meet all applicable emission limitations under the State implementation plan and all applicable emission standards and standards of performance under 40 CFR Part 60 and Part 61.

(2) A major stationary source or major modification shall apply best available control technology for each applicable pollutant, unless the increase in allowable emissions of that pollutant from the source would be less than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour, whichever is most restrictive.

(i) The preceding hourly or daily rates shall apply only with respect to a pollutant for which an increment, or national ambient air quality standards, for a period less than 24 hours or a period of 24 hours, as appropriate, has been established.

(ii) In determining whether and to-what extent a modification would increase allowable emissions, there shall be taken into account no emission reductions achieved elsewhere at the source at which the modification would occur.

(3) In the case of a modification, the requirement for best available control technology shall apply only to each new or modified facility which would increase the allowable emissions of an applicable pollutant.

(4) Where a facility within a source would be modified but not reconstructed, the requirement for best available control technology, notwithstanding paragraph (j)(2) of this section, shall not apply if no net increase in emissions of an applicable pollutant would occur at the source, taking into account all emission increases and decreases at the source which would accompany the modification, and no adverse air quality impact would occur.

(5) For phased construction projects the determination of best available control technology shall be reviewed, and modified as appropriate, at the latest reasonable time prior to commencement of construction of each independent phase of the proposed source or modification.

(6) In the case of a major stationary source or major modification which the owner or operator proposes to construct in a Class III area, emissions from which would cause or contribute to air quality exceeding the maximum allowable increase that would be applicable if the area were a Class II area and where no standard under 40 (CFR Part 60 has been promulgated for the source category, the Administrator shall approve the determination of best available control technology.

(k) Exemptions from impact analysis. (I) The plan may provide that with respect to a particular pollutant the requirements of provisions established in accordance with paragraphs (1), (n), and (p) of this section shall not apply to a proposed major stationary source or major modification, if-

(i) The increase in allowable emissions of that pollutant from the source or modification would impact no Class I area and no area where an applicable increment is known to be violated; and

(ii) The increase in allowable emissions of that pollutant from the source or modification would be less than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour, whichever is most restrictive; or

(iii) The emissions of the pollutant are of a temporary nature including but not limited to those from a pilot plant, a Portable facility, construction, or exploration; or

(iv) A source is modified, but no increase in the net amount of emissions for any pollutant subject to a national ambient air quality standard and no adverse air quality impact would occur.

(2) The hourly or daily rates set in paragraph (k)(1)(ii) of this section shall apply only with respect to a pollutant for which an increment, or national ambient air quality standard, for a period of less than 24 hours or for a period of 24 hours, as appropriate, has been established.

(3) The plan shall provide that, in determining for the purpose of provisions established in accordance with paragraph (k)(1)(ii) of this section whether and to what extent a modification would increase allowable emissions, there shall be taken into account no

emission reductions achieved elsewhere at the source at which the modification would occur.

(4) The plan shall provide that, in determining for the purpose of provisions established in accordance with paragraph (k)(1)(iv) of this section whether and to what extent there would be an increase in the net amount of emissions of any pollutant subject to a national ambient air quality standard from the source. which is modified, there shall be taken into account all emission increases and decreases occurring at the source since 'August 7, 1977.

(5) The plan may provide that the requirements of provisions established in accordance with paragraphs (1), (n), and (p) of this section shall not apply to a major stationary source or major modification with respect to emissions from it which the owner or operator has shown to be fugitive dust.

(1) Air quality review. (1) The plan shall provide that the owner or operator of the proposed source or modification must demonstrate that allowable emissions increases from the source or modification, in conjunction with all other applicable emissions increases or reductions, will not cause or contribute to air pollution in violation of-

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(m) *Air quality models.* (1) The plan shall provide for procedures which specify that-

(i) All estimates of ambient concentrations required under paragraph (1) shall be based on the applicable air quality models, data bases, and other requirements specified in the Guidelines on Air Quality Models (OAQPS 1.2-080, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, April 1978).

(ii) Where an air quality impact model specified in the Guideline on Air Quality Models is inappropriate, the model may be modified or another model substituted.

(iii) A substitution or modification of a model shall be subject to public comment procedures developed in accordance with paragraph (r) of this section.

(iv) Written approval of the Administrator must be obtained for any modification or substitution.

(v) Methods like those outlined in the Workbook for the Comparison of Air Quality Models (U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, April 1977) should be used to determine the comparability of air quality models.

(2) The Guideline on Air Quality Models is incorporated by reference. On April 27, 1978, the Office of the Federal Register approved this document for incorporation by reference. A -copy of the guideline is on file in the Federal Register library.

(3) The documents referenced in this paragraph are available for public inspection at EPA's Public Information Reference Unit, Room 2922, 401 M Street SW., Washington, D.C. 20460, and at the libraries of each of the ten EPA Regional Offices. Copies, are available as supplies permit from the Library Service Office (MD-35), U.S. Environment Protection Agency,

Research Triangle Park, N.C. 27711. Also, copies may be purchased from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161.

(n) *Monitoring*. The plan shall provide that—

(1) The owner or operator of a proposed source or modification shall, after construction of the source or modification, conduct such ambient air quality monitoring as the reviewing authority determines may be necessary to establish the effect which emissions from the source or modification of a pollutant for which a national ambient air quality standard exists (other than non-methane hydrocarbons) may have, or is having, on air quality in any area which such emissions would affect.

(2) As necessary to determine whether emissions from the proposed source or modification would cause or contribute to a violation of a national ambient air quality standard, any permit application submitted after August 7, 1978, shall include an analysis of continuous air quality monitoring data for any pollutant emitted by the source or modification for which a national ambient air quality standard exists, except non-methane hydrocarbons. Such data shall relate to, and shall have been gathered over, the year preceding receipt of the complete application, unless the owner or operator demonstrates to the Administrator's satisfaction that such data gathered over a portion or portions of that year or another representative year would be adequate to determine that the source or modification would not cause or contribute to a violation of a national ambient air quality standard.

(o) *Source information*. (1) The plan shall provide that the owner or operator of a proposed source or modification shall submit all information necessary to perform any analysis or make any determination required under procedures established in accordance with this section.

(2) The plan may provide that such information shall include:

(i) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings showing its design and plant layout;

(ii) A detailed schedule for construction of the source or modification;

(iii) A detailed description as to what system of continuous emission reduction is planned by the source or modification, emission estimates, and any other information as necessary to determine that best available control technology as applicable would be applied;

(3) The plan shall provide that upon request of the State, the owner or operator shall also provide information on:

(i) The air quality impact of the source or modification, including meteorological and topographical data necessary to estimate such impact; and

(ii) The air quality impacts and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since August 7, 1977, in the area the source or modification would affect.

(p) *Additional impact analyses*. The plan shall provide that—

(1) The owner or operator shall provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the source or modification. The owner or operator need not provide an analysis of the impact on vegetation haying no significant commercial or recreational value.

(2) The owner or operator shall provide an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source or modification.

(q) *Sources impacting Federal Class I areas—additional requirements—*

(1) *Notice to EPA.* The plan. shall provide that the reviewing authority shalt transmit to the Administrator a copy of each permit application relating to a major stationary source or major modification and provide notice to the Administrator of every action related to the consideration of such permit.

(2) *Federal Land Manager.* The Federal Land Manager and the Federal official charged with direct responsibility for management of Class I lands have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands and to consider, in consultation with the Administrator, whether a proposed source or modification would have an adverse impact on such values.

(3) *Denial—impact on air quality related values.* The plan shall provide a mechanism whereby a Federal Land -Manager of any such lands may present

to the State, after the reviewing authority's preliminary determination required under procedures developed in accordance with paragraph (r) of this section, a demonstration that the emissions from the proposed source or modification would have an adverse impact on the air quality-related values (including visibility) of any Federal mandatory Class I lands, notwithstanding that the change in air 'quality resulting from emissions from such source or modification would not cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the State concurs with such demonstration, the reviewing authority shall not issue the permit.

(4) *Class I Variances.* The plan may provide that the owner or operator of a proposed source or modification may demonstrate to the Federal Land Manager that the emissions from such source would have no adverse impact on the air quality related values of such lands (including visibility), notwithstanding that the change in air quality resulting from emissions from such source or modification would cause or contribute to concentrations which would' exceed the maximum allowable increases for a Class I area. If the Federal Land Manager concurs with such demonstration and So certifies to the State, the reviewing authority may: Provided, That applicable requirements are otherwise met, issue the permit with such emission limitations as may be necessary to assure that emissions of sulfur dioxide and particulate matter would not exceed the following maximum allowable increases over baseline concentration for such pollutants:

	Maximum allowable increase (micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
24-hr. maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr. maximum	91
3-br. maximum	325

(5) *Sulfur Dioxide Variance by Governor with Federal Land Manager's Concurrence*. The plan may provide that—

(i) The owner or operator of a proposed source or modification which cannot be approved under procedures developed pursuant to paragraph (q)(4) of this section may demonstrate to the Governor that the source or modification cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any Class I area and, in the case of Federal mandatory Class I areas, that a variance under this clause would not adversely affect the air quality related values of the area (including visibility);

(ii) The Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant, after notice and an opportunity for a public hearing, a variance from such maximum allowable increase; and

(iii) If such variance is granted, the reviewing authority may issue a permit to such source or modification in accordance with provisions developed pursuant to paragraph (q)(7) of this section: Provided, That the applicable requirements of the plan are otherwise met.

(6) Variance by the Governor with the President's concurrence. The plan may provide that—

(i) The recommendations of the Governor and the Federal Land Manager shall be transferred to the President in any case where the Governor recommends a variance in which the Federal Land Manager does not concur;

(ii) The President may approve the Governor's recommendation if he finds that such variance is in the national interest: and

(iii) If such a variance is approved, the reviewing authority may issue a permit in accordance with provisions 'developed pursuant to the requirements of paragraph (q)(7) of this section: *Provided*, That the applicable requirements of the plan are otherwise met.

(7) *Emission Limitations for Presidential or Gubernatorial Variance*. The plan shall provide that in the case of a permit issued under procedures developed pursuant to paragraph (q) (5) or (6) of this section, the source or modification shall comply with emission limitations as may be necessary to assure that emissions of sulfur dioxide from the source or modification would not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which would exceed the following maximum allowable increases oapplicableseline concentration and to

assure that such emissions would not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less for more than 18 days, not necessarily consecutive, during any annual period:

Maximum Allowable Increase
[Micrograms per cable meter]

Period of exposure	Terrain area	
	Low	High
24-hr maximum	36	62
3-hr maximum	130	221

(r) Public participation. The plan shall provide that—

(1) The reviewing authority shall notify all applicants within a specified time period as to the completeness of the application or any deficiency in the application or information submitted. In the event of such a deficiency, the date of receipt of the application shall be the date on which the rev(i)ing authority received all required information.

(2) 'Within one year after receipt of a complete application, the reviewing authority shall:

(i) Make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.

(ii) Make available in at least one location in each region in which the proposed source would be constructed a copy of all materials the applicant submitted, a copy of the preliminary determination, and a copy or summary of other materials, if any, considered in making the preliminary determination.

(iii) Notify the public, by advertisement in a newspaper of general circulation in each region in which the proposed source would be constructed, of the application, the preliminary determination, the degree of increment consumption that is expected from the source or modification, and of the opportunity for comment at a public hearing as well as written public comment.

(iv) Send a copy of the notice of public comment to the applicant, the administrator and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: any other State or local air pollution control agencies, the chief executives of the city and county where the source would be located; any comprehensive regional land use planning agency, and any State, Federal Land Manager, or Indian Governing body whose lands may be affected by emissions from the source or modification.

(v) Provide opportunity for a public hearing for interested persons to appear and submit written or oral Comments on the air quality impact of the source, alternatives to it, the control technology required, and other appropriate considerations.

(vi) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing(s) in-making a final decision on the approvability of the application. The reviewing authority shall make all comments available for public inspection in the same locations where the reviewing authority made available preconstruction information relating to the proposed source or modification.

(vii) Make a final determination whether construction should be approved, approved with conditions, or disapproved.

(viii) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the reviewing authority made available preconstruction information and public comments relating to the source.

(s) Source obligation. The plan shall include legally enforceable procedures to provide that approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the plan and any other requirements under local, State or Federal law.

SENATE

95th Congress *1st Session*
Report No. 95-127
Calendar No. 106

CLEAN AIR AMENDMENTS OF 1977

May 10 (legislative day, May 9), 1977.—
Ordered to be printed

Mr. Muskie, from the Committee on Environment
and Public Works, submitted the following

REPORT
together with
ADDITIONAL VIEWS

[To accompany S. 252]

The Committee on Environment and Public Works, to which was referred the bill (S. 252) a bill to amend the Clean Air Act, as amended, having considered the same, reports favorably thereon with amendments and recommends that the bill (as amended) do pass.

PREFACE

The committee has reported a bill which in most respects is similar to the legislation which the Senate passed on August 5, 1976. It includes eight new provisions; significant modifications of five provisions; and minor modifications of others. But, with the exception of the issue which is referred to as "nonattainment", the bill is very similar to last year's Senate-passed bill.

This year the committee held 4 days of hearings and heard 50 witnesses. There are 3,023 pages of printed testimony and 10 sessions were held to mark up this bill. This means that, over the past 3 years, this legislation has been subject, cumulatively, to 18 days of hearings, and 58 days of mark-up sessions, and has been commented on by 138 witnesses, in 9,470 pages of testimony.

The committee has made clarifications in provisions where deemed appropriate. But in the interest of consistency and in the interest of presenting the Senate legislation, the major features of which would be familiar, the committee tried to stay within the bounds of last year's bill.

The committee has agreed that the report on the legislation should also be similar to last year's report, except in those instances in which

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The chief tool to be used in implementing the no significant deterioration requirements is the permit that must be issued by the State for any major emitting facility to be located in any clean-air area, including Federal lands. The permit must include an emission limitation based on best available technology. It must insure that total emissions from the facility are such that the increments will never be exceeded. The application for a permit must include careful analyses of climate and meteorology, the soils, the vegetation, the visibility, and other environmental factors at the proposed site and in the area that might be affected by the emissions.

In studying the permit application, the State must examine the growth associated with any proposed facility in terms of other industries that might be attracted to the area and associated with the facility, and its effect on support services, and the residential, commercial, and transportation needs accompanying the facility.

Inherent in any review-and-permit process is the opportunity for delay. The committee does not intend that the permit process to prevent significant deterioration should become a vehicle for inaction and delay. To the contrary, the States and Federal agencies must do all that is feasible to move quickly and responsibly on permit applications and those studies necessary to judge the impact of an application. Nothing could be more detrimental to the intent of this section and the integrity of this act than to have the process encumbered by bureaucratic delay.

Major emitting facilities which commence construction after June 1, 1975, are required to receive a permit under this provision.

The amendments provide a definition of when a major emitting facility can be said to have "commenced construction." This definition was adopted to allow a determination as to whether any particular facility is subject to the review and other requirements of the provisions for the prevention of significant deterioration. The date at which construction is said to have commenced is the time at which the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State or local laws and has committed itself to a program of construction. The test of commitment is whether physical on-site construction has begun or whether the owner or operator has entered into contractual obligations which cannot be canceled or modified without substantial loss. The committee does not expect that this test will necessarily be met by penalty clauses in contracts. Rather, the committee intends a factual determination as to whether a source has so committed itself, financially and otherwise, to the use of a particular site for a particular facility that relocation is not an option and delay or substantial modification would be severely disruptive.

This definition represents a change from the policy which the Environmental Protection Agency followed during 1975. The definition of "commenced construction" used at that time excluded from coverage under the regulations those sources which had entered into binding obligations before June 1, 1975, whether or not construction had actually begun or whether there would be any substantial loss if the contract was canceled or modified. Some sources, in fact, received assurances from the Environmental Protection Agency that their

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tion of "emission limitation." Rather, this is intended to assure that the actual limitation on emissions and the necessary interim steps leading to its attainment, are enforceable at definite times.

SCHEDULE AND TIMETABLE FOR COMPLIANCE

The definition of "schedule and timetable for compliance" contained in these amendments is based on the definition of the term "schedule for compliance" under the Federal Water Pollution Control Act. The phrase, however, has appeared in the Clean Air Act since the 1970 amendments.

The purpose for supplying a definition in these amendments is not to change the interpretation of what constitutes a schedule and timetable for compliance under section 110. The definition is added primarily to provide symmetry, since a clarified definition of "emission limitation," another phrase which has appeared in the Clean Air Act since 1970, is added by these amendments. Also, the requirement for schedules and timetables for compliance is more extensively used in new provisions, particularly the amendments to section 113.

Schedules and timetables for compliance must be established for a variety of requirements. These include emission limitations, prohibitions, hazardous emission standards, opacity limitations, transportation control plan elements, and the myriad of specific enforcement requirements which make up a total implementation plan for the attainment and maintenance of an ambient air quality standard.

Specific schedules and timetables for compliance must be established for all such control requirements to assure that effective enforcement is not postponed until the final date by which such requirement is to be achieved. A clear set of specified interim steps leading to final compliance must be included in the implementation plan, and each such interim step must be enforceable and capable of factual determination of compliance.

MAJOR EMITTING FACILITIES

The bill establishes a definition in the law for "major emitting facilities," a definition with two parts. For the general purposes of the bill, such as those provisions dealing with delayed compliance, a major emitting facility is defined as any source with an annual potential to emit 100 tons of any pollutant. This is a standard in general use by EPA and by the States to define major sources of pollution. It is a reasonable and rational point of division.

The legislation also creates a mechanism to guard against significant deterioration of air quality, a procedure that must include an effective review-and-permit process. Such a process is reasonable and necessary for very large sources, such as new electrical generating plants or new steel mills. But the procedure would prove costly and potentially unreasonable if imposed on construction of storage facilities for a small gasoline jobber or on the construction of a new heating plant at a junior college, each of which may have the potential to emit 100 tons of pollution annually.

Rather than utilize the broad definition in delineating major facilities in no-significant-deterioration areas, the committee approved a more restrictive list of specific industrial categories to be included inthe no-significant-deterioration review, provided that the plant also has the potential of emitting at least 100 tons of any pollutant yearly.

The list, growing out of the EPA list of no-significant-deterioration regulations, is limited to the following categories: fossil-fuel fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulpmills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than 250 million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels, taconite ore processing facilities, glass fiber processing plants, and charcoal production facilities.

The Administrator is given full flexibility to include additional categories where he believes it necessary to implement effectively the intent of the no-significant-deterioration provision.

The Environmental Protection Agency has a much more extensive list of categories of sources of pollution than the list contained in the bill. The Agency is directed to examine that list for additional sources which will have significant total national emissions or emissions which may result in significant local problems. Any such categories should be added to those identified in the bill.

The committee did not include asphalt-batch plants in the list, recognizing that many such plants are mobile and can be transported from site to site for construction work. This would appear to create a difficult burden for review and permitting. But because the committee notes that a typical 150-ton-a-day asphalt plant has the potential to emit 1,700 tons of pollution yearly, the Administrator should examine this category carefully to determine if at least those asphalt plants that are stationary should be reasonably included as major emitting facilities.

BASELINE AIR QUALITY CONCENTRATION

The increment available in clean air areas under the section 110(g) requirements for the prevention of significant deterioration is to be added to existing baseline concentrations. The baseline is defined as the concentrations which exist at the time the first applicant for a permit in an area files that application. If there are sources in the area which have commenced construction after January 6, 1975, the emissions from those sources (even if such source has completed construction and is presently operating or emitting pollutants) shall not be included in the baseline, but deducted from the increments applicable to the area. This of cource does not include facilities built as replacements for sources in existence before January 6, 1975. Only the emissions from such replacement facilities in excess of those from the source replaced would be deducted from the increment. If the source

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HOUSE OF REPRESENTATIVES

95TH CONGRESS, 1st Session
H.R. REP. 95-294

CLEAR AIR ACT AMENDMENTS OF 1977

May 12, 1977—Committed to the Committee
of the Whole House on the State of the Union
and ordered to be printed

Mr. Staggers, from the Committee on Interstate and
Foreign Commerce, submitted the following

REPORT
together with
ADDITIONAL, SEPARATE, AND
SUPPLEMENTAL VIEWS

[Including cost estimate of the
Congressional Budget Office]

(To accompany H.R. 6161)

The Committee on Interstate and Foreign Commerce (to whom was referred the bill (H.R. 6161) to amend the Clean Air Act, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

The amendment strikes out all after the enacting clause of the bill and inserts a new text which appears in italic type in the reported bill.

STATEMENT OF PURPOSES AND SUMMARY OF LEGISLATION

Because the Committee Proposal portion of this report incorporates a detailed section-by-section analysis of the provisions of H.R. 6161, for following Statement of Purposes and section-by-section summary has been prepared to provide a concise explanation of the proposed legislation.

STATEMENT OF PURPOSES

In the view of the Committee on Interstate and Foreign Commerce, this bill (H.R. 6161) is needed for several main purposes:

(1) to extend authorizations of appropriations for nonresearch activities under the Clean Air Act;

(2) to provide a greater role and greater assistance for State and local governments in the administration of the Clean Air Act;

* * * *

the existence of authority under some existing provision of the act would not bar or limit the Administrator's authority under new subtitle B of title I.

By using the phrase 'stratosphere, especially ozone in the stratosphere' throughout section 107 of the bill, the committee did intend to focus special attention on the potential ozone depletion problem. However, the committee also recognized the tremendous complexity of the stratosphere; the limited state of present knowledge about the effects of human activity on the stratosphere and the effect of stratospheric changes on the conditions essential for human survival, health, and well being; and the need to fashion a mechanism sufficiently broad and flexible to prevent or abate any serious stratospheric threat. New information suggests that certain chemical reactions in the stratosphere may result in potentially serious climatic change without depleting ozone. The committee wishes to emphasize that any such threat to elements of the stratosphere other than ozone could be dealt with under the research and regulatory authorities of section 107. Enforcement of regulations under section 107 of the bill is authorized in section 113 of the act, and violations would be subject to penalties for each violation or day of violation-- as may be appropriate.

SECTION 108—PREVENTION OF SIGNIFICANT DETERIORATION

Background

The committee is pleased that on April 18, 1977, Administrator Costle, speaking on behalf of President Carter announced the President's unequivocal support for preventing significant deterioration:

> The Administration supports specific legislative provisions requiring the prevention of significant deterioration of air quality in areas of the country where the primary air quality standards are not violated. We must have a strong policy of carefully controlling any increased pollution of clean areas to prevent future health and environmental damage in these areas. (1977 Hearings, Subcommittee on Health and the Environment, April 18, 1977; unpublished transcript, p. 1-5.)

This section has been developed to provide clearer definition of the nearly decade-old policy (reflected in section 101(b) of the act) that significant deterioration of clean air must be avoided, and to provide more specific congressional guidance as to how this policy is to be implemented.

The Air Quality Act of 1967 (Public Law 90-148) was the first air pollution control legislation to include the concept of prevention of significant deterioration of air quality. One of the stated purposes of that act was to 'protect and enhance the quality of the Nation's air resources'.

The 1969 'Guidelines for the Development of Air Quality Standards and Implementation Plans', issued by the Department of Health, Education, and Welfare's National Air Pollution Control Administration recognized that the 1967 act mandated protection of those air resources which are cleaner than the ambient air quality standards. In fact, those guidelines stated that an 'explicit purpose of the act is 'to protect and enhance the quality of the Nation's air resources.' Air quality standards which, even if fully implemented, would result in significant deterioration in air quality in any substantial portions of an air quality region clearly would conflict with the expressed purpose of the law.' ('Guidelines for the Development of Air Quality Standards and Implementation Plans,' National Air Pollution Control Administration, HEW, 1969, section 1.51)

In 1970, HEW Under Secretary John Veneman, in a statement on behalf of Secretary Robert Finch before the House Public Health and Environment Subcommittee, reemphasized the Nixon administration's recognition that allowing significant deterioration of clean air was not permissible under the 1967 act. Secretary Finch's statement read in part:

> [O]ne of the express purposes of the Clean Air Act is to protect and enhance the quality of the Nation's air resources. Accordingly it has been and will continue to be our view that implementation plans that would permit significant deterioration of air quality in any area would be in conflict with this provision of the act. We shall continue to expect States to maintain air of good quality where it now exists. (1970 House Hearings, p. 297)

In 1970, in adopting major revisions to the earlier Federal Air Pollution programs, Congress continued this policy of protecting clean air quality. In fact, in the Clean Air Act Amendments of 1970 (Public Law 91-604), the first stated purpose was 'to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the Nation's air resources so as to promote the public health and welfare and the productive capacity of its 'population.'

The 1970 House Committee Report accompanying the Clean Air Act Amendments further emphasized that 'effective pollution control requires both reduction of present pollution and prevention of new significant pollution problems'. (H. Rept. 1970, p. 5)

On April 30, 1971, acting under the 1970 amendments, the Administrator issued national primary and secondary ambient air quality standards. At that time, the Agency again emphasized a policy of preventing significant deterioration, stating that the 'standard shall not be considered in any manner to allow significant deterioration of existing air quality in any portion of any State' (36 Fed. Reg. 8186; 40 C.F.R. 50.1(c)).

These statements clearly demonstrate that from 1969 to mid-1971, the Agency and administration officials recognized the statutory duty and importance of preventing significant deterioration of existing clean air. The administration maintained that view until August 1971, when the Administrator promulgated guidelines to assist the States in developing State implementation plans. Those guidelines contained the first statement that States could allow massive deterioration of air quality in areas cleaner than the minimum Federal standards.

The Administrator's sudden unilateral reversal of a policy previously recognized by the administration and by the Congress since 1967 was challenged in court. On June 2, 1972, the U.S. District Court for the District of Columbia ruled that the 1967 act, the 1970 amendments and their legislative history all required a policy of prevention of significant deterioration of clean air quality. *Sierra Club v. Ruckelshaus*, 344 F.Supp. 253 (D.C.D.C. 1972). That ruling was subsequently upheld by the Circuit Court of Appeals and affirmed by an equally divided Supreme Court on June 11, 1973.

More than 2 1/2 years later, after outlining four alternative approaches to prevention of significant deterioration, holding extensive public hearings, reissuing proposed regulations, and receiving hundreds of written comments, the Administrator promulgated final regulations on December 5, 1974. These regulations were immediately challenged by both industry and environmental groups. These suits are still pending and will likely take several more years to resolve.

The need for a national policy of and State policy for preventing significant deteriorations

The committee recognized the strong need for a policy of preventing significant deterioration of air quality. The bases of such a policy include: health and welfare protection, economic and employment considerations, protection of States' rights and avoidance of interstate conflicts relating to air pollution, protection of air quality within unique national lands such as national parks, and avoidance of unnecessary stratospheric and atmospheric modifications due to air pollution.

Health basis for preventing significant deterioration

In its "Forward Plan for Health, 1977-1981," the Department of Health, Education, and Welfare has stressed the fact that preventive methods of dealing with disease represent the best hope of substantially improving the Nation's health in the coming years.

> In recent years, it has become clear that only by preventing disease from occurring, rather than treating it late, can we hope to achieve any major improvement in the Nation's health. . . . The problem of disease prevention itself has changed radically since 1900 when pneumonia, influenza, and tuberculosis were the leading killers. . . . [T]oday, heart disease, cancer, and stroke, claim our attention. A distinctive feature of these conditions is that most of them are caused by factors (for example, the environment an individual behavior) that are not susceptible to direct medical solution.
>
> It is therefore a basic premise of the prevention strategy that much greater attention and resources must be directed to preventing the underlying causes of disease itself—at controlling (among other things) exposures to toxic chemicals in the environment.[1]

It is with this goal of disease prevention in mind that the committee approached the 1977 Clean Air Act Amendments in general and the issue of prevention of significant deterioration in particular. Some people have attempted to characterize the policy of prevention of significant deterioration as one of protecting trees and wilderness areas at the expense of people. However, in the committee's view, the need to prevent significant deterioration in so-called clean air areas arises in substantial part from the need to protect the public's health.

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[1] D.H.E.W., *Forward Plan for Health*, 1977-81 (June 1975), pp. 12-17.

As ambient pollution levels in our major metropolitan areas have decreased, the seriousness and frequency of pollution-related respiratory diseases have been reduced. Achievement of the ambient standards has resulted in a decrease in the incidence of asthma attacks, emphysema, and upper respiratory ailments.

The beneficial health impact of the ambient standards has been recognized by the American Medical Association and the American Lung Association in testimony before the subcommittee and in resolutions urging no delays or relaxation in meeting these standards. Even more graphically, two recent studies show that a significant decrease in the number of deaths can result from improving air quality to the level of the national primary ambient air quality standards.

Thus, there can be no question that the national ambient air quality standards are necessary and beneficial for protection of the healthy and reduction of risk to the susceptible and chronically ill. However, it is also clear that a combination of ambient standards with a policy for prevention of significant deterioration of air quality is necessary to provide for maximum feasible protection of the public health. Since 1971 when the national ambient air quality standards were set, new and disturbing information has come to light showing that the public's health is being harmed to some extent, perhaps seriously, even at levels below the national standards. The margins of safety, supposedly insured by the standards, seem to have vanished in the face of new data.

The inadequacies of the standards are substantial both with regard to the pollutants which are regulated and with respect to their failure to regulate others. A summary of the shortcomings and limitations of the existing national primary ambient air quality standards demonstrates this.

A. *The margins of safety originally set to prevent the occurrence of known and anticipated health effects have turned out to be very modest or nonexistent.*

During the Health and the Environment Subcommittee's 1973 oversight hearings, the question of the adequacy or excess stringency of the national primary ambient air quality standards was fully explored. In one exchange, the point was clearly made that as new health effects research is done, the potential for harm is found to exist at increasingly lower levels of concentration:

Mr. HEINZ. Mr. Quarles (then Deputy Administrator, EPA), in the case of the health effects of the pollutants controlled under the Clean Air Act, have they generally been, upon being research, found to be more severe in their health effects than originally believed?

Mr. QUARLES. Yes; in general our research conducted after the establishment of the standards has tended to confirm that the standards should be as stringent as they are and that if any change should be made, possibly it should be made in the direction of making them more stringent.

* * * *

Clearly, then, allowing air quality in national parks and national wilderness areas to deteriorate to the level of the secondary standards (as proposed by the energy industries and the National Chamber of Commerce), will irreparably damage the very purposes for which these special areas are established.

It should be noted that many parts of America, including the Northeast, the Atlantic and Gulf Coast, the Rockies, the Southwest and the Far West, enjoy substantial economic benefits resulting from tourist travel to enjoy the beauty of the unique national lands in those regions. Drastically reduced visibility can be expected to undermine the attractiveness of these areas to tourists, thereby cutting tourist travel to those regions. Accordingly, the economic life blood of many areas may be seriously threatened by any policy of allowing our national parks and other lands to become as polluted as our major industrial cities.

Worldwide weather modification

Fine particulates and aerosols emitted from polluting sources threaten to bring about major modifications in weather and climate.

A National Oceanic and Atmospheric Administration study (Weik-mann and Peuschel, 'Atmospheric Aerosols: Residence Times, Retainment Factor and Climatic Effects,' January, 1973 p. 113) warns:

> If we consider that the energy demand has increased with time drastically in the past with no limit in sight, then there can be little doubt that inadvertent weather modification on a scale large enough to affect man's well-being might soon become a reality.

Similarly, a National Academy of Sciences Report, (NAS, 'Understanding Climate Change: A Program for Action,' September, 1974) states:

> It is not primarily the advance of a major ice sheet over our farms and cities that we must fear. Rather, it is persistent changes of the temperature and rainfall in areas committed to agriculture use which are of more immediate concern. We know from experience that the world's food production is highly dependent on the occurrence of favorable weather conditions in the breadbasket areas during growing seasons. (pp. 1-2)

This report also expressed concern about increased CO levels and aerosol levels as possible contributing factors to potential inadvertent weather changes. (pp. 59-63)

A policy of preventing significant deterioration of clear air resources which minimizes the impact of emissions of new industrial sources will help reduce possible major weather modifications such as increased acidity of rainfall, changes in amounts of rainfall and temperature changes.

ALTERNATIVES

The Committee faced four alternatives on the issue of prevention of significant deterioration of clean air.

The first option was to do nothing. This would leave standing the

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PETITIONER'S BRIEF

Supreme Court, U.S.
FILED
DEC 9 - 2013
CLERK

No. 12-1272 (consolidated with
Nos. 12-1146, 12-1248, 12-1254, 12-1268 and 12-1269)

In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

OPENING BRIEF OF PETITIONERS CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, STATE OF ALASKA, AND AMERICAN FARM BUREAU FEDERATION

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

RULE 24.1(b) STATEMENT

Petitioners in Case No. 12-1272 are the Chamber of Commerce of the United States of America, State of Alaska, and American Farm Bureau Federation. The Chamber of Commerce of the United States of America was petitioner or petitioner-intervenor as to all of the challenged agency actions addressed by the consolidated judgment below. The State of Alaska and the American Farm Bureau Federation were petitioners and/or petitioner-intervenors in cases addressed by the consolidated judgment below.

This case has been consolidated with Case Nos. 12-1146, 12-1248, 12-1254, 12-1268, and 12-1269, which arise out of the same proceedings in the court of appeals. Petitioners in those cases are: Utility Air Regulatory Group (*No. 12-1146*); American Chemistry Council; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Iron and Steel Institute; American Petroleum Institute; Brick Industry Association; Clean Air Implementation Project; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; The National Association of Manufacturers; National Federation of Independent Business; National Oilseed Processors Association; North American Die Casting Association; Portland Cement Association; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin

Manufacturers and Commerce (*No. 12-1248*); Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation and Glass Packaging Institute (*No. 12-1254*); Southeastern Legal Foundation, Inc.; U.S. Representative Michele Bachmann; U.S. Representative Joe Barton; U.S. Representative Marsha Blackburn; U.S. Representative Kevin Brady; U.S. Representative Paul Broun; U.S. Representative Phil Gingrey; U.S. Representative Steve King; U.S. Representative Jack Kingston; U.S. Representative Tom Price; U.S. Representative Dana Rohrabacher; U.S. Representative John Shimkus; U.S. Representative Lynn Westmoreland; The Langdale Company; Langdale Forest Products Company; Langdale Timber Company; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet, Inc.; Langdale Ford Company; Langboard, Inc. – MDF; Langboard, Inc. – OSB; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw Transportation, Inc.; J&M Tank Lines, Inc.; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc.; Competitive Enterprise Institute; FreedomWorks; and Science and Environmental Policy Project (*No. 12-1268*); and the States of Texas, Alabama, Florida, Georgia, Indiana, Louisiana, Michigan, Nebraska, North Dakota, Oklahoma, South Carolina, and South Dakota, and the Louisiana Department of Environmental Quality (*No. 12-1269*).

Respondents herein, who were also respondents in the cases below, are the Environmental Protection Agency and the Administrator of the Environmental Protection Agency. Lisa P. Jackson held the office of

Administrator until February 15, 2013. Gina McCarthy currently holds that office.

Other parties who were petitioners in the cases addressed by the consolidated judgment below are the following: Greg Abbott, Attorney General of Texas; Alpha Natural Resources, Inc.; Haley Barbour, Governor of the State of Mississippi; Coalition for Responsible Regulation, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Commonwealth of Virginia; Georgia Agribusiness Council, Inc.; Georgia Coalition for Sound Environmental Policy, Inc.; Georgia Motor Trucking Association, Inc.; Gerdau Ameristeel US Inc.; Great Northern Project Development, L.P.; Industrial Minerals Association—North America; J&M Tank Lines, Inc.; Kennesaw Transportation, Inc.; Landmark Legal Foundation; Mark R. Levin; Louisiana Department of Environmental Quality; Missouri Joint Municipal Electric Utility Commission; National Cattlemen's Beef Association; National Environmental Development Association's Clean Air Project; National Mining Association; Ohio Coal Association; Pacific Legal Foundation; Peabody Energy Company; Rick Perry, Governor of Texas; Rosebud Mining Co.; South Carolina Public Service Authority; Texas Agriculture Commission; Texas Commission on Environmental Quality; Texas General Land Office; Texas Public Utilities Commission; and Texas Railroad Commission.

Intervenors for petitioners in cases addressed by the consolidated judgment below—other than petitioners herein—include Alpha Natural Resources, Inc.; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Petroleum Institute; Arkansas State Chamber of

Commerce; Associated Industries of Arkansas; Brick Industry Association; Coalition for Responsible Regulation, Inc.; Colorado Association of Commerce & Industry; Commonwealth of Kentucky; Corn Refiners Association; Glass Association of North America; Governor of Mississippi Haley Barbour; Great Northern Project Development, L.P.; Idaho Association of Commerce and Industry; Independent Petroleum Association of America; Indiana Cast Metals Association; Industrial Minerals Association North America; Kansas Chamber of Commerce and Industry; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc; Langdale Ford Company; Langboard, Inc.–MDF; Langboard, Inc.–OSB; Louisiana Department of Environmental Quality; Louisiana Oil and Gas Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Manufacturers; National Association of Home Builders; National Cattlemen's Beef Association; National Electrical Manufacturers Association; National Environmental Development Association's Clean Air Project; National Federation of Independent Business; National Mining Association; National Oilseed Processors Association; Nebraska Chamber of Commerce and Industry; North American Die Casting Association; Ohio Coal Association; Ohio Manufacturers Association; Peabody Energy Company; Pennsylvania Manufacturers Association; Portland Cement Association; Rosebud Mining Company; South Coast Air Quality Management District; Specialty Steel Industry of North America; Steel Manufacturers Association; Tennessee Chamber of Commerce and Industry; Utility Air Regulatory Group; Virginia Manufacturers Association; Western States

Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers & Commerce.

Intervenors for in cases addressed by the consolidated judgment below include Alliance of Automobile Manufacturers; Association of Global Automakers; Center for Biological Diversity; City of New York; Commonwealth of Massachusetts; Conservation Law Foundation; Environmental Defense Fund; Georgia ForestWatch; Global Automakers; Indiana Wildlife Federation; Michigan Environmental Council; Natural Resources Council of Maine; Natural Resources Defense Council; National Wildlife Federation; Ohio Environmental Council; Pennsylvania Department of Environmental Protection; Sierra Club; South Coast Air Quality Management District; State of California; State of Connecticut; State of Delaware; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of Minnesota; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State of Rhode Island; State of Vermont; State of Washington; Wetlands Watch; and Wild Virginia.

RULE 29.6 STATEMENT

No petitioner has a parent company, and no publicly-held corporation has a 10% or greater ownership interest in any petitioner.

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INTRODUCTION

This case is about the Environmental Protection Agency's determination to regulate greenhouse gas (GHG) emissions under the Clean Air Act (CAA) no matter how much the agency had to distort and even rewrite statutory provisions to do so. In fact, EPA conceded in the rulemaking and in this litigation that extending the CAA's Prevention of Significant Deterioration (PSD) program to cover GHGs produces "absurd" results that Congress never intended. Nonetheless, misreading ***Massachusetts** v. **EPA***, 549 U.S. 497 (2007), EPA pressed ahead and promulgated what may be the costliest, most intrusive regulatory program the nation has yet seen. But ***Massachusetts*** did not address stationary sources in general or the PSD program in particular and hence could not have authorized the rules EPA promulgated below.

The PSD program requires permits to build new facilities or refurbish old ones. The text, structure, purposes, and history of the program show it was designed to apply to emissions of conventional pollutants like lead and carbon monoxide—pollutants that concentrate in local areas and affect health and welfare via direct exposures, such as through inhalation or ingestion. The statutory PSD apparatus simply does not work when applied to substances like GHGs that disperse globally and produce harms unrelated to pollutant exposures. Indeed, EPA's own statements, both in the rulemakings below and subsequent regulatory guidance, make clear that PSD controls can be applied to GHGs only by nullifying many of the program's key statutory elements.

Congress, for instance, set the PSD program's coverage provisions so that its cumbersome and expensive permitting requirements would apply exclusively to large sources of conventional pollution, like steel mills and power plants. As applied to GHGs, however, the coverage provisions sweep in very small sources, like churches, bakeries, even large private homes. By EPA's admission, Congress never intended such a thing. Nonetheless, the agency plunged ahead and extended the program to encompass GHG emissions.

To justify this programmatic mismatch, EPA deployed the "absurd results" canon and claimed authority to rewrite the statute's numerical provisions defining which pollution sources are subject to PSD requirements. But that is not how the absurdity doctrine works. Once it recognized that the PSD program produced absurd results if extended to include GHGs, EPA should have drawn the obvious conclusion—GHGs are not the type of "pollutant" to which PSD applies. Because EPA overstepped the bounds of its authority, the Court should reverse the D.C. Circuit decision below.

OPINIONS AND ORDERS BELOW

The opinion of the D.C. Circuit is reported at 684 F.3d 102 and reproduced in the Joint Appendix at 191-267. The order denying rehearing en banc is available at 2012 WL 6621785 and reproduced in the Joint Appendix at 139-190.

JURISDICTION

The court of appeals rendered its decision on June 26, 2012, and denied petitions for rehearing on December 20, 2012. On October 15, 2013, the Court granted six petitions for writs of certiorari. This Court has jurisdiction under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS

Relevant statutes are reproduced in the Statutory Addendum.

STATEMENT OF THE CASE

In construing the Clean Air Act to justify these regulations, EPA reached an interpretive endpoint that, in its words, is "so contrary to what Congress had in mind—and that in fact so undermines what Congress attempted to accomplish" that the statute's language should not be followed. Proposed Tailoring Rule, 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009). EPA recognized that, under its interpretation, PSD permitting requirements designed for utility and heavy industrial sources would now apply to millions of smaller facilities, including multi-family dwellings and even some large private homes. See *id.* at 55,338.

When faced with the extreme measures and absurd results caused by its preferred policy, EPA rewrote the tons-per-year (tpy) emissions thresholds defining which sources are subject to PSD permitting. As Judges Kavanaugh and Brown observed in separate dissents from the denial of rehearing en banc, this "is not the proper way to interpret a statute." JA174 (Kavanaugh, J., dissenting); see also JA156-57 (Brown, J., dissenting). "Instead of 'reading new words into the statute' to avoid absurd results ... the statute should be interpreted so that 'no absurdity arises in the first place.'" JA174 (Kavanaugh, J., dissenting) (quoting *Kloeckner v. Solis*, 133 S. Ct. 596, 606-07 (2012)).

1. The Clean Air Act is organized into six titles, none of which expressly addresses controls on GHG emissions or prevention of global climate change:

"Air Pollution Prevention and Control" (Title I, 42 U.S.C. §§ 7401-7515); "Emission Standards for Moving Sources" (Title II, 42 U.S.C. §§ 7521-7590); "General Provisions" (Title III, 42 U.S.C. §§ 7601-7627); "Acid Deposition Control" (Title IV, 42 U.S.C. §§ 7651-7651o); "Permits" (Title V, 42 U.S.C. §§ 7661-7661f); and "Stratospheric Ozone Protection" (Title VI, 42 U.S.C. §§ 7671-7671q); see also 68 Fed. Reg. 52,922, 52,925-29 (Sept. 8, 2003) (JA1341-63) (EPA overview of legislative history as it relates to GHGs). Section 103(g) does mention the most prevalent GHG, carbon dioxide. 42 U.S.C. § 7403(g). Section 103(g) authorizes "nonregulatory strategies and technologies," and it specifically forbids its use "to authorize the imposition on any person of air pollution control requirements." *Id.* Neither GHGs in general nor carbon dioxide in particular are mentioned in the Act's PSD provisions.

GHGs differ in kind from conventional pollutants. See 75 Fed. Reg. at 31,535 (JA363); 73 Fed. Reg. at 44,399-401 (JA1083-95). Their concentrations and effects are global in character, in contrast to conventional pollutants, which concentrate in particular areas or regions. See 74 Fed. Reg. at 66,517 (JA871-72); 73 Fed. Reg. at 44,399-401 (JA1083-95). Unlike conventional pollutants, GHGs do not affect health and welfare through direct exposures, such as through inhalation or ingestion. See 74 Fed. Reg. 18,886, 18,901 (Apr. 24, 2009) (Proposed Endangerment Rule) ("[A]mbient concentrations of carbon dioxide and the other greenhouse gases, whether at current levels or at projected ambient levels ... do not cause direct adverse health effects such as respiratory or toxic effects."); EPA, *Technical Support Document for Final Endangerment Rule*, Regulatory Docket ID No. EPA-

HQ-OAR-2009-0171-11645, at 21 (Dec. 7, 2009) (available at http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TSD.pdf) (similar). And GHGs, particularly carbon dioxide, are emitted in much greater amounts than conventional pollutants, see 75 Fed. Reg. at 31,535 (JA363); 73 Fed. Reg. at 44,407, and from many more sources—including humans. See 75 Fed. Reg. at 31,535 (JA363); 73 Fed. Reg. at 44,376 (JA1041).

The issue of potentially regulating GHGs under the CAA initially arose under the Act's Title II, which focuses on emissions from mobile sources. See 68 Fed. Reg. at 52,922 (JA1332). This issue eventually reached the Court in *Massachusetts*, which held that GHGs are "air pollutants" for purposes of the Act-wide definition in Section 302(g), without addressing the Act's stationary-source provisions. In reaching this conclusion, *Massachusetts* distinguished *FDA v. Brown & Williamson Corp.*, 529 U.S. 120 (2000), reasoning that a ruling favoring the *Massachusetts* petitioners would not "lead to ... extreme measures." 549 U.S. at 531.

In the proceedings on remand from *Massachusetts*, EPA regulated GHG emissions from new motor vehicles and went on to claim authority to regulate GHG emissions from stationary sources.

2. Two programs for regulating stationary-source GHG emissions are at issue in this case: Prevention of Significant Deterioration (PSD) of Title I, part C of the CAA (42 U.S.C. §§ 7470 et seq.), and the permitting provisions of Title V (42 U.S.C. §§ 7661 et seq.). Both programs impose permitting requirements on "major" emitting facilities—stationary sources with the potential to emit specific threshold amounts of "any air pollutant."

The PSD program forbids the construction of "major emitting facilit[ies]" unless a permit is obtained from a state or federal permitting authority and a series of requirements are met. For purposes of the PSD program, "major emitting facility" means stationary sources that "emit, or have the potential to emit" either 100 tpy or 250 tpy of "any air pollutant." 42 U.S.C. § 7479(1). Twenty-eight enumerated categories of industrial sources—for example, "iron and steel mill plants" and "primary lead smelters"—qualify as "major emitting facilities" if they have the potential to emit over 100 tpy of "any air pollutant." *Id.* All other stationary sources qualify if they have potential to emit over 250 tpy of "any air pollutant." *Id.*

Title V requires stationary sources to obtain state-issued operating permits to establish compliance with the PSD requirements, among others, if they have the potential to emit at least 100 tpy of "any air pollutant." *Id.* § 7602(j).

3. The PSD program is closely related to maintenance of national ambient air quality standards (NAAQS). Under the NAAQS program, EPA designates certain pollutants as "criteria" pollutants and sets maximum allowable concentrations for regions throughout the nation. 42 U.S.C. §§ 7407, 7409. EPA thus far has designated only six substances as criteria pollutants—carbon monoxide, lead, nitrogen dioxide, ozone, particle pollution, and sulfur dioxide. All six harm human health and welfare through direct exposure by inhalation, ingestion, and the like; none is a greenhouse gas. See 40 C.F.R. pt. 50; 75 Fed. Reg. at 31,520 (JA298) ("There is no NAAQS for CO2."); EPA, *National Ambient Air Quality Standards (NAAQS),* at http://www.epa.gov/air/criteria.html (Dec. 14, 2012); EPA, *What Are the Six Common Air Pollutants?*, at http://www.epa.gov/air/urbanair/ (Apr. 20, 2012); see also EPA, *Health*, at http://www.epa.gov/airquality/carbonmonoxide/health.html (last visited Dec. 6, 2013) (describing exposure-related effects of carbon monoxide); EPA, *Health*, at http://www.epa.gov/airquality/lead/health.html (last visited Dec. 6, 2013) (same for lead). By contrast, carbon dioxide, the most ubiquitous greenhouse gas, see, e.g., 73 Fed. Reg. at 44,429, does not harm human health or welfare through direct exposure. See 74 Fed. Reg. at 18,901. People and animals exhale carbon dioxide when they breathe, and plants need carbon dioxide to live. See 73 Fed. Reg. at 44,376 (JA1047).

To ensure compliance with the NAAQS, EPA must determine whether a region is in "attainment" (the NAAQS is met), "nonattainment" (the NAAQS remains unmet), or "unclassifiable" (EPA cannot determine whether the NAAQS is met). 42 U.S.C. § 7407(d)(1)(A). The PSD program applies to areas that are in "attainment" or are "unclassifiable," *id.* § 7471, and requires permits before major emitting facilities are built or modified in those regions, *id.* § 7475(a). To obtain a permit, a regulated facility must, among other things, install the "best available control technology [BACT] for each pollutant subject to regulation under [the CAA]." *Id.* § 7475(a)(4).

4. On remand from *Massachusetts*, EPA opened a single regulatory docket in July 2008, and issued an Advance Notice of Proposed Rulemaking (ANPR) to address GHG emissions from all sources, including both mobile and stationary sources. See 73 Fed. Reg. 44,354, 44,355 (July 30, 2008) (JA975, JA979-80).

The ANPR flagged the prospect that application of the PSD and Title V programs to carbon emissions would lead to "absurd" results. 73 Fed. Reg. at 44,503 (JA1272-73), 44,512 (JA1311-12).

In a preface to the ANPR, the EPA Administrator observed that it had "become clear" that EPA regulation of GHGs from motor vehicles under section 202(a)(1) could trigger "regulation of smaller stationary sources that also emit GHGs—such as apartment buildings, large homes, schools, and hospitals," resulting in "an unprecedented expansion of EPA authority that would have a profound effect on virtually every sector of the economy and touch every household in the land." 73 Fed. Reg. at 44,355 (JA979). The Administrator found that the CAA was "ill-suited for the task of regulating global greenhouse gases." *Id.* (JA980).

Other federal agencies reinforced EPA's concerns about absurd consequences. The Department of Energy expressed concern about "an enormously elaborate, complex, burdensome and expensive regulatory regime that would not be assured of significantly mitigating global atmospheric GHG concentrations and global climate change." *Id.* at 44,365 (JA1004). The Department of Transportation was wary "that attempting to regulate [GHGs] under the [CAA] will harm the U.S. economy while failing to actually reduce global emissions." *Id.* at 44,362 (JA988). And the Department of Commerce expressed concerns that GHG emission controls "would impose significant costs on U.S. workers, consumers, and producers and harm U.S. competitiveness without necessarily producing meaningful reductions in global GHG emissions." *Id.* at 44,371 (JA1029).

Departing from the ANPR's single-docket approach, on April 17, 2009, EPA issued a standalone Proposed Endangerment Ruling as to six GHGs, 74 Fed. Reg. 18,886, including the four at issue in *Massachusetts* plus two others that are emitted only by stationary sources. This proposal was soon followed by a final rule, 74 Fed. Reg. 66,496 (Dec. 15, 2009) (JA793), that was followed in rapid succession by three more final rules, the so-called "Timing Rule" or "Triggering Rule," 75 Fed. Reg. 17,004 (Apr. 2, 2010) (JA705), the "Tailpipe Rule," 75 Fed. Reg. 25,324 (May 7, 2010) (JA683), and the "Tailoring Rule," 75 Fed. Reg. 31,514 (June 3, 2010) (JA268).

EPA determined in the Triggering Rule that once it had regulated GHG emissions from motor vehicles, it also had to regulate GHG emissions from stationary sources under the PSD program. EPA declared that "once EPA has determined to regulate a pollutant in some form under the Act and such regulation is operative on the regulated activity, the terms of the Act make clear that the PSD program is automatically applicable." 75 Fed. Reg. at 17,020 (April 2, 2010) (JA778). EPA did likewise for the Title V program. See *id.* at 17,023 (JA788). Further, EPA stated that "[u]nder the current interpretation of the PSD applicability provision, EPA's recent promulgation" of regulations governing GHG emissions from new motor vehicles "will trigger the applicability of PSD for GHG sources at the 100/250 tpy threshold levels as of January 2, 2011." 75 Fed. Reg. at 31,554 (JA449).

In applying the PSD coverage provisions to GHGs, EPA rejected the broadest meaning of "air pollutant" and restricted the term to encompass only "*regulated* air pollutants." Hence, according to EPA, the PSD and Title V programs would be triggered for stationary sources as of the day that controls mandated by the Tailpipe Rule took effect. See 75 Fed. Reg. 17,004 (JA705). EPA rejected commenters' suggestions that it read "any air pollutant" restrictively to exclude GHGs and include only regulated conventional air pollutants. See *EPA's Response to Public Comments*, Regulatory Docket ID No. EPA-HQ-OAR-2009-0597-0128, at 147 (Mar. 29, 2010) ("Nine industry and commerce commenters ... suggest that EPA clarify in the PSD Interpretive Memo that the term 'Pollutants Subject to Regulation' exclude GHGs.").

5. In the "Tailoring Rule," EPA again acknowledged that applying the PSD and Title V programs to GHGs would produce effects so extreme as to be "absurd." 75 Fed. Reg. at 31,596 (JA631-32), 74 Fed. Reg. 55,292, 55,306-11 (Oct. 27, 2009). In EPA's words, "[a]pplying the PSD thresholds to sources of GHG emissions literally results in a PSD program that is so contrary to what Congress had in mind—and that in fact so undermines what Congress attempted to accomplish with the PSD requirements—that it should be avoided under the 'absurd results' doctrine." *Id.* at 55,310. In 2009, the PSD program applied to only 280 stationary sources, while Title V reached 14,700 sources—primarily large industrial facilities and power plants. 74 Fed. Reg. at 55,301, 55,302. But because GHGs, especially carbon dioxide, are emitted in far greater amounts, and from many more sources than all other "air pollutants" previously regulated, applying PSD to GHGs would mean that the program would apply to "41,000 new and modified facilities per year," *id.* at 55,301, while the Title V program would apply, for the first time, to "more than six million sources of GHGs," *id.* at

55,302. Not only would such regulation add untold billions in compliance costs and permitting expenses, EPA concluded it could produce permitting delays of up to ten years. See 75 Fed. Reg. at 31,563-64 (JA485-94).

Confronted with the conundrum of how to address absurd results flowing from its preferred policy, EPA rewrote the numerical coverage thresholds set by Congress instead of construing the statute to exclude GHGs from the PSD program. In particular, EPA temporarily exempted some but not all emitters of some but not all pollutants that the statutory text, as construed by the agency, would otherwise cover. See 75 Fed. Reg. at 31,514 (JA268). While Congress determined that the PSD and Title V programs would apply to facilities discharging more than 100/250 tpy, the agency mandated that, to fit the programs to GHGs, they would apply only to sources emitting GHGs in amounts more than 75,000 or 100,000 tpy—two EPA-created thresholds. *Id.*; see also *id.* at 31,516, 31,533 (JA281-82, JA355).

EPA asserted authority to ratchet down the agency-created thresholds over time on grounds it claimed were both "intertwined" with and "independent" of the absurdity doctrine. *Id.* at 31,514 (JA391). Specifically, EPA relied on an "administrative necessity" doctrine, which it contended allows an agency to decline to "follow the literal requirements" of a statute that "is impossible for the agency to administer." *Id.* at 31,543-44 (JA401-02). And EPA relied on a newly invented doctrine that it contended confers expansive agency authority to "implement statutory mandates one step at a time." *Id.* at 31,544 (JA403). In this fashion, EPA claimed discretion to regulate more parties by further changing the coverage thresholds in future years.

6. More than seventy business groups, public policy groups, and States challenged EPA's rulemakings. In a *per curiam* opinion, a D.C. Circuit panel rejected these challenges and held that EPA's reasoning in support of the decision to "trigger" the PSD program had appropriately led the agency to deviate from "the literal statutory definition of air pollutant." JA237.

The panel denied rehearing, and the court denied rehearing en banc, with Judge Kavanaugh and Judge Brown dissenting separately. Both Judge Brown and Judge Kavanaugh viewed skeptically EPA's response to the acknowledged "absurd results" of its interpretation, deeming it a kind of "abuse" used "to preempt legislative prerogatives." JA158-59 (Brown, J., dissenting); see also JA189-90 (Kavanaugh, J., dissenting). Judge Kavanaugh noted that "an unusual twist" in this case is that "EPA openly acknowledged unreasonableness—indeed, the absurdity—caused by its interpretation of the statute." JA173. Yet, "EPA surprisingly did not choose the seemingly obvious option" of revisiting its construction of "any air pollutant" and adopting a narrower construction that would eliminate the absurdity. *Id.* In Judge Kavanaugh's view, EPA's absurdity-causing interpretation of "any air pollutant" is "the most critical point in this case," even though the panel failed to address it. JA187. According to Judge Kavanaugh, "EPA chose an admittedly absurd reading over a perfectly natural reading of the relevant statutory text. An agency cannot do that." JA187. Judge Brown separately emphasized that "[a]lthough the *Massachusetts* Court distinguished *Brown & Williamson*, it did so only in the context of tailpipe emissions. Its reasoning did not extend to Title V and the PSD program." JA163. "Congress simply did not intend for EPA to convert the 'Clean Air Act' to the 'Warm Air Act' writ large." JA166.

7. Nine petitions for certiorari followed, six of which the Court granted.

SUMMARY OF THE ARGUMENT

Through the so-called "Triggering Rule," EPA expanded the PSD program's ambit to encompass millions of new stationary sources, all the way down to neighborhood restaurants and even some homes. But by EPA's own admission, the fit between the PSD program and GHG regulation is so poor as to produce absurd results, which EPA decided to address through statutory "tailoring." Surely, the fact EPA needed to perform such a thing as statutory "tailoring" should have set off alarms that its interpretive enterprise had badly gone awry.

Regardless of how the Clean Air Act's mobile-source provisions might work, the Act's PSD provisions, properly construed, cannot and do not work if extended to encompass GHGs. Indeed, the only way to shoehorn GHGs into the PSD program is by nullifying many core statutory requirements. (See Section I, infra.) Moreover, even if EPA's statute-nullifying PSD interpretation were the only one available (which it is not), proper application of the absurdity doctrine would still compel the conclusion that PSD regulation of GHGs falls beyond EPA's statutory authority. (See Section II, infra.)

ARGUMENT

EPA offered various justifications for rewriting the PSD program's emission thresholds while it dramatically expanded its regulatory authority. But the occasion for rewriting statutory provisions would never have arisen if the agency had properly construed the PSD provisions and properly applied the absurdity doctrine. Moreover, if the Court holds the PSD program cannot extend to GHGs, then by the same reasoning Title V cannot extend to GHGs. Because whether Title V properly applies to GHGs presents a parallel question to whether the PSD program applies, we do not address it separately.

Against this backdrop, we focus solely on the PSD program and absurdity doctrine. We focus in particular on the two dispositive questions—whether EPA properly concluded that the PSD statutory provisions extend to encompass GHGs and, if so, whether EPA properly responded to the admitted absurdity that arises from this extension. EPA erred on both questions.

I. EPA Erred By Rewriting or Ignoring the Plain Terms of the PSD Statutes in Order to Extend the Program to Encompass GHGs.

In response to a petition asking EPA to regulate mobile-source emissions, the Court concluded in *Massachusetts* that GHGs are "air pollutants" for purposes of the Act-wide definition in Section 302(g). But *Massachusetts* neither addressed the Act's stationary-source provisions nor had occasion to consider EPA's ultimate determination on remand that applying the PSD program to GHGs produces absurd results. The posture and stated limits of *Massachusetts* are significant because, regardless of how the CAA's mobile-source emissions programs might be framed, the PSD program for stationary sources, if applied to GHGs, produces the very type of "extreme measures" that *Massachusetts* disapproved. 549 U.S. at 531.

The fact that PSD regulation of GHGs requires that the statute's coverage thresholds be multiplied by orders of magnitude itself dooms EPA's rulemakings. But the incompatibilities between the statutory PSD provisions and EPA's implementing rulemakings and guidance documents extend well beyond unworkable coverage thresholds. If allowed to stand, EPA's "tailoring" of the Act will become an ongoing enterprise that requires and enables the agency to cut, reshape, and remold numerous parts of the statute.

1. The PSD program's stated purposes underscore that it is designed to address only pollutants that, unlike GHGs, produce exposure-related harms, concentrate locally, and are emitted in modest amounts from very large facilities that Congress determined are best able to reduce emissions in economically feasible ways.

Prevention of Exposure-Related Harms. The first of the PSD program's stated purposes is to "protect public health and welfare" from adverse effects that "occur from air pollution or from *exposures* to pollutants in other media, which pollutants originate as emissions to the ambient air" notwithstanding attainment of NAAQs standards. 42 U.S.C. § 7470(1) (emphasis added). This reference to preventing "exposures to pollutants"—whether directly from air pollution or indirectly via "other media"—makes clear the program aims at curtailing the types of exposure-related harms characteristic of conventional pollutants.

Control of Localized Concentrations. Congress also declared that the program's purposes include preventing harmful interstate transport of pollutants that produces "deterioration of air quality for any other State," 42 U.S.C. § 7470(4), and assuring that any "decision to permit increased air pollution *in any area*" is made only upon "careful evaluation" and after opportunity for "informed public participation." *Id.* § 7470(5) (emphasis added). In other words, the program was established to control localized concentrations of harmful pollutants—concentrations that can sensibly be ascribed to a particular "state" or a particular "area."

Economically Feasible Application. A third purpose is to "insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources." 42 U.S.C. § 7470(3). The PSD program's 100/250 tpy thresholds, see *id.* § 7479(1), implement this important purpose by imposing burdensome case-by-case PSD permitting requirements only on the "large" emissions sources that can most readily bear these costs. See, e.g., *Alabama Power Co. v. Costle*, 636 F.2d 323, 348 (D.C. Cir. 1979) (per curiam). Here, moreover, EPA admits that "the addition of enormous numbers of additional sources would provide relatively little benefit compared to the costs ...." 75 Fed. Reg. at 31,533 (JA356).

2. Unsurprisingly, the PSD program's declared purposes dovetail with and reinforce its operative provisions. As a result, EPA's extension of the program to encompass GHGs nullifies or renders unworkable core provisions of the program.

Local Air Impact Analysis. Sections 165(a)(2) and (e)(1)'s public participation and local air quality assessment provisions cannot be squared with extending the program to GHGs. These Sections work in tandem to require a non-discretionary "public hearing" regarding "the ambient air quality *at the proposed site* and in *areas which may be affected* by emissions from such facility for each pollutant subject to regulation under this chapter which will be emitted from such facility." 42 U.S.C. § 7475(e)(1) (emphasis added). Likewise, Section 165(e)(3) requires that the Administrator "shall" analyze "the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility *at the site* of the proposed major emitting facility and *in the area potentially affected* by the emissions from such facility for each pollutant regulated under this Act." *Id.* § 7475(e)(3) (emphasis added).

These features make sense when applied to conventional pollutants that give rise to localized, exposure-related harms due to impacts on "ambient air quality." But they make no sense as applied to substances that do not degrade "ambient air quality" and whose concentrations and impacts can be meaningfully assessed only on a global scale. Indeed, EPA has effectively conceded as much, informing PSD permit applicants and authorities that they may ignore the statutory "ambient air" requirements because GHGs—being "well-mixed" in the atmosphere—do not give rise to localized impacts. See, e.g., *PSD and Title V Permitting Guidance for Greenhouse Gases* 48 (2011), available at http://www.epa.gov/nsr/ghgdocs/ghgpermitting guidance.pdf ("Considering the nature of GHG emissions and their global impacts, EPA does not believe it is practical or appropriate to expect permitting authorities to collect monitoring data for purpose of assessing ambient air impacts of GHGs.").

Case-by-Case Economic Analysis. Building on its stated purposes, the PSD program mandates that "case-by-case ... economic" analyses be undertaken in issuing PSD permits for large facilities. 42 U.S.C. § 7479(3). Because the PSD program properly applies only to large sources that emit conventional pollutants, it makes sense to require expensive, case-by-case analyses to determine the best available control technology for each individual facility.

Case-by-case BACT assessments are impossible to faithfully adapt, however, in the GHG context, especially for carbon dioxide. If EPA's interpretation of the program were correct, six million facilities, including 4.5 million residential facilities, would become subject to case-by-case PSD emission-control assessments. To address this unmanageable caseload and avoid imposing intolerable costs on small emitters, EPA has effectively eliminated case-by-case analysis, declaring that small GHG emitters shall eventually be governed by "presumptive" BACT standards and "general" permitting. See, e.g., 75 Fed. Reg. at 31,526 (JA325). But although Title V expressly provides for such general permitting, see 42 U.S.C. § 7661c(d), the PSD program does not.

Case-by-Case Energy and Environmental Analysis. The PSD program also requires "case-by-case" analysis of both "energy ... impacts" and "environmental ... impacts." 42 U.S.C. § 7479(3). A cardinal rule of interpretation requires that these distinct statutory terms must carry distinct meanings. See *Duncan v. Walker*, 533 U.S. 167, 174 (2001). In the context of PSD permitting for controls on conventional pollutants, this basic rule of construction is readily followed. When permitting authorities confront proposed PSD controls in conventional-pollutant settings, they can and do make straightforward, independent, and sensible assessments of both energy and environmental impacts. In that context, a permitting authority need only consider the extra energy needed to prevent additional conventional pollution, for instance, by installing energy-consuming pollution-control equipment like the desulflarization units known as "scrubbers." But when applied to the release of energy and carbon dioxide through burning fossil fuels, the required energy-impact and environmental-impact assessments become hopelessly muddled. The whole reason for emitting carbon dioxide, after all, is that fossil fuels *are* stores of energy and this energy can be released through combustion. As a result, what should be distinct inquiries into "energy" and "environmental" impacts collapse, in the context of fossil-fuel burning, into one and the same assessment: how should EPA regulate energy consumption itself?

Coverage Thresholds. EPA recognized that conventional pollutants and GHGs critically differ in the scale on which they are emitted in an industrial economy. See, e.g., 75 Fed. Reg. at 31,535 (JA363) ("[I]t takes a relatively large source to generate emissions of conventional pollutants in the amounts of 100/250 tpy or more, but many sources combust fossil fuels for heat or electricity, and the combustion process for even small quantities of fossil fuel produces quantities of CO2 that are far in excess of the sources' quantities of conventional pollutants and that, for even small sources, equal or exceed the 100/250 tpy levels.").

In other words, as applied to conventional pollutants, the PSD program's 100/250 tpy emission thresholds make sense and limit the program's burdens to large industrial sources. See *id.* But because GHGs, especially carbon dioxide, are emitted in much greater amounts than conventional pollutants, GHG emissions from a given facility will often exceed by orders of magnitude the facility's conventional-pollutant emissions. As a result, extending the PSD program to GHGs does violence to the Act's coverage thresholds, set with exposure-related harms caused by modestly sized conventional pollutant emissions in mind. The realization that the statutory thresholds fail in a GHG context to effectively winnow out small facilities prompted EPA's concession below that applying the statutory terms to GHGs would be "absurd."

These multiple contradictions, taken individually and even more when taken together, are fatal to EPA's reading of the Act. After all, a statutory "provision that may seem ambiguous in isolation is often clarified by the remainder of the statutory scheme," especially in cases where "only one of the permissible meanings produces a substantive effect compatible with the rest of the law." *United Sav. Ass'n of Tex. v. Timbers of Inwood Forest Assoc., Ltd.*, 484 U.S. 365, 371 (1988). Here, the substantive effects of extending the PSD program to GHGs are manifestly untenable. Any such extension means nullifying or rendering unworkable most central elements of the program.

3. EPA nonetheless determined that the statutory reference in the PSD program to "any air pollutant" would include GHGs, pointing to its reading of *Massachusetts*. 75 Fed. Reg. at 31,561 (JA481).

But tellingly, EPA itself rejected the broadest possible reading of the *Massachusetts* holding; namely, a reading under which "air pollutant" must refer to "any airborne compound of whatever stripe" for all purposes under the Act. 549 U.S. at 529. In proceedings below, EPA read "any air pollutant" under both the PSD and Title V programs to mean, more restrictively, "any *regulated* air pollutant." JA236. On review, the Court of Appeals endorsed this reasoning and upheld the agency. JA236-41. The Court rejected the alternative view that, for PSD purposes, the relevant pollutant universe should exclude GHGs and thus be confined to *regulated conventional* air pollutants. JA421-46.

In reaching these conclusions, both EPA and the D.C. Circuit recognized that words and phrases like "any air pollutant," 42 U.S.C. § 7479(1), and "each pollutant," *id.* § 7475(a)(4), can and should be read in context. See *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561, 574 (2007) (holding in a CAA case decided the same day as *Massachusetts* that "identical words used in different parts of the same act" need not always have the same meaning); *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1, 23-24 (1976) (holding that the term "pollutant"—defined to include "radioactive materials"—was properly read in context to exclude three types of radioactive materials). In light of this recognition and the interpretive evidence canvassed above, EPA and the D.C. Circuit should have further recognized that the term "pollutant" must be read in a PSD context to stop short of encompassing GHGs.

4. Finally, EPA was simply not permitted under the Court's precedents to interpret its authority to regulate localized emissions of conventional pollutants as an implicit grant of authority to regulate the conceptually distinct problem of global climate change. See *Brown & Williamson*, 529 U.S. at 160 (striking down FDA regulation of cigarettes); see also *Gonzales v. Oregon*, 546 U.S. 243 (2006) (striking down DoJ regulation of physician-assisted suicide); *MCI Telecommunications Corp. v. AT&T Co.*, 512 U.S. 218 (1994) (striking down FCC deregulation of long-distance carriers). This is true "[r]egardless of how serious" the problem the agency "seeks to address" may be. *Ragsdale v. Wolverine World Wide, Inc.*, 535 U.S. 81, 91 (2002) (quotation marks and citations omitted); see also *Bowen* v. *Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988) ("axiomatic" that agencies lack power to promulgate regulations in absence of congressional authorization). And it is especially true here, in light of the "economic and political significance" of this expansive claim of new authority. *Brown & Williamson*, 529 U.S. at 160. Indeed, the implications of EPA's claim of authority here are so great that, in the words of the Secretaries of Agriculture, Energy, Transportation, and Commerce, it would turn the agency into a "de facto zoning authority through control over thousands of what formerly were local or private decisions, impacting the construction of schools, hospitals, and commercial and residential development." 73 Fed. Reg. at 44,360 (JA985).

If *Brown & Williamson*, *MCI*, and *Gonzales* were "extraordinary" cases requiring the relevant agencies to "hesitate" before finding an improbable "implicit delegation," 529 U.S. at 143, 159, this case surely is even more extraordinary and requires even more hesitation. In *Massachusetts*, the Court reasoned that construing "air pollutant" to include GHGs "would lead to no ... extreme measures" because there was "nothing counterintuitive to the notion that EPA can curtail" automotive GHG emissions. 549 U.S. at 531. Unlike in *Massachusetts*, where the mobile sources at issue already faced functionally equivalent Department of Transportation fuel economy regulations of their emissions, it is difficult to imagine administrative measures and real-world consequences more extreme than those presented by EPA's triggering of PSD and Title V regulation of GHGs from all types of stationary sources.

In sum, EPA points to nothing in the text, structure, purposes, or history of the Clean Air Act, nor in any background principle of construction, remotely adequate to establish that Congress intended to grant it authority to regulate GHGs under the PSD program. Indeed, the *only* substantial evidence the agency can marshal is the Act's use of the term "air pollutant," but even EPA concedes this language cannot be taken in its broadest sense. As a matter of first principles, EPA's willingness, perhaps eagerness, to construe statutory language in a manner that produces absurd results and expands its jurisdiction to where it becomes a "de facto zoning authority" cannot be squared with the Court's precedents.

II. EPA Erred By Deploying the Absurdity Doctrine As a Roving License to Ignore Statutory Text.

In choosing to trigger controls on emissions of GHGs under the PSD program, notwithstanding that the triggering produces absurd results, EPA overlooked the elementary rule that, when confronted with potentially absurd statutory results, the first and best option is to read the relevant statute so that "no absurdity arises in the first place." *Kloeckner v. Solis*, 133 S. Ct. 596, 607 (2012); see also *Nixon v. Missouri Mun. League, Inc.* 541 U.S. 125, 138 (2004) (avoiding interpretation "that leads to absurd or futile results") (citation omitted); cf. John F. Manning, *The Absurdity Doctrine*, 116 Harv. L. Rev. 2387, 2392-93 (2003) (urging careful textual analysis to avoid recourse to the absurdity doctrine). EPA should have recognized, before embarking on statutory reconstruction, that it was bound to reject an admittedly absurd interpretation in favor of the more natural reading of the statute described above.

1. Rather than properly interpreting the CAA, EPA invoked a novel, agency-authority-maximizing version of the absurdity doctrine that finds no support in the Court's cases. As explained below, even in rare cases where absurd results are unavoidable, courts and agencies do not attain *carte blanche* to rewrite a statute, much less a roving commission to continually modify it well into the future. A review of this Court's decisions over two centuries recognizes just two principal ways to respond to unavoidably absurd applications of statutory language.

First, where a minor, self-evident adjustment to literal meaning suggests itself, the Court has applied that adjustment rather than the statute's literal terms. See, e.g., *Green v. Bock Laundry Mach. Co.*, 490 U.S. 504 (1989). *Second*, in even rarer circumstances, the Court has declared a specific application of a statute, seemingly authorized by its plain terms, to be beyond its proper scope. See, e.g., *United States v. Kirby*, 74 U.S. (7 Wall.) 482 (1868). What the Court has never condoned is what EPA did here—using potentially absurd applications of statutory language as grounds for an "unhealthy process of amending the statute" by interpretation. *Public Citizen* v. *U.S. Dep't of Justice*, 491 U.S. 440, 470 (1989) (Kennedy, J., concurring in the judgment). Such "loose invocation[s]" of the canon create intolerable risks that the relevant court or agency will exercise "its own 'WILL instead of JUDGMENT,' with the consequence of 'substituting its own pleasure to that of the legislative body.'" *Id.* at 471 (quoting The Federalist No. 78, p. 469 (C. Rossiter ed. 1961)) (internal alterations omitted).

Having concluded that its preferred construction produces unavoidably absurd results, EPA was bound to inquire whether a minor, self-evident adjustment to statutory language was available for resolving the identified absurdity and, if not, to conclude simply that GHG regulation lay beyond the permissible scope of the PSD provisions.

2. Because the absurdity doctrine is an accepted interpretive canon, EPA properly concluded that it applies at *Chevron* step one. See 75 Fed. Reg. at 31,545 (JA408-09). At this first *Chevron* step, courts consider statutory meaning by applying "traditional tools of statutory construction," without any deference to an implementing agency's interpretation. *Chevron USA v. Nat. Res. Def. Council*, 467 U.S. 837, 843 n.9 (1984). These "traditional tools" include accepted construction canons, see, e.g., *Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Eng'rs*, 531 U.S. 159, 174 (2001), and these canons include the principle that statutes should be construed to avoid absurd results—a practice deeply embedded in the Court's jurisprudence and embraced for centuries by leading authorities. See *Kirby*, 74 U.S. (7 Wall.) at 487 (citing Baron Samuel von Pufendorf and Sir Edmund Plowden); see also, e.g., *United States v. Am. Trucking Ass'n*, 310 U.S. 534, 542 (1940); *Sorrells v. United States*, 287 U.S. 435, 450 (1932); *Lau Ow Bew v. United States*, 144 U.S. 47, 59 (1892); 1 Joseph Story, *Commentaries on the Constitution of the United States* § 403 (2d ed. 1858); 1 W. Blackstone, *Commentaries on the Laws of England* 60, 61 (1765).

After correctly concluding that its preferred construction produces absurd results and that the absurdity doctrine binds agencies at *Chevron* step one, EPA got practically everything else about the doctrine wrong. This case is singular in that it appears to be the first in the Court's history where no party disputes that an agency's interpretation of a statute it administers produces absurd results. This case, therefore, turns solely on whether EPA can deploy an admittedly absurd statutory result to rewrite statutory text and bolster its own regulatory authority—as opposed to the more modest step of embracing an interpretation that avoids absurd results from the outset by excluding GHGs from the PSD requirements.

3. EPA chose neither of the two distinct and discernible paths by which the Court's precedents allow an unavoidable absurdity to be safely addressed.

The first of the two paths marked out by the Court's cases follows in the wake of Blackstone's classic admonition that "where words bear either none, or a very absurd signification, if literally understood, *we must a little deviate from the received* *sense of them.*" Blackstone, *supra*, at 61 (emphasis added).

Blackstone's classic formulation recognizes that minor "deviations" from legislative text—as opposed to wholesale rewriting at the discretion of a court or agency—can at times produce a more faithful application of the statute than "literal[]" application of the law. *Id.* But such "deviations" must indeed be "little." Hence, this approach to addressing an absurdity has been essentially confined to making self-evident adjustments to a statute's scope, making it slightly more or less inclusive, not unlike correcting a scrivener's error. See, e.g., *Bock Laundry*, 490 U.S. at 529 (Scalia, J., concurring) (correcting text where nuance "could understandably have been omitted by inadvertence"). Limited in this fashion, courts can have confidence in their fidelity to congressional enactments. Accordingly, where self-evident deviations from literalism will prevent an absurdity, the Court has been willing to countenance such deviations.

The Court has followed this first path marked by Blackstone on numerous occasions, countenancing minor, self-evident, textual "deviations" to avoid absurdity without invading the legislative province or rewriting statutory terms from scratch. In *Bock Laundry*, for instance, the Court interpreted the word "defendant" in a federal rule of evidence to mean only criminal defendants, not civil defendants, for, as the Court explained, the language as written could not "mean what it sa[id]." 490 U.S. at 511. In *United States v. X-Citement Video, Inc.*, the Court rejected the "most natural grammatical reading" of a child-pornography statue and construed "the term 'knowingly'" to "extend[] both to the sexually explicit nature of the material and to the age of the performers" rather than merely to the transportation or shipment of a visual depiction in interstate or foreign commerce. 513 U.S. 64, 68-69, 78 (1994). In *Clinton v. City of New York*, the Court concluded that the category of "individuals" permitted to obtain expedited review of the constitutionality of the line-item veto statute should be interpreted to encompass not only natural persons but also corporate "persons" because it would be absurd to exclude corporate plaintiffs from the benefits of such review. 524 U.S. 417, 428-29 (1998). And in *Johnson v. South Pacific Co.*, the Court read "locomotives" to fall within a definition of rail "cars," notwithstanding definitional language pointing in the other direction, in order to effectuate a railroad safety statute requiring that safer train couplings be used in interstate commerce. 196 U.S. 1, 14-15 (1904).

In each of these cases, the Court took care to respect statutory text by making what it thought were minor, natural adjustments to the scope of statutory language. "Any entity" meant any private entity. "Defendant" meant only criminal defendants. "Knowingly" applied to all elements of an offense. "Individual" was read to include all legal persons, including corporations. And rail "cars" was read to include all parts of a train, including locomotives. While some of these "deviations" prompted objections from dissenting justices, none were open-ended. All involved what appeared to be self-evident adjustments not unlike the correction of scrivener's errors. Cf., e.g., *Bock Laundry*, 490 U.S. at 529 (Scalia, J., concurring).

The second path marked by the Court's precedents, also drawn from Blackstone, applies in situations where "there arise[s]" from a statute "any absurd consequences, manifestly contrary to common reason" (that cannot be addressed by deviating just a little from the unaltered text). Blackstone, *supra*, at 91. According to Blackstone, such statutes should be construed with regard to such consequences as "void." *Id.*

Accordingly, where, as here, an absurdity cannot be avoided through a fairly evident and minor adjustment to statutory language, the particular application of the statute's literal language must be deemed simply and altogether beyond the statute's scope. *Kirby* presents the classic example. In that case, a county sheriff arrested a mail carrier for murder while the mail carrier was delivering the mail. A federal statute declared that if any person should knowingly and willfully obstruct or retard the passage of the mail, the person would be subject to penalty. 74 U.S. at 482. The question in *Kirby* was whether the sheriff could be punished for arresting an accused murderer, an obvious absurdity. Although recognizing that the act's categorical language contained no exceptions for officers acting in their official duties, the Court declared the particular situation before it beyond the intended compass of the law. See *id* at 487.

Following *Kirby*, the Court has occasionally concluded that a literal application of statutory language would create absurd results, but found no evident deviation from the statute's literal terms was available. In those rare cases, the Court has been satisfied to hold that the particular application at issue falls outside the statute's scope. See, e.g., *Public Citizen*, 490 U.S. at 443 (Federal Advisory Committee Act does not apply to communications with the American Bar Association regarding judicial nominations); *Sorrells*, 287 U.S. at 448-49 (criminal statute does not apply to case of entrapment); *Church of the Holy Trinity v. United States*, 143 U.S. 457, 465 (1892) (immigration statute does not apply to clergyman). In none of these cases did the Court strain to offer a definitive reinterpretation of the meaning of the relevant text. It instead concluded, more modestly, that the statute at issue ought not be interpreted to extend so far as to produce absurd results in the instance at hand.

4. EPA failed to appreciate any limitations on the options available for addressing statutory absurdities, and the court below did not even address the issue with regard to EPA's triggering of PSD and Title V. If either had done so—after identifying what concededly were extreme and absurd results and realizing no minor, self-evident "deviation" from statutory text would eliminate them—they would have simply concluded that Congress had not authorized the type of extreme measures needed to bring GHGs under the PSD program.

Remarkably, after realizing that its PSD "triggering" would create results "so contrary to what Congress had in mind" that they "should be avoided under the 'absurd results' doctrine," 74 Fed. Reg. at 55,310, EPA did nothing to prevent the triggering. It opted instead to try to partially alleviate the ensuing absurd results by rewriting codified numerical thresholds, while nullifying other statutory requirements by fiat. In this fashion, EPA replaced the statute's numerical limits with limits of the agency's choosing. See 75 Fed. Reg. at 31,533 (JA355-56).

Significantly, however, there is nothing minor or self-evident about a decision to "unilaterally" increase the statute's coverage thresholds for stationary-source emissions of some (but not all) pollutants from "250 tons to 100,000 tons—a 400-fold increase." JA173 (Kavanaugh, J., dissenting). Far from it, selecting a numerical parameter to delineate the bounds of regulatory authority is a quintessentially legislative decision. See, e.g., *Hoctor v. U.S. Dep't of Agric.*, 82 F.3d 165, 170 (7th Cir. 1996) (explaining an agency rule was legislative because "[t]here is no way to reason" to a particular number selected by the agency) (Posner, J.). This is especially true here, where EPA purports to retain still more discretion to further modify the agency-created numerical thresholds over time. Nothing in the statute's text or structure even hints at the precise thresholds EPA selected as its initial, preferred PSD coverage levels, and in fact EPA proposed thresholds substantially different from the ones it eventually promulgated. See 74 Fed. Reg. at 55,292 (proposing 25,000 tpy threshold).

EPA's statutory rewrite was thus by no means self-evident or akin to correcting a scrivener's error. It was extreme by any measure and not at all authorized by *Massachusetts*, which expressly admonished EPA not to assume "a roving license to ignore the statutory text" and expressly required EPA to ground its "action or inaction in the statute." 549 U.S. at 533, 535.

In sum, the whole justification for the absurdity doctrine is to better discover and better apply the true meaning of the law. But as invoked by EPA, the doctrine has been transformed from a way of ensuring fidelity to congressional enactments into a springboard for an agency's never-ending and ultimately legislative rewriting of statutes. Once EPA saw that triggering PSD controls for GHGs produces absurd results, it ought to have recognized that, when facing such results, the best option is to read a statute so no absurdity arises in the first place, as we and other petitioners contend. But failing that, EPA ought to have appreciated at a bare minimum—under the Court's precedents and principles dating to Blackstone—that because no self-evident textual adjustments were available for eliminating the absurdity and still accommodating PSD regulation of GHGs, such regulation necessarily falls, quite simply, beyond the agency's authority.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted,

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ADDENDUM

STATUTORY ADDENDUM

Clean Air Act ("CAA")

Title I — Air Pollution Prevention and Control

Part A — Air Quality and Emission Limitations

CAA § 103(g), 42 U.S.C. § 7403(g) 1a
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42 U.S.C. § 7403(g): Research, investigation, training, and other activities

* * *

(g) Pollution prevention and emissions control

In carrying out subsection (a) of this section, the Administrator shall conduct a basic engineering research and technology program to develop, evaluate, and demonstrate nonregulatory strategies and technologies for air pollution prevention. Such strategies and technologies shall be developed with priority on those pollutants which pose a significant risk to human health and the environment, and with opportunities for participation by industry, public interest groups, scientists, and other interested persons in the development of such strategies and technologies. Such program shall include the following elements:

> **(1)** Improvements in nonregulatory strategies and technologies for preventing or reducing multiple air pollutants, including sulfur oxides, nitrogen oxides, heavy metals, PM-10 (particulate matter), carbon monoxide, and carbon dioxide, from stationary sources, including fossil fuel power plants. Such strategies and technologies shall include improvements in the relative cost effectiveness and long-range implications of various air pollutant reduction and nonregulatory control strategies such as energy conservation, including end-use efficiency, and fuel-switching to cleaner fuels. Such strategies and technologies shall be considered for existing and new facilities.

(2) Improvements in nonregulatory strategies and technologies for reducing air emissions from area sources.

(3) Improvements in nonregulatory strategies and technologies for preventing, detecting, and correcting accidental releases of hazardous air pollutants.

(4) Improvements in nonregulatory strategies and technologies that dispose of tires in ways that avoid adverse air quality impacts.

Nothing in this subsection shall be construed to authorize the imposition on any person of air pollution control requirements. The Administrator shall consult with other appropriate Federal agencies to ensure coordination and to avoid duplication of activities authorized under this subsection.

* * *

42 U.S.C. § 7407: Air quality control regions

(a) Responsibility of each State for air quality; submission of implementation plan

Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State.

(b) Designated regions

For purposes of developing and carrying out implementation plans under section 7410 of this title-

(1) an air quality control region designated under this section before December 31, 1970, or a region designated after such date under subsection (c) of this section, shall be an air quality control region; and

(2) the portion of such State which is not part of any such designated region shall be an air quality control region, but such portion may be subdivided by the State into two or more air quality control regions with the approval of the Administrator.

(c) Authority of Administrator to designate regions; notification of Governors of affected States

The Administrator shall, within 90 days after December 31, 1970, after consultation with appropriate State and local authorities, designate as an air quality control region any interstate area or major intrastate area which he deems necessary or appropriate for the attainment and maintenance of ambient air quality standards. The Administrator shall immediately notify the Governors of the affected States of any designation made under this subsection.

(d) Designations

(1) Designations generally

(A) Submission by Governors of initial designations following promulgation of new or revised standards

By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under section 7409 of this title, the Governor of each State shall (and at any other time the Governor of a State deems appropriate the Governor may) submit to the Administrator a list of all areas (or portions thereof) in the State, designating as—

(i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,

(ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or

(iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

The Administrator may not require the Governor to submit the required list sooner than 120 days after promulgating a new or revised national ambient air quality standard.

(B) Promulgation by EPA of designations

(i) Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) submitted under subparagraph (A) as expeditiously as practicable, but in no case later than 2 years from the date of promulgation of the new or revised national ambient air quality standard. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.

(ii) In making the promulgations required under clause (i), the Administrator may make such modifications as the Administrator deems necessary to the designations of the areas (or portions thereof) submitted under subparagraph (A) (including to the boundaries of such areas or portions thereof). Whenever the Administrator intends to make a modification, the Administrator shall notify the State and provide such State with an opportunity to demonstrate why any proposed modification is inappropriate. The Administrator shall give such notification no later than 120 days before the date the Administrator promulgates the designation, including any modification thereto. If the Governor fails to submit the list in whole or in part, as required under subparagraph (A), the Administrator shall promulgate the designation that the Administrator deems appropriate for any area (or portion thereof) not designated by the State.

(iii) If the Governor of any State, on the Governor's own motion, under subparagraph (A), submits a list of areas (or portions thereof) in the State designated as nonattainment, attainment, or unclassifiable, the Administrator shall act on such designations in accordance with the procedures under paragraph (3) (relating to redesignation).

(iv) A designation for an area (or portion thereof) made pursuant to this subsection shall remain in effect until the area (or portion thereof) is redesignated pursuant to paragraph (3) or (4).

(C) Designations by operation of law

(i) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(A), (B), or (C) of this subsection (as in effect immediately before November 15, 1990) is designated, by operation of law, as a nonattainment area for such pollutant within the meaning of subparagraph (A)(i).

(ii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(E) (as in effect immediately before November 15, 1990) is designated by operation of law, as an attainment area for such pollutant within the meaning of subparagraph (A)(ii).

(iii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(D) (as in effect immediately before November 15, 1990) is designated, by operation of law, as an unclassifiable area for such pollutant within the meaning of subparagraph (A)(iii).

(2) Publication of designations and redesignations

(A) The Administrator shall publish a notice in the Federal Register promulgating any designation under paragraph (1) or (5), or announcing any designation under paragraph (4), or promulgating any redesignation under paragraph (3).

(B) Promulgation or announcement of a designation under paragraph (1), (4) or (5) shall not be subject to the provisions of sections 553 through 557 of Title 5 (relating to notice and comment), except nothing herein shall be construed as precluding such public notice and comment whenever possible.

(3) Redesignation

(A) Subject to the requirements of subparagraph (E), and on the basis of air quality data, planning and control considerations, or any other air quality-related considerations the Administrator deems appropriate, the Administrator may at any time notify the Governor of any State that available information indicates that the designation of any area or portion of an area within the State or interstate area should be revised. In issuing such notification, which shall be public, to the Governor, the Administrator shall provide such information as the Administrator may have available explaining the basis for the notice.

(B) No later than 120 days after receiving a notification under subparagraph (A), the Governor shall submit to the Administrator such redesignation, if any, of the appropriate area (or areas) or portion thereof within the State or interstate area, as the Governor considers appropriate.

(C) No later than 120 days after the date described in subparagraph (B) (or paragraph (1)(B)(iii)), the Administrator shall promulgate the redesignation, if any, of the area or portion thereof, submitted by the Governor in accordance with subparagraph (B), making such modifications as the Administrator may deem necessary, in the same manner and under the same procedure as is applicable under clause (ii) of paragraph (1)(B), except that the phrase "60 days" shall be substituted for the phrase "120 days" in that clause. If the Governor does not submit, in accordance with subparagraph (B), a redesignation for an area (or portion thereof) identified by the Administrator under subparagraph (A), the Administrator shall promulgate such redesignation, if any, that the Administrator deems appropriate.

(D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation. The submission of a redesignation by a Governor shall not affect the effectiveness or enforceability of the applicable implementation plan for the State.

(E) The Administrator may not promulgate a redesignation of a nonattainment area (or portion thereof) to attainment unless—

(i) the Administrator determines that the area has attained the national ambient air quality standard;

(ii) the Administrator has fully approved the applicable implementation plan for the area under section 7410(k) of this title;

(iii) the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;

(iv) the Administrator has fully approved a maintenance plan for the area as meeting the requirements of section 7505a of this title; and

(v) the State containing such area has met all requirements applicable to the area under section 7410 of this title and part D of this subchapter.

(F) The Administrator shall not promulgate any redesignation of any area (or portion thereof) from nonattainment to unclassifiable.

(4) Nonattainment designations for ozone, carbon monoxide and particulate matter (PM-10)

(A) Ozone and carbon monoxide

(i) Within 120 days after November 15, 1990, each Governor of each State shall submit to the Administrator a list that designates, affirms or reaffirms the designation of, or redesignates (as the case may be), all areas (or portions thereof) of the Governor's State as attainment, nonattainment, or unclassifiable with respect to the national ambient air quality standards for ozone and carbon monoxide.

(ii) No later than 120 days after the date the Governor is required to submit the list of areas (or portions thereof) required under clause (i) of this subparagraph, the Administrator shall promulgate such designations, making such modifications as the Administrator may deem necessary, in the same manner, and under the same procedure, as is applicable under clause (ii) of paragraph (1)(B), except that the phrase "60 days" shall be substituted for the phrase "120 days" in that clause. If the Governor does not submit, in accordance with clause (i) of this subparagraph, a designation for an area (or portion thereof), the Administrator shall promulgate the designation that the Administrator deems appropriate.

(iii) No nonattainment area may be redesignated as an attainment area under this subparagraph.

(iv) Notwithstanding paragraph (1)(C)(ii) of this subsection, if an ozone or carbon monoxide nonattainment area located within a metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census) is classified under part D of this subchapter as a Serious, Severe, or Extreme Area, the boundaries of such area are hereby revised (on the date 45 days after such classification) by operation of law to include the entire metropolitan statistical area or consolidated metropolitan statistical area, as the case may be, unless within such 45-day period the Governor (in consultation with State and local air pollution control agencies) notifies the Administrator that additional time is necessary to evaluate the application of clause (v). Whenever a Governor has submitted such a notice to the Administrator, such boundary revision shall occur on the later of the date 8 months after such classification or 14 months after November 15, 1990, unless the Governor makes the finding referred to in clause (v), and the Administrator concurs in such finding, within such period. Except as otherwise provided in this paragraph, a boundary revision under this clause or clause (v) shall apply for purposes of any State implementation plan revision required to be submitted after November 15, 1990.

(v) Whenever the Governor of a State has submitted a notice under clause (iv), the Governor, in consultation with State and local air pollution control agencies, shall undertake a study to evaluate whether the entire metropolitan statistical area or consolidated metropolitan statistical area should be included within the nonattainment area. Whenever a Governor finds and demonstrates to the satisfaction of the Administrator, and the Administrator concurs in such finding, that with respect to a portion of a metropolitan statistical area or consolidated metropolitan statistical area, sources in the portion do not contribute significantly to violation of the national ambient air quality standard, the Administrator shall approve the Governor's request to exclude such portion from the nonattainment area. In making such finding, the Governor and the Administrator shall consider factors such as population density, traffic congestion, commercial development, industrial development, meteorological conditions, and pollution transport.

(B) PM-10 designations

By operation of law, until redesignation by the Administrator pursuant to paragraph (3)—

(i) each area identified in 52 Federal Register 29383 (Aug. 7, 1987) as a Group I area (except to the extent that such identification was modified by the Administrator before November 15, 1990) is designated nonattainment for PM-10;

(ii) any area containing a site for which air quality monitoring data show a violation of the national ambient air quality standard for PM-10 before January 1, 1989 (as determined under part 50, appendix K of title 40 of the Code of Federal Regulations) is hereby designated nonattainment for PM-10; and

(iii) each area not described in clause (i) or (ii) is hereby designated unclassifiable for PM-10.

Any designation for particulate matter (measured in terms of total suspended particulates) that the Administrator promulgated pursuant to this subsection (as in effect immediately before November 15, 1990) shall remain in effect for purposes of implementing the maximum allowable increases in concentrations of particulate matter (measured in terms of total suspended particulates) pursuant to section 7473(b) of this title, until the Administrator determines that such designation is no longer necessary for that purpose.

(5) Designations for lead

The Administrator may, in the Administrator's discretion at any time the Administrator deems appropriate, require a State to designate areas (or portions thereof) with respect to the national ambient air quality standard for lead in effect as of November 15, 1990, in accordance with the procedures under subparagraphs (A) and (B) of paragraph (1), except that in applying subparagraph (B)(i) of paragraph (1) the phrase "2 years from the date of promulgation of the new or revised national ambient air quality standard" shall be replaced by the phrase "1 year from the date the Administrator notifies the State of the requirement to designate areas with respect to the standard for lead".

(6) Designations

(A) Submission

Notwithstanding any other provision of law, not later than February 15, 2004, the Governor of each State shall submit designations referred to in paragraph (1) for the July 1997 PM national ambient air quality standards for each area within the State, based on air quality monitoring data collected in accordance with any applicable Federal reference methods for the relevant areas.

(B) Promulgation

Notwithstanding any other provision of law, not later than December 31, 2004, the Administrator shall, consistent with paragraph (1), promulgate the designations referred to in subparagraph (A) for each area of each State for the July 1997 PM national ambient air quality standards.

(7) Implementation plan for regional haze

(A) In general

Notwithstanding any other provision of law, not later than 3 years after the date on which the Administrator promulgates the designations referred to in paragraph (6)(B) for a State, the State shall submit, for the entire State, the State implementation plan revisions to meet the requirements promulgated by the Administrator under section 7492(e)(1) of this title (referred to in this paragraph as "regional haze requirements").

(B) No preclusion of other provisions

Nothing in this paragraph precludes the implementation of the agreements and recommendations stemming from the Grand Canyon Visibility Transport Commission Report dated June 1996, including the submission of State implementation plan revisions by the States of Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, or Wyoming by December 31, 2003, for implementation of regional haze requirements applicable to those States.

(e) Redesignation of air quality control regions

(1) Except as otherwise provided in paragraph (2), the Governor of each State is authorized, with the approval of the Administrator, to redesignate from time to time the air quality control regions within such State for purposes of efficient and effective air quality management. Upon such redesignation, the list under subsection (d) of this section shall be modified accordingly.

(2) In the case of an air quality control region in a State, or part of such region, which the Administrator finds may significantly affect air pollution concentrations in another State, the Governor of the State in which such region, or part of a region, is located may redesignate from time to time the boundaries of so much of such air quality control region as is located within such State only with the approval of the Administrator and with the consent of all Governors of all States which the Administrator determines may be significantly affected.

(3) No compliance date extension granted under section 7413(d)(5) of this title (relating to coal conversion) shall cease to be effective by reason of the regional limitation provided in section 7413(d)(5) of this title if the violation of such limitation is due solely to a redesignation of a region under this subsection.

42 U.S.C. § 7409. National primary and secondary ambient air quality standards

(a) Promulgation

(1) The Administrator—

(A) within 30 days after December 31, 1970, shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall by regulation promulgate such proposed national primary and secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after December 31, 1970, the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) of this section shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) of this section shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary standards may be revised in the same manner as promulgated.

(c) National primary ambient air quality standard for nitrogen dioxide

The Administrator shall, not later than one year after August 7, 1977, promulgate a national primary ambient air quality standard for NO_2 concentrations over a period of not more than 3 hours unless, based on the criteria issued under section 7408(c) of this title, he finds that there is no significant evidence that such a standard for such a period is requisite to protect public health.

(d) Review and revision of criteria and standards; independent scientific review committee; appointment; advisory functions

(1) Not later than December 31, 1980, and at five-year intervals thereafter, the Administrator shall complete a thorough review of the criteria published under section 7408 of this title and the national ambient air quality standards promulgated under this section and shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section. The Administrator may review and revise criteria or promulgate new standards earlier or more frequently than required under this paragraph.

(2)

(A) The Administrator shall appoint an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies.

(B) Not later than January 1, 1980, and at five-year intervals thereafter, the committee referred to in subparagraph (A) shall complete a review of the criteria published under section 7408 of this title and the national primary and secondary ambient air quality standards promulgated under this section and shall recommend to the Administrator any new national ambient air quality standards and revisions of existing criteria and standards as may be appropriate under section 7408 of this title and subsection (b) of this section.

(C) Such committee shall also (i) advise the Administrator of areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised national ambient air quality standards, (ii) describe the research efforts necessary to provide the required information, (iii) advise the Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity, and (iv) advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards.

42 U.S.C. § 7470: Congressional declaration of purpose

The purposes of this part are as follows:

(1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air), notwithstanding attainment and maintenance of all national ambient air quality standards;

(2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;

(3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;

(4) to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other State; and

(5) to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process.

42 U.S.C. § 7471. Plan requirements

In accordance with the policy of section 7401(b)(1) of this title, each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 7407 of this title as attainment or unclassifiable.

42 U.S.C. § 7473: Increments and ceilings

(a) Sulfur oxide and particulate matter; requirement that maximum allowable increases and maximum allowable concentrations not be exceeded

In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of any maximum allowable increase (except an allowable increase specified under section 7475(d)(2)(C)(iv) of this title) for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.

(b) Maximum allowable increases in concentrations over baseline concentrations

(1) For any class I area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	5
Twenty-four-hour maximum	10
Sulfur dioxide:	
Annual arithmetic mean	2
Twenty-four-hour maximum	5
Three-hour maximum	25

(2) For any class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	512

(3) For any class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	37
Twenty-four-hour maximum	75
Sulfur dioxide:	
Annual arithmetic mean	40
Twenty-four-hour maximum	182
Three-hour maximum	700

(4) The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to—

(A) the concentration permitted under the national secondary ambient air quality standard, or

(B) the concentration permitted under the national primary ambient air quality standard,

whichever concentration is lowest for such pollutant for such period of exposure.

(c) Orders or rules for determining compliance with maximum allowable increases in ambient concentrations of air pollutants

(1) In the case of any State which has a plan approved by the Administrator for purposes of carrying out this part, the Governor of such State may, after notice and opportunity for public hearing, issue orders or promulgate rules providing that for purposes of determining compliance with the maximum allowable increases in ambient concentrations of an air pollutant, the following concentrations of such pollutant shall not be taken into account:

(A) concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of sections 792(a) and (b) of Title 15 (or any subsequent legislation which supersedes such provisions) over the emissions from such sources before the effective date of such order.

(B) the concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from using natural gas by reason of a natural gas curtailment pursuant to a natural gas curtailment plan in effect pursuant to the Federal Power Act [16 U.S.C.A. § 791a et seq.] over the emissions from such sources before the effective date of such plan,

(C) concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities, and

(D) the increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration determined in accordance with section 7479(4) of this title.

(2) No action taken with respect to a source under paragraph (1)(A) or (1)(B) shall apply more than five years after the effective date of the order referred to in paragraph (1)(A) or the plan referred to in paragraph (1)(B), whichever is applicable. If both such order and plan are applicable, no such action shall apply more than five years after the later of such effective dates.

(3) No action under this subsection shall take effect unless the Governor submits the order or rule providing for such exclusion to the Administrator and the Administrator determines that such order or rule is in compliance with the provisions of this subsection.

42 U.S.C. § 7475. Preconstruction requirements

(a) Major emitting facilities on which construction is commenced

No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless--

(1) a permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;

(2) the proposed permit has been subject to a review in accordance with this section, the required analysis has been conducted in accordance with regulations promulgated by the Administrator, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;

(3) the owner or operator of such facility demonstrates, as required pursuant to section 7410(j) of this title, that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter;

(4) the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility;

(5) the provisions of subsection (d) of this section with respect to protection of class I areas have been complied with for such facility;

(6) there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility;

(7) the person who owns or operates, or proposes to own or operate, a major emitting facility for which a permit is required under this part agrees to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such source; and

(8) in the case of a source which proposes to construct in a class III area, emissions from which would cause or contribute to exceeding the maximum allowable increments applicable in a class II area and where no standard under section 7411 of this title has been promulgated subsequent to August 7, 1977, for such source category, the Administrator has approved the determination of best available technology as set forth in the permit.

(b) Exception

The demonstration pertaining to maximum allowable increases required under subsection (a)(3) of this section shall not apply to maximum allowable increases for class II areas in the case of an expansion or modification of a major emitting facility which is in existence on August 7, 1977, whose allowable emissions of air pollutants, after compliance with subsection (a)(4) of this section, will be less than fifty tons per year and for which the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur oxides will not cause or contribute to ambient air quality levels in excess of the national secondary ambient air quality standard for either of such pollutants.

(c) Permit applications

Any completed permit application under section 7410 of this title for a major emitting facility in any area to which this part applies shall be granted or denied not later than one year after the date of filing of such completed application.

(d) Action taken on permit applications; notice; adverse impact on air quality related values; variance; emission limitations

(1) Each State shall transmit to the Administrator a copy of each permit application relating to a major emitting facility received by such State and provide notice to the Administrator of every action related to the consideration of such permit.

(2)

(A) The Administrator shall provide notice of the permit application to the Federal Land Manager and the Federal official charged with direct responsibility for management of any lands within a class I area which may be affected by emissions from the proposed facility.

(B) The Federal Land Manager and the Federal official charged with direct responsibility for management of such lands shall have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands within a class I area and to consider, in consultation with the Administrator, whether a proposed major emitting facility will have an adverse impact on such values.

(C)

(i) In any case where the Federal official charged with direct responsibility for management of any lands within a class I area or the Federal Land Manager of such lands, or the Administrator, or the Governor of an adjacent State containing such a class I area files a notice alleging that emissions from a proposed major emitting facility may cause or contribute to a change in the air quality in such area and identifying the potential adverse impact of such change, a permit shall not be issued unless the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur dioxide will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area.

(ii) In any case where the Federal Land Manager demonstrates to the satisfaction of the State that the emissions from such facility will have an adverse impact on the air quality-related values (including visibility) of such lands, notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area, a permit shall not be issued.

(iii) In any case where the owner or operator of such facility demonstrates to the satisfaction of the Federal Land Manager, and the Federal Land Manager so certifies, that the emissions from such facility will have no adverse impact on the air quality-related values of such lands (including visibility), notwithstanding the fact that the change in air quality resulting from emissions from such facility will cause or contribute to concentrations which exceed the maximum allowable increases for class I areas, the State may issue a permit.

(iv) In the case of a permit issued pursuant to clause (iii), such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides and particulates from such facility will not cause or contribute to concentrations of such pollutant which exceed the following maximum allowable increases over the baseline concentration for such pollutants:

Maximum allowable increase
(in micrograms per cubic meter)

Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	325

(D)

(i) In any case where the owner or operator of a proposed major emitting facility who has been denied a certification under subparagraph (C)(iii) demonstrates to the satisfaction of the Governor, after notice and public hearing, and the Governor finds, that the facility cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any class I area and, in the case of Federal mandatory class I areas, that a variance under this clause will not adversely affect the air quality related values of the area (including visibility), the Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant a variance from such maximum allowable increase. If such variance is granted, a permit may be issued to such source pursuant to the requirements of this subparagraph.

(ii) In any case in which the Governor recommends a variance under this subparagraph in which the Federal Land Manager does not concur, the recommendations of the Governor and the Federal Land Manager shall be transmitted to the President. The President may approve the Governor's recommendation if he finds that such variance is in the national interest. No Presidential finding shall be reviewable in any court. The variance shall take effect if the President approves the Governor's recommendations. The President shall approve or disapprove such recommendation within ninety days after his receipt of the recommendations of the Governor and the Federal Land Manager.

(iii) In the case of a permit issued pursuant to this subparagraph, such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides from such facility will not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which exceed the following maximum allowable increases for such areas over the baseline concentration for such pollutant and to assure that such emissions will not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less on more than 18 days during any annual period:

MAXIMUM ALLOWABLE INCREASE

[In micrograms per cubic meter]

Period of exposure	Low terrain areas	High terrain areas
24-hr maximum	36	62
3-hr maximum	130	221

(iv) For purposes of clause (iii), the term "high terrain area" means with respect to any facility, any area having an elevation of 900 feet or more above the base of the stack of such facility, and the term "low terrain area" means any area other than a high terrain area.

(e) Analysis; continuous air quality monitoring data; regulations; model adjustments

(1) The review provided for in subsection (a) of this section shall be preceded by an analysis in accordance with regulations of the Administrator, promulgated under this subsection, which may be conducted by the State (or any general purpose unit of local government) or by the major emitting facility applying for such permit, of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regulation under this chapter which will be emitted from such facility.

(2) Effective one year after August 7, 1977, the analysis required by this subsection shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part. Such data shall be gathered over a period of one calendar year preceding the date of application for a permit under this part unless the State, in accordance with regulations promulgated by the Administrator, determines that a complete and adequate analysis for such purposes may be accomplished in a shorter period. The results of such analysis shall be available at the time of the public hearing on the application for such permit.

(3) The Administrator shall within six months after August 7, 1977, promulgate regulations respecting the analysis required under this subsection which regulations—

(A) shall not require the use of any automatic or uniform buffer zone or zones,

(B) shall require an analysis of the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility at the site of the proposed major emitting facility and in the area potentially affected by the emissions from such facility for each pollutant regulated under this chapter which will be emitted from, or which results from the construction or operation of, such facility, the size and nature of the proposed facility, the degree of continuous emission reduction which could be achieved by such facility, and such other factors as may be relevant in determining the effect of emissions from a proposed facility on any air quality control region,

(C) shall require the results of such analysis shall be available at the time of the public hearing on the application for such permit, and

(D) shall specify with reasonable particularity each air quality model or models to be used under specified sets of conditions for purposes of this part.

Any model or models designated under such regulations may be adjusted upon a determination, after notice and opportunity for public hearing, by the Administrator that such adjustment is necessary to take into account unique terrain or meteorological characteristics of an area potentially affected by emissions from a source applying for a permit required under this part.

42 U.S.C. § 7477: Enforcement

The Administrator shall, and a State may, take such measures, including issuance of an order, or seeking injunctive relief, as necessary to prevent the construction or modification of a major emitting facility which does not conform to the requirements of this part, or which is proposed to be constructed in any area designated pursuant to section 7407(d) of this title as attainment or unclassifiable and which is not subject to an implementation plan which meets the requirements of this part.

42 U.S.C. § 7479: Definitions

For purposes of this part—

(1) The term “major emitting facility” means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

(2)

(A) The term "commenced" as applied to construction of a major emitting facility means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (i) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (ii) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed within a reasonable time.

(B) The term "necessary preconstruction approvals or permits" means those permits or approvals, required by the permitting authority as a precondition to undertaking any activity under clauses (i) or (ii) of subparagraph (A) of this paragraph.

(C) The term "construction" when used in connection with any source or facility, includes the modification (as defined in section 7411(a) of this title) of any source or facility.

(3) The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 7411 or 7412 of this title. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to November 15, 1990.

(4) The term "baseline concentration" means, with respect to a pollutant, the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part, based on air quality data available in the Environmental Protection Agency or a State air pollution control agency and on such monitoring data as the permit applicant is required to submit. Such ambient concentration levels shall take into account all projected emissions in, or which may affect, such area from any major emitting facility on which construction commenced prior to January 6, 1975, but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

42 U.S.C. § 7491: Visibility protection for Federal Class I areas

(a) Impairment of visibility; list of areas; study and report

(1) Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.

(2) Not later than six months after August 7, 1977, the Secretary of the Interior in consultation with other Federal land managers shall review all mandatory class I Federal areas and identify those where visibility is an important value of the area. From time to time the Secretary of the Interior may revise such identifications. Not later than one year after August 7, 1977, the Administrator shall, after consultation with the Secretary of the Interior, promulgate a list of mandatory class I Federal areas in which he determines visibility is an important value.

(3) Not later than eighteen months after August 7, 1977, the Administrator shall complete a study and report to Congress on available methods for implementing the national goal set forth in paragraph (1). Such report shall include recommendations for—

(A) methods for identifying, characterizing, determining, quantifying, and measuring visibility impairment in Federal areas referred to in paragraph (1), and

(B) modeling techniques (or other methods) for determining the extent to which manmade air pollution may reasonably be anticipated to cause or contribute to such impairment, and

(C) methods for preventing and remedying such manmade air pollution and resulting visibility impairment.

Such report shall also identify the classes or categories of sources and the types of air pollutants which, alone or in conjunction with other sources or pollutants, may reasonably be anticipated to cause or contribute significantly to impairment of visibility.

(4) Not later than twenty-four months after August 7, 1977, and after notice and public hearing, the Administrator shall promulgate regulations to assure (A) reasonable progress toward meeting the national goal specified in paragraph (1), and (B) compliance with the requirements of this section.

(b) Regulations

Regulations under subsection (a)(4) of this section shall—

(1) provide guidelines to the States, taking into account the recommendations under subsection (a)(3) of this section on appropriate techniques and methods for implementing this section (as provided in subparagraphs (A) through (C) of such subsection (a)(3)), and

(2) require each applicable implementation plan for a State in which any area listed by the Administrator under subsection (a)(2) of this section is located (or for a State the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area) to contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal specified in subsection (a) of this section, including—

(A) except as otherwise provided pursuant to subsection (c) of this section, a requirement that each major stationary source which is in existence on August 7, 1977, but which has not been in operation for more than fifteen years as of such date, and which, as determined by the State (or the Administrator in the case of a plan promulgated under section 7410(c) of this title) emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area, shall procure, install, and operate, as expeditiously as practicable (and maintain thereafter) the best available retrofit technology, as determined by the State (or the Administrator in the case of a plan promulgated under section 7410(c) of this title) for controlling emissions from such source for the purpose of eliminating or reducing any such impairment, and

(B) a long-term (ten to fifteen years) strategy for making reasonable progress toward meeting the national goal specified in subsection (a) of this section.

In the case of a fossil-fuel fired generating powerplant having a total generating capacity in excess of 750 megawatts, the emission limitations required under this paragraph shall be determined pursuant to guidelines, promulgated by the Administrator under paragraph (1).

(c) Exemptions

(1) The Administrator may, by rule, after notice and opportunity for public hearing, exempt any major stationary source from the requirement of subsection (b)(2)(A) of this section, upon his determination that such source does not or will not, by itself or in combination with other sources, emit any air pollutant which may reasonably be anticipated to cause or contribute to a significant impairment of visibility in any mandatory class I Federal area.

(2) Paragraph (1) of this subsection shall not be applicable to any fossil-fuel fired powerplant with total design capacity of 750 megawatts or more, unless the owner or operator of any such plant demonstrates to the satisfaction of the Administrator that such powerplant is located at such distance from all areas listed by the Administrator under subsection (a)(2) of this section that such powerplant does not or will not, by itself or in combination with other sources, emit any air pollutant which may reasonably be anticipated to cause or contribute to significant impairment of visibility in any such area.

(3) An exemption under this subsection shall be effective only upon concurrence by the appropriate Federal land manager or managers with the Administrator's determination under this subsection.

(d) Consultations with appropriate Federal land managers

Before holding the public hearing on the proposed revision of an applicable implementation plan to meet the requirements of this section, the State (or the Administrator, in the case of a plan promulgated under section 7410(c) of this title) shall consult in person with the appropriate Federal land manager or managers and shall include a summary of the conclusions and recommendations of the Federal land managers in the notice to the public.

(e) Buffer zones

In promulgating regulations under this section, the Administrator shall not require the use of any automatic or uniform buffer zone or zones.

(f) Nondiscretionary duty

For purposes of section 7604(a)(2) of this title, the meeting of the national goal specified in subsection (a)(1) of this section by any specific date or dates shall not be considered a "nondiscretionary duty" of the Administrator.

(g) Definitions

For the purpose of this section—

(1) in determining reasonable progress there shall be taken into consideration the costs of compliance, the time necessary for compliance, and the energy and nonair quality environmental impacts of compliance, and the remaining useful life of any existing source subject to such requirements;

(2) in determining best available retrofit technology the State (or the Administrator in determining emission limitations which reflect such technology) shall take into consideration the costs of compliance, the energy and nonair quality environmental impacts of compliance, any existing pollution control technology in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology;

(3) the term "manmade air pollution" means air pollution which results directly or indirectly from human activities;

(4) the term "as expeditiously as practicable" means as expeditiously as practicable but in no event later than five years after the date of approval of a plan revision under this section (or the date of promulgation of such a plan revision in the case of action by the Administrator under section 7410(c) of this title for purposes of this section);

(5) the term "mandatory class I Federal areas" means Federal areas which may not be designated as other than class I under this part;

(6) the terms "visibility impairment" and "impairment of visibility" shall include reduction in visual range and atmospheric discoloration; and

(7) the term "major stationary source" means the following types of stationary sources with the potential to emit 250 tons or more of any pollutant: fossil-fuel fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than 250 million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities.

42 U.S.C. § 7521: Emission standards for new motor vehicles or new motor vehicle engines

(a) Authority of Administrator to prescribe by regulation

Except as otherwise provided in subsection (b) of this section—

(1) The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d) of this section, relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.

(2) Any regulation prescribed under paragraph (1) of this subsection (and any revision thereof) shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.

(3)

(A) In general

(i) Unless the standard is changed as provided in subparagraph (B), regulations under paragraph (1) of this subsection applicable to emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, and particulate matter from classes or categories of heavy-duty vehicles or engines manufactured during or after model year 1983 shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.

(ii) In establishing classes or categories of vehicles or engines for purposes of regulations under this paragraph, the Administrator may base such classes or categories on gross vehicle weight, horsepower, type of fuel used, or other appropriate factors.

(B) Revised standards for heavy duty trucks

(i) On the basis of information available to the Administrator concerning the effects of air pollutants emitted from heavy-duty vehicles or engines and from other sources of mobile source related pollutants on the public health and welfare, and taking costs into account, the Administrator may promulgate regulations under paragraph (1) of this subsection revising any standard promulgated under, or before the date of, the enactment of the Clean Air Act Amendments of 1990 (or previously revised under this subparagraph) and applicable to classes or categories of heavy-duty vehicles or engines.

(ii) Effective for the model year 1998 and thereafter, the regulations under paragraph (1) of this subsection applicable to emissions of oxides of nitrogen (NO_x) from gasoline and diesel-fueled heavy duty trucks shall contain standards which provide that such emissions may not exceed 4.0 grams per brake horsepower hour (gbh).

(C) Lead time and stability

Any standard promulgated or revised under this paragraph and applicable to classes or categories of heavy-duty vehicles or engines shall apply for a period of no less than 3 model years beginning no earlier than the model year commencing 4 years after such revised standard is promulgated.

(D) Rebuilding practices

The Administrator shall study the practice of rebuilding heavy-duty engines and the impact rebuilding has on engine emissions. On the basis of that study and other information available to the Administrator, the Administrator may prescribe requirements to control rebuilding practices, including standards applicable to emissions from any rebuilt heavy-duty engines (whether or not the engine is past its statutory useful life), which in the Administrator's judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare taking costs into account. Any regulation shall take effect after a period the Administrator finds necessary to permit the development and application of the requisite control measures, giving appropriate consideration to the cost of compliance within the period and energy and safety factors.

(E) Motorcycles

For purposes of this paragraph, motorcycles and motorcycle engines shall be treated in the same manner as heavy-duty vehicles and engines (except as otherwise permitted under section 7525(f)(1) of this title) unless the Administrator promulgates a rule reclassifying motorcycles as light-duty vehicles within the meaning of this section or unless the Administrator promulgates regulations under subsection (a) of this section applying standards applicable to the emission of air pollutants from motorcycles as a separate class or category. In any case in which such standards are promulgated for such emissions from motorcycles as a separate class or category, the Administrator, in promulgating such standards, shall consider the need to achieve equivalency of emission reductions between motorcycles and other motor vehicles to the maximum extent practicable.

(4)

(A) Effective with respect to vehicles and engines manufactured after model year 1978, no emission control device, system, or element of design shall be used in a new motor vehicle or new motor vehicle engine for purposes of complying with requirements prescribed under this subchapter if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function.

(B) In determining whether an unreasonable risk exists under subparagraph (A), the Administrator shall consider, among other factors, (i) whether and to what extent the use of any device, system, or element of design causes, increases, reduces, or eliminates emissions of any unregulated pollutants; (ii) available methods for reducing or eliminating any risk to public health, welfare, or safety which may be associated with the use of such device, system, or element of design, and (iii) the availability of other devices, systems, or elements of design which may be used to conform to requirements prescribed under this subchapter without causing or contributing to such unreasonable risk. The Administrator shall include in the consideration required by this paragraph all relevant information developed pursuant to section 7548 of this title.

(5)

(A) If the Administrator promulgates final regulations which define the degree of control required and the test procedures by which compliance could be determined for gasoline vapor recovery of uncontrolled emissions from the fueling of motor vehicles, the Administrator shall, after consultation with the Secretary of Transportation with respect to motor vehicle safety, prescribe, by regulation, fill pipe standards for new motor vehicles in order to insure effective connection between such fill pipe and any vapor recovery system which the Administrator determines may be required to comply with such vapor recovery regulations. In promulgating such standards the Administrator shall take into consideration limits on fill pipe diameter, minimum design criteria for nozzle retainer lips, limits on the location of the unleaded fuel restrictors, a minimum access zone surrounding a fill pipe, a minimum pipe or nozzle insertion angle, and such other factors as he deems pertinent.

(B) Regulations prescribing standards under subparagraph (A) shall not become effective until the introduction of the model year for which it would be feasible to implement such standards, taking into consideration the restraints of an adequate leadtime for design and production.

(C) Nothing in subparagraph (A) shall (i) prevent the Administrator from specifying different nozzle and fill neck sizes for gasoline with additives and gasoline without additives or (ii) permit the Administrator to require a specific location, configuration, modeling, or styling of the motor vehicle body with respect to the fuel tank fill neck or fill nozzle clearance envelope.

(D) For the purpose of this paragraph, the term "fill pipe" shall include the fuel tank fill pipe, fill neck, fill inlet, and closure.

(6) Onboard vapor recovery

Within 1 year after November 15, 1990, the Administrator shall, after consultation with the Secretary of Transportation regarding the safety of vehicle-based ("onboard") systems for the control of vehicle refueling emissions, promulgate standards under this section requiring that new light-duty vehicles manufactured beginning in the fourth model year after the model year in which the standards are promulgated and thereafter shall be equipped with such systems. The standards required under this paragraph shall apply to a percentage of each manufacturer's fleet of new light-duty vehicles beginning with the fourth model year after the model year in which the standards are promulgated. The percentage shall be as specified in the following table:

IMPLEMENTATION SCHEDULE FOR ONBOARD VAPOR RECOVERY REQUIREMENTS

Model year commencing after standards promulgated	Percentage*
Fourth	40
Fifth	80
After Fifth	100

*Percentages in the table refer to a percentage of the manufacturer's sales volume.

The standards shall require that such systems provide a minimum evaporative emission capture efficiency of 95 percent. The requirements of section 7511a(b)(3) of this title (relating to stage II gasoline vapor recovery) for areas classified under section 7511 of this title as moderate for ozone shall not apply after promulgation of such standards and the Administrator may, by rule, revise or waive the application of the requirements of such section 7511a(b)(3) of this title for areas classified under section 7511 of this title as Serious, Severe, or Extreme for ozone, as appropriate, after such time as the Administrator determines that onboard emissions control systems required under this paragraph are in widespread use throughout the motor vehicle fleet.

(b) Emissions of carbon monoxide, hydrocarbons, and oxides of nitrogen; annual report to Congress; waiver of emission standards; research objectives

(1)

(A) The regulations under subsection (a) of this section applicable to emissions of carbon monoxide and hydrocarbons from light-duty vehicles and engines manufactured during model years 1977 through 1979 shall contain standards which provide that such emissions from such vehicles and engines may not exceed 1.5 grams per vehicle mile of hydrocarbons and 15.0 grams per vehicle mile of carbon monoxide. The regulations under subsection (a) of this section applicable to emissions of carbon monoxide from light-duty vehicles and engines manufactured during the model year 1980 shall contain standards which provide that such emissions may not exceed 7.0 grams per vehicle mile. The regulations under subsection (a) of this section applicable to emissions of hydrocarbons from light-duty vehicles and engines manufactured during or after model year 1980 shall contain standards which require a reduction of at least 90 percent from emissions of such pollutant allowable under the standards under this section applicable to light-duty vehicles and engines manufactured in model year 1970. Unless waived as provided in paragraph (5), regulations under subsection (a) of this section applicable to emissions of carbon monoxide from light-duty vehicles and engines manufactured during or after the model year 1981 shall contain standards which require a reduction of at least 90 percent from emissions of such pollutant allowable under the standards under this section applicable to light-duty vehicles and engines manufactured in model year 1970.

(B) The regulations under subsection (a) of this section applicable to emissions of oxides of nitrogen from light-duty vehicles and engines manufactured during model years 1977 through 1980 shall contain standards which provide that such emissions from such vehicles and engines may not exceed 2.0 grams per vehicle mile. The regulations under subsection (a) of this section applicable to emissions of oxides of nitrogen from light-duty vehicles and engines manufactured during the model year 1981 and thereafter shall contain standards which provide that such emissions from such vehicles and engines may not exceed 1.0 gram per vehicle mile. The Administrator shall prescribe standards in lieu of those required by the preceding sentence, which provide that emissions of oxides of nitrogen may not exceed 2.0 grams per vehicle mile for any light-duty vehicle manufactured during model years 1981 and 1982 by any manufacturer whose production, by corporate identity, for calendar year 1976 was less than three hundred thousand light-duty motor vehicles worldwide if the Administrator determines that—

(i) the ability of such manufacturer to meet emission standards in the 1975 and subsequent model years was, and is, primarily dependent upon technology developed by other manufacturers and purchased from such manufacturers; and

(ii) such manufacturer lacks the financial resources and technological ability to develop such technology.

(C) The Administrator may promulgate regulations under subsection (a)(1) of this section revising any standard prescribed or previously revised under this subsection, as needed to protect public health or welfare, taking costs, energy, and safety into account. Any revised standard shall require a reduction of emissions from the standard that was previously applicable. Any such revision under this subchapter may provide for a phase-in of the standard. It is the intent of Congress that the numerical emission standards specified in subsections (a)(3)(B)(ii), (g), (h), and (i) of this section shall not be modified by the Administrator after November 15, 1990, for any model year before the model year 2004.

(2) Emission standards under paragraph (1), and measurement techniques on which such standards

are based (if not promulgated prior to November 15, 1990), shall be promulgated by regulation within 180 days after November 15, 1990.

(3) For purposes of this part--

(A)

(i) The term "model year" with reference to any specific calendar year means the manufacturer's annual production period (as determined by the Administrator) which includes January 1 of such calendar year. If the manufacturer has no annual production period, the term "model year" shall mean the calendar year.

(ii) For the purpose of assuring that vehicles and engines manufactured before the beginning of a model year were not manufactured for purposes of circumventing the effective date of a standard required to be prescribed by subsection (b) of this section, the Administrator may prescribe regulations defining "model year" otherwise than as provided in clause (i).

(B) Repealed. Pub.L. 101-549, Title II, § 230(1), Nov. 15, 1990, 104 Stat. 2529.

(C) The term "heavy duty vehicle" means a truck, bus, or other vehicle manufactured primarily for use on the public streets, roads, and highways (not including any vehicle operated exclusively on a rail or rails) which has a gross vehicle weight (as determined under regulations promulgated by the Administrator) in excess of six thousand pounds. Such term includes any such vehicle which has special features enabling off-street or off-highway operation and use.

(3) Upon the petition of any manufacturer, the Administrator, after notice and opportunity for public hearing, may waive the standard required under subparagraph (B) of paragraph (1) to not exceed 1.5 grams of oxides of nitrogen per vehicle mile for any class or category of light-duty vehicles or engines manufactured by such manufacturer during any period of up to four model years beginning after the model year 1980 if the manufacturer demonstrates that such waiver is necessary to permit the use of an innovative power train technology, or innovative emission control device or system, in such class or category of vehicles or engines and that such technology or system was not utilized by more than 1 percent of the light-duty vehicles sold in the United States in the 1975 model year. Such waiver may be granted only if the Administrator determines—

(A) that such waiver would not endanger public health,

(B) that there is a substantial likelihood that the vehicles or engines will be able to comply with the applicable standard under this section at the expiration of the waiver, and

(C) that the technology or system has a potential for long-term air quality benefit and has the potential to meet or exceed the average fuel economy standard applicable under the Energy Policy and Conservation Act [42 U.S.C.A. § 6201 et seq.] upon the expiration of the waiver.

No waiver under this subparagraph granted to any manufacturer shall apply to more than 5 percent of such manufacturer's production or more than fifty thousand vehicles or engines, whichever is greater.

(c) Feasibility study and investigation by National Academy of Sciences; reports to Administrator and Congress; availability of information

(1) The Administrator shall undertake to enter into appropriate arrangements with the National Academy of Sciences to conduct a comprehensive study and investigation of the technological feasibility of meeting the emissions standards required to be prescribed by the Administrator by subsection (b) of this section.

(2) Of the funds authorized to be appropriated to the Administrator by this chapter, such amounts as are required shall be available to carry out the study and investigation authorized by paragraph (1) of this subsection.

(3) In entering into any arrangement with the National Academy of Sciences for conducting the study and investigation authorized by paragraph (1) of this subsection, the Administrator shall request the National Academy of Sciences to submit semiannual reports on the progress of its study and investigation to the Administrator and the Congress, beginning not later than July 1, 1971, and continuing until such study and investigation is completed.

(4) The Administrator shall furnish to such

Academy at its request any information which the Academy deems necessary for the purpose of conducting the investigation and study authorized by paragraph (1) of this subsection. For the purpose of furnishing such information, the Administrator may use any authority he has under this chapter (A) to obtain information from any person, and (B) to require such person to conduct such tests, keep such records, and make such reports respecting research or other activities conducted by such person as may be reasonably necessary to carry out this subsection.

(d) Useful life of vehicles

The Administrator shall prescribe regulations under which the useful life of vehicles and engines shall be determined for purposes of subsection (a)(1) of this section and section 7541 of this title. Such regulations shall provide that except where a different useful life period is specified in this subchapter useful life shall—

(1) in the case of light duty vehicles and light duty vehicle engines and light-duty trucks up to 3,750 lbs. LVW and up to 6,000 lbs. GVWR, be a period of use of five years or fifty thousand miles (or the equivalent), whichever first occurs, except that in the case of any requirement of this section which first becomes applicable after November 15, 1990, where the useful life period is not otherwise specified for such vehicles and engines, the period shall be 10 years or 100,000 miles (or the equivalent), whichever first occurs, with testing for purposes of in-use compliance under section 7541 of this title up to (but not beyond) 7 years or 75,000 miles (or the equivalent), whichever first occurs;

(2) in the case of any other motor vehicle or motor vehicle engine (other than motorcycles or motorcycle engines), be a period of use set forth in paragraph (1) unless the Administrator determines that a period of use of greater duration or mileage is appropriate; and

(3) in the case of any motorcycle or motorcycle engine, be a period of use the Administrator shall determine.

(e) New power sources or propulsion systems

In the event of a new power source or propulsion system for new motor vehicles or new motor vehicle engines is submitted for certification pursuant to section 7525(a) of this title, the Administrator may postpone certification until he has prescribed standards for any air pollutants emitted by such vehicle or engine which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger the public health or welfare but for which standards have not been prescribed under subsection (a) of this section.

(f) High altitude regulations

(1) The high altitude regulation in effect with respect to model year 1977 motor vehicles shall not apply to the manufacture, distribution, or sale of 1978 and later model year motor vehicles. Any future regulation affecting the sale or distribution of motor vehicles or engines manufactured before the model year 1984 in high altitude areas of the country shall take effect no earlier than model year 1981.

(2) Any such future regulation applicable to high altitude vehicles or engines shall not require a percentage of reduction in the emissions of such vehicles which is greater than the required percentage of reduction in emissions from motor vehicles as set forth in subsection (b) of this section. This percentage reduction shall be determined by comparing any proposed high altitude emission standards to high altitude emissions from vehicles manufactured during model year 1970. In no event shall regulations applicable to high altitude vehicles manufactured before the model year 1984 establish a numerical standard which is more stringent than that applicable to vehicles certified under non-high altitude conditions.

(3) Section 7607(d) of this title shall apply to any high altitude regulation referred to in paragraph (2) and before promulgating any such regulation, the Administrator shall consider and make a finding with respect to—

(A) the economic impact upon consumers, individual high altitude dealers, and the automobile industry of any such regulation, including the economic impact which was experienced as a result of the regulation imposed during model year 1977 with respect to high altitude certification requirements;

(B) the present and future availability of emission control technology capable of meeting the applicable vehicle and engine emission requirements without reducing model availability; and

(C) the likelihood that the adoption of such a high altitude regulation will result in any significant improvement in air quality in any area to which it shall apply.

(g) Light-duty trucks up to 6,000 lbs. GVWR and light-duty vehicles; standards for model years after 1993

(1) NMHC, CO, and NO_x

Effective with respect to the model year 1994 and thereafter, the regulations under subsection (a) of this section applicable to emissions of nonmethane hydrocarbons (NMHC), carbon monoxide (CO), and oxides of nitrogen (NO_x) from light-duty trucks (LDTs) of up to 6,000 lbs. gross vehicle weight rating (GVWR) and light-duty vehicles (LDVs) shall contain standards which provide that emissions from a percentage of each manufacturer's sales volume of such vehicles and trucks shall comply with the levels specified in table G. The percentage shall be as specified in the implementation schedule below:

TABLE G–EMISSION STANDARDS FOR NMHC, CO, AND NO_x FROM LIGHT-DUTY TRUCKS OF UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLES

Vehicle type	Column A			Column B		
	(5 yrs/50,000 mi)			(10 yrs/100,000 mi)		
	NMHC	CO	NO_x	NMHC	CO	NO_x
LDTs (0-3,750 lbs. LVW) and light-duty vehicles	0.25	3.4	0.4*	0.31	4.2	0.6*
LDTs (3,751-5,750 lbs. LVW)	0.32	4.4	0.7**	0.40	5.5	0.97

Standards are expressed in grams per mile (gpm).

For standards under column A, for purposes of certification under section 7525 of this title, the applicable useful life shall be 5 years or 50,000 miles (or the equivalent), whichever first occurs.

For standards under column B, for purposes of certification under section 7525 of this title, the applicable useful life shall be 10 years or 100,000 miles (or the equivalent), whichever first occurs.

* In the case of diesel-fueled LDTs (0-3,750 lvw) and light-duty vehicles, before the model year 2004, in lieu of the 0.4 and 0.6 standards for NO_x, the applicable standards for NO_x shall be 1.0 gpm for a useful life of 5 years or 50,000 miles (or the equivalent), whichever first occurs, and 1.25 gpm for a useful life of 10 years or 100,000 miles (or the equivalent), whichever first occurs.

** This standard does not apply to diesel-fueled LDTs (3,751-5,750 lbs. LVW).

IMPLEMENTATION SCHEDULE FOR TABLE G STANDARDS

Model year	Percentage *
1994	40
1995	80
after 1995	100

(2) PM Standard

Effective with respect to model year 1994 and thereafter in the case of light-duty vehicles, and effective with respect to the model year 1995 and thereafter in the case of light-duty trucks (LDTs) of up to 6,000 lbs. gross vehicle weight rating (GVWR), the regulations under subsection (a) of this section applicable to emissions of particulate matter (PM) from such vehicles and trucks shall contain standards which provide that such emissions from a percentage of each manufacturer's sales volume of such vehicles and trucks shall not exceed the levels specified in the table below. The percentage shall be as specified in the Implementation Schedule below.

PM STANDARD FOR LDTS OF UP TO 6,000 LBS. GVWR

Useful life period	Standard
5/50,000	0.80 gpm
10/100,000	0.10 gpm

The applicable useful life, for purposes of certification under section 7525 of this title and for purposes of in-use compliance under section 7541 of this title, shall be 5 years or 50,000 miles (or the equivalent), whichever first occurs, in the case of the 5/50,000 standard.

The applicable useful life, for purposes of certification under section 7525 of this title and for purposes of in-use compliance under section 7541 of this title, shall be 10 years or 100,000 miles (or the equivalent), whichever first occurs in the case of the 10/100,000 standard.

IMPLEMENTATION SCHEDULE FOR PM STANDARDS

Model year	Light-duty vehicles	LDTs
1994	40%*	.....
1995	80%*	40%*
1996	100%*	80%*
after 1996	100%*	100%*

(h) Light-duty trucks of more than 6,000 lbs. GVWR; standards for model years after 1995

Effective with respect to the model year 1996 and thereafter, the regulations under subsection (a) of this section applicable to emissions of nonmethane hydrocarbons (NMHC), carbon monoxide (CO), oxides of nitrogen (NO_x), and particulate matter (PM) from light-duty trucks (LDTs) of more than 6,000 lbs. gross vehicle weight rating (GVWR) shall contain standards which provide that emissions from a specified percentage of each manufacturer's sales volume of such trucks shall comply with the levels specified in table H. The specified percentage shall be 50 percent in model year 1996 and 100 percent thereafter.

TABLE H–EMISSION STANDARDS FOR NMHC AND CO FROM GASOLINE AND DIESEL FUELED LIGHT-DUTY TRUCKS OF MORE THAN 6,000 LBS. GVWR

LDT Test weight	Column A			Column B			
	(5 yrs/50,000 mi)			(11 yrs/120,000 mi)			
	NMHC	CO	NO_x	NMHC	CO	NOx	PM
3,751-5,750 lbs. TW	0.32	4.4	0.7*	0.46	6.4	0.98	0.10
Over 5,750 lbs. TW	0.39	5.0	1.1*	0.56	7.3	1.53	0.12

Standards are expressed in grams per mile (GPM).

For standards under column A, for purposes of certification under section 7525 of this title, the applicable useful life shall be 5 years or 50,000 miles (or the equivalent) whichever first occurs.

For standards under column B, for purposes of certification under section 7525 of this title, the applicable useful life shall be 11 years or 120,000 miles (or the equivalent), whichever first occurs.

* Not applicable to diesel-fueled LDTs.

(i) Phase II study for certain light-duty vehicles and light-duty trucks

(1) The Administrator, with the participation of the Office of Technology Assessment, shall study whether or not further reductions in emissions from light-duty vehicles and light-duty trucks should be required pursuant to this subchapter. The study shall consider whether to establish with respect to model years commencing after January 1, 2003, the standards and useful life period for gasoline and diesel-fueled light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less specified in the following table:

TABLE 3–PENDING EMISSION STANDARDS FOR GASOLINE AND DIESEL FUELED LIGHT-DUTY VEHICLES AND LIGHT-DUTY TRUCKS 3,750 LBS. LVW OR LESS

....

Pollutant	Emission level*
NMHC	0.125 GPM
NOx	0.2 GPM
CO	1.7 GPM

Such study shall also consider other standards and useful life periods which are more stringent or less stringent than those set forth in table 3 (but more stringent than those referred to in subsections (g) and (h) of this section).

(2)

(A) As part of the study under paragraph (1), the Administrator shall examine the need for further reductions in emissions in order to attain or maintain the national ambient air quality standards, taking into consideration the waiver provisions of section 7543(b) of this title. As part of such study, the Administrator shall also examine—

(i) the availability of technology (including the costs thereof), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for meeting more stringent emission standards than those provided in subsections (g) and (h) of this section for model years commencing not earlier than after January 1, 2003, and not later than model year 2006, including the lead time and safety and energy impacts of meeting more stringent emission standards; and

(ii) the need for, and cost effectiveness of, obtaining further reductions in emissions from such light-duty vehicles and light-duty trucks, taking into consideration alternative means of attaining or maintaining the national primary ambient air quality standards pursuant to State implementation plans and other requirements of this chapter, including their feasibility and cost effectiveness.

(B) The Administrator shall submit a report to

Congress no later than June 1, 1997, containing the results of the study under this subsection, including the results of the examination conducted under subparagraph (A). Before submittal of such report the Administrator shall provide a reasonable opportunity for public comment and shall include a summary of such comments in the report to Congress.

(3)

(A) Based on the study under paragraph (1) the Administrator shall determine, by rule, within 3 calendar years after the report is submitted to Congress, but not later than December 31, 1999, whether—

(i) there is a need for further reductions in emissions as provided in paragraph (2)(A);

(ii) the technology for meeting more stringent emission standards will be available, as provided in paragraph (2)(A)(i), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for model years commencing not earlier than January 1, 2003, and not later than model year 2006, considering the factors listed in paragraph (2)(A)(i); and

(iii) obtaining further reductions in emissions from such vehicles will be needed and cost effective, taking into consideration alternatives as provided in paragraph (2)(A)(ii).

The rulemaking under this paragraph shall commence within 3 months after submission of the report to Congress under paragraph (2)(B).

(B) If the Administrator determines under subparagraph (A) that—

(i) there is no need for further reductions in emissions as provided in paragraph (2)(A);

(ii) the technology for meeting more stringent emission standards will not be available as provided in paragraph (2)(A)(i), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for model years commencing not earlier than January 1, 2003, and not later than model year 2006, considering the factors listed in paragraph (2)(A)(i); or

(iii) obtaining further reductions in emissions from such vehicles will not be needed or cost effective, taking into consideration alternatives as provided in paragraph (2)(A)(ii),

the Administrator shall not promulgate more stringent standards than those in effect pursuant to subsections (g) and (h) of this section. Nothing in this paragraph shall prohibit the Administrator from exercising the Administrator's authority under subsection (a) of this section to promulgate more stringent standards for light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less at any other time thereafter in accordance with subsection (a) of this section.

(C) If the Administrator determines under subparagraph (A) that—

(i) there is a need for further reductions in emissions as provided in paragraph (2)(A);

(ii) the technology for meeting more stringent emission standards will be available, as provided in paragraph (2)(A)(i), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for model years commencing not earlier than January 1, 2003, and not later than model year 2006, considering the factors listed in paragraph (2)(A)(i); and

(iii) obtaining further reductions in emissions from such vehicles will be needed and cost effective, taking into consideration alternatives as provided in paragraph (2)(A)(ii),

the Administrator shall either promulgate the standards (and useful life periods) set forth in Table 3 in paragraph (1) or promulgate alternative standards (and useful life periods) which are more stringent than those referred to in subsections (g) and (h) of this section. Any such standards (or useful life periods) promulgated by the Administrator shall take effect with respect to any such vehicles or engines no earlier than the model year 2003 but not later than model year 2006, as determined by the Administrator in the rule.

(D) Nothing in this paragraph shall be construed by the Administrator or by a court as a presumption that any standards (or useful life period) set forth in Table 3 shall be promulgated in the rulemaking required under this paragraph. The action required of the Administrator in accordance with this paragraph shall be treated as a nondiscretionary duty for purposes of section 7604(a)(2) of this title (relating to citizen suits).

(E) Unless the Administrator determines not to promulgate more stringent standards as provided in subparagraph (B) or to postpone the effective date of standards referred to in Table 3 in paragraph (1) or to establish alternative standards as provided in subparagraph (C), effective with respect to model years commencing after January 1, 2003, the regulations under subsection (a) of this section applicable to emissions of nonmethane hydrocarbons (NMHC), oxides of nitrogen (NO_x), and carbon monoxide (CO) from motor vehicles and motor vehicle engines in the classes specified in Table 3 in paragraph (1) above shall contain standards which provide that emissions may not exceed the pending emission levels specified in Table 3 in paragraph (1).

(j) Cold CO standard

(1) Phase I

Not later than 12 months after November 15, 1990, the Administrator shall promulgate regulations under subsection (a) of this section applicable to emissions of carbon monoxide from 1994 and later model year light-duty vehicles and light-duty trucks when operated at 20 degrees Fahrenheit. The regulations shall contain standards which provide that emissions of carbon monoxide from a manufacturer's vehicles when operated at 20 degrees Fahrenheit may not exceed, in the case of light-duty vehicles, 10.0 grams per mile, and in the case of light-duty trucks, a level comparable in stringency to the standard applicable to light-duty vehicles. The standards shall take effect after model year 1993 according to a phase-in schedule which requires a percentage of each manufacturer's sales volume of light-duty vehicles and light-duty trucks to comply with applicable standards after model year 1993. The percentage shall be as specified in the following table:

PHASE-IN SCHEDULE FOR COLD START STANDARDS

Model Year	Percentage
1994	40
1995	80
1996 and after	100

(2) Phase II

(A) Not later than June 1, 1997, the Administrator shall complete a study assessing the need for further reductions in emissions of carbon monoxide and the maximum reductions in such emissions achievable from model year 2001 and later model year light-duty vehicles and light-duty trucks when operated at 20 degrees

Fahrenheit.

(B)

(i) If as of June 1, 1997, 6 or more nonattainment areas have a carbon monoxide design value of 9.5 ppm or greater, the regulations under subsection (a)(1) of this section applicable to emissions of carbon monoxide from model year 2002 and later model year light-duty vehicles and light-duty trucks shall contain standards which provide that emissions of carbon monoxide from such vehicles and trucks when operated at 20 degrees Fahrenheit may not exceed 3.4 grams per mile (gpm) in the case of light-duty vehicles and 4.4 grams per mile (gpm) in the case of light-duty trucks up to 6,000 GVWR and a level comparable in stringency in the case of light-duty trucks 6,000 GVWR and above.

(ii) In determining for purposes of this subparagraph whether 6 or more nonattainment areas have a carbon monoxide design value of 9.5 ppm or greater, the Administrator shall exclude the areas of Steubenville, Ohio, and Oshkosh, Wisconsin.

(3) Useful-life for phase I and phase II standards

In the case of the standards referred to in paragraphs (1) and (2), for purposes of certification under section 7525 of this title and in-use compliance under section 7541 of this title, the applicable useful life period shall be 5 years or 50,000 miles, whichever first occurs, except that the

Administrator may extend such useful life period (for purposes of section 7525 of this title, or section 7541 of this title, or both) if he determines that it is feasible for vehicles and engines subject to such standards to meet such standards for a longer useful life. If the Administrator extends such useful life period, the Administrator may make an appropriate adjustment of applicable standards for such extended useful life. No such extended useful life shall extend beyond the useful life period provided in regulations under subsection (d) of this section.

(4) Heavy-duty vehicles and engines

The Administrator may also promulgate regulations under subsection (a)(1) of this section applicable to emissions of carbon monoxide from heavy-duty vehicles and engines when operated at cold temperatures.

(k) Control of evaporative emissions

The Administrator shall promulgate (and from time to time revise) regulations applicable to evaporative emissions of hydrocarbons from all gasoline-fueled motor vehicles—

(1) during operation; and

(2) over 2 or more days of nonuse;

under ozone-prone summertime conditions (as determined by regulations of the Administrator). The regulations shall take effect as expeditiously as possible and shall require the greatest degree of emission reduction achievable by means reasonably expected to be available for production during any model year to which the regulations apply, giving appropriate consideration to fuel volatility, and to cost, energy, and safety factors associated with the application of the appropriate technology. The Administrator shall commence a rulemaking under this subsection within 12 months after November 15, 1990. If final regulations are not promulgated under this subsection within 18 months after November 15, 1990, the Administrator shall submit a statement to the Congress containing an explanation of the reasons for the delay and a date certain for promulgation of such final regulations in accordance with this chapter. Such date certain shall not be later than 15 months after the expiration of such 18 month deadline.

(l) Mobile source-related air toxics

(1) Study

Not later than 18 months after November 15, 1990, the Administrator shall complete a study of the need for, and feasibility of, controlling emissions of toxic air pollutants which are unregulated under this chapter and associated with motor vehicles and motor vehicle fuels, and the need for, and feasibility of, controlling such emissions and the means and measures for such controls. The study shall focus on those categories of emissions that pose the greatest risk to human health or about which significant uncertainties remain, including emissions of benzene, formaldehyde, and 1, 3 butadiene. The proposed report shall be available for public review and comment and shall include a summary of all comments.

(2) Standards

Within 54 months after November 15, 1990, the Administrator shall, based on the study under paragraph (1), promulgate (and from time to time revise) regulations under subsection (a)(1) of this section or section 7545(c)(1) of this title containing reasonable requirements to control hazardous air pollutants from motor vehicles and motor vehicle fuels. The regulations shall contain standards for such fuels or vehicles, or both, which the Administrator determines reflect the greatest degree of emission reduction achievable through the application of technology which will be available, taking into consideration the standards established under subsection (a) of this section, the availability and costs of the technology, and noise, energy, and safety factors, and lead time. Such regulations shall not be inconsistent with standards under subsection (a) of this section. The regulations shall, at a minimum, apply to emissions of benzene and formaldehyde.

(m) Emissions control diagnostics

(1) Regulations

Within 18 months after November 15, 1990, the Administrator shall promulgate regulations under subsection (a) of this section requiring manufacturers to install on all new light duty vehicles and light duty trucks diagnostics systems capable of—

(A) accurately identifying for the vehicle's useful life as established under this section, emission-related systems deterioration or malfunction, including, at a minimum, the catalytic converter and oxygen sensor, which could cause or result in failure of the vehicles to comply with emission standards established under this section,

(B) alerting the vehicle's owner or operator to the likely need for emission-related components or systems maintenance or repair,

(C) storing and retrieving fault codes specified by the Administrator, and

(D) providing access to stored information in a manner specified by the Administrator.

The Administrator may, in the Administrator's discretion, promulgate regulations requiring manufacturers to install such onboard diagnostic systems on heavy-duty vehicles and engines.

(2) Effective date

The regulations required under paragraph (1) of this subsection shall take effect in model year 1994, except that the Administrator may waive the application of such regulations for model year 1994 or 1995 (or both) with respect to any class or category of motor vehicles if the Administrator determines that it would be infeasible to apply the regulations to that class or category in such model year or years, consistent with corresponding regulations or policies adopted by the California Air Resources Board for such systems.

(3) State inspection

The Administrator shall by regulation require States that have implementation plans containing motor vehicle inspection and maintenance programs to amend their plans within 2 years after promulgation of such regulations to provide for inspection of onboard diagnostics systems (as prescribed by regulations under paragraph (1) of this subsection) and for the maintenance or repair of malfunctions or system deterioration identified by or affecting such diagnostics systems. Such regulations shall not be inconsistent with the provisions for warranties promulgated under section 7541(a) and (b) of this title.

(4) Specific requirements

In promulgating regulations under this subsection, the Administrator shall require—

> **(A)** that any connectors through which the emission control diagnostics system is accessed for inspection, diagnosis, service, or repair shall be standard and uniform on all motor vehicles and motor vehicle engines;
>
> **(B)** that access to the emission control diagnostics system through such connectors shall be unrestricted and shall not require any access code or any device which is only available from a vehicle manufacturer; and
>
> **(C)** that the output of the data from the emission control diagnostics system through such connectors shall be usable without the need for any unique decoding information or device.

(5) Information availability

The Administrator, by regulation, shall require (subject to the provisions of section 7542(c) of this title regarding the protection of methods or processes entitled to protection as trade secrets) manufacturers to provide promptly to any person engaged in the repairing or servicing of motor vehicles or motor vehicle engines, and the Administrator for use by any such persons, with any and all information needed to make use of the emission control diagnostics system prescribed under this subsection and such other information including instructions for making emission related diagnosis and repairs. No such information may be withheld under section 7542(c) of this title if that information is provided (directly or indirectly) by the manufacturer to franchised dealers or other persons engaged in the repair, diagnosing, or servicing of motor vehicles or motor vehicle engines. Such information shall also be available to the Administrator, subject to section 7542(c) of this title, in carrying out the Administrator's responsibilities under this section.

(f) Model years after 1990

For model years prior to model year 1994, the regulations under subsection (a) of this section applicable to buses other than those subject to standards under section 7554 of this title shall contain a standard which provides that emissions of particulate matter (PM) from such buses may not exceed the standards set forth in the following table:

PM STANDARD FOR BUSES

……

Model year	Standard[*]
1991	0.25
1992	0.25
1993 and thereafter	0.10

42 U.S.C. § 7602. Definitions

When used in this chapter—

(a) The term "Administrator" means the Administrator of the Environmental Protection Agency.

(b) The term "air pollution control agency" means any of the following:

(1) A single State agency designated by the Governor of that State as the official State air pollution control agency for purposes of this chapter.

(2) An agency established by two or more States and having substantial powers or duties pertaining to the prevention and control of air pollution.

(3) A city, county, or other local government health authority, or, in the case of any city, county, or other local government in which there is an agency other than the health authority charged with responsibility for enforcing ordinances or laws relating to the prevention and control of air pollution, such other agency.

(4) An agency of two or more municipalities located in the same State or in different States and having substantial powers or duties pertaining to the prevention and control of air pollution.

(5) An agency of an Indian tribe.

(c) The term "interstate air pollution control agency" means—

(1) an air pollution control agency established by two or more States, or

(2) an air pollution control agency of two or more municipalities located in different States.

(d) The term "State" means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa and includes the Commonwealth of the Northern Mariana Islands.

(e) The term "person" includes an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof.

(f) The term "municipality" means a city, town, borough, county, parish, district, or other public body created by or pursuant to State law.

(g) The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

(h) All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

(i) The term "Federal land manager" means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

(j) Except as otherwise expressly provided, the terms "major stationary source" and "major emitting facility" mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator).

(k) The terms "emission limitation" and "emission standard" mean a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this chapter..[1]

(l) The term "standard of performance" means a requirement of continuous emission reduction, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction.

(m) The term "means of emission limitation" means a system of continuous emission reduction (including the use of specific technology or fuels with specified pollution characteristics).

(n) The term "primary standard attainment date" means the date specified in the applicable implementation plan for the attainment of a national primary ambient air quality standard for any air pollutant.

(o) The term "delayed compliance order" means an order issued by the State or by the Administrator to an existing stationary source, postponing the date required under an applicable implementation plan for compliance by such source with any requirement of such plan.

(p) The term "schedule and timetable of compliance" means a schedule of required measures including an enforceable sequence of actions or operations leading to compliance with an emission limitation, other limitation, prohibition, or standard.

(q) For purposes of this chapter, the term "applicable implementation plan" means the portion (or portions) of the implementation plan, or most recent revision thereof, which has been approved under section 7410 of this title, or promulgated under section 7410(c) of this title, or promulgated or approved pursuant to regulations promulgated under section 7601(d) of this title and which implements the relevant requirements of this chapter.

(r) Indian tribe. The term "Indian tribe" means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village, which is Federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

(s) VOC. The term "VOC" means volatile organic compound, as defined by the Administrator.

(t) PM-10. The term "PM-10" means particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers, as measured by such method as the Administrator may determine.

(u) NAAQS and CTG. The term "NAAQS" means national ambient air quality standard. The term "CTG" means a Control Technique Guideline published by the Administrator under section 7408 of this title.

(v) NO_x. The term "NO_x" means oxides of nitrogen.

(w) CO. The term "CO" means carbon monoxide.

(x) Small source. The term "small source" means a source that emits less than 100 tons of regulated pollutants per year, or any class of persons that the Administrator determines, through regulation, generally lack technical ability or knowledge regarding control of air pollution.

(y) Federal implementation plan. The term "Federal implementation plan" means a plan (or portion thereof) promulgated by the Administrator to fill all or a portion of a gap or otherwise correct all or a portion of an inadequacy in a State implementation plan, and which includes enforceable emission limitations or other control measures, means or techniques (including economic incentives, such as marketable permits or auctions of emissions allowances), and provides for attainment of the relevant national ambient air quality standard.

(z) Stationary source. The term "stationary source" means generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 7550 of this title.

42 U.S.C. § 7661: Definitions

As used in this subchapter—

(1) Affected source

The term "affected source" shall have the meaning given such term in subchapter IV-A of this chapter.

(2) Major source

The term "major source" means any stationary source (or any group of stationary sources located within a contiguous area and under common control) that is either of the following:

> **(A)** A major source as defined in section 7412 of this title.
>
> **(B)** A major stationary source as defined in section 7602 of this title or part D of subchapter I of this chapter.

(3) Schedule of compliance

The term "schedule of compliance" means a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to compliance with an applicable implementation plan, emission standard, emission limitation, or emission prohibition.

(4) Permitting authority

The term "permitting authority" means the Administrator or the air pollution control agency authorized by the Administrator to carry out a permit program under this subchapter.

42 U.S.C. § 7661a. Permit programs

(a) Violations

After the effective date of any permit program approved or promulgated under this subchapter, it shall be unlawful for any person to violate any requirement of a permit issued under this subchapter, or to operate an affected source (as provided in subchapter IV-A of this chapter), a major source, any other source (including an area source) subject to standards or regulations under section 7411 or 7412 of this title, any other source required to have a permit under parts C or D of subchapter I of this chapter, or any other stationary source in a category designated (in whole or in part) by regulations promulgated by the Administrator (after notice and public comment) which shall include a finding setting forth the basis for such designation, except in compliance with a permit issued by a permitting authority under this subchapter. (Nothing in this subsection shall be construed to alter the applicable requirements of this chapter that a permit be obtained before construction or modification.) The Administrator may, in the Administrator's discretion and consistent with the applicable provisions of this chapter, promulgate regulations to exempt one or more source categories (in whole or in part) from the requirements of this subsection if the Administrator finds that compliance with such requirements is impracticable, infeasible, or unnecessarily burdensome on such categories, except that the Administrator may not exempt any major source from such requirements.

(b) Regulations

The Administrator shall promulgate within 12 months after November 15, 1990, regulations establishing the minimum elements of a permit program to be administered by any air pollution control agency. These elements shall include each of the following:

(1) Requirements for permit applications, including a standard application form and criteria for determining in a timely fashion the completeness of applications.

(2) Monitoring and reporting requirements.

(3)

(A) A requirement under State or local law or interstate compact that the owner or operator of all sources subject to the requirement to obtain a permit under this subchapter pay an annual fee, or the equivalent over some other period, sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements of this subchapter, including section 7661f of this title, including the reasonable costs of—

(i) reviewing and acting upon any application for such a permit,

(ii) if the owner or operator receives a permit for such source, whether before or after November 15, 1990, implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action),

(iii) emissions and ambient monitoring,

(iv) preparing generally applicable regulations, or guidance,

(v) modeling, analyses, and demonstrations, and

(vi) preparing inventories and tracking emissions.

(B) The total amount of fees collected by the permitting authority shall conform to the following requirements:

(i) The Administrator shall not approve a program as meeting the requirements of this paragraph unless the State demonstrates that, except as otherwise provided in subparagraphs (ii) through (v) of this subparagraph, the program will result in the collection, in the aggregate, from all sources subject to subparagraph (A), of an amount not less than $25 per ton of each regulated pollutant, or such other amount as the Administrator may determine adequately reflects the reasonable costs of the permit program.

(ii) As used in this subparagraph, the term "regulated pollutant" shall mean (I) a volatile organic compound; (II) each pollutant regulated under section 7411 or 7412 of this title; and (III) each pollutant for which a national primary ambient air quality standard has been promulgated (except that carbon monoxide shall be excluded from this reference).

(iii) In determining the amount under clause (i), the permitting authority is not required to include any amount of regulated pollutant emitted by any source in excess of 4,000 tons per year of that regulated pollutant.

(iv) The requirements of clause (i) shall not apply if the permitting authority demonstrates that collecting an amount less than the amount specified under clause (i) will meet the requirements of subparagraph (A).

(v) The fee calculated under clause (i) shall be increased (consistent with the need to cover the reasonable costs authorized by subparagraph (A)) in each year beginning after 1990, by the percentage, if any, by which the Consumer Price Index for the most recent calendar year ending before the beginning of such year exceeds the Consumer Price Index for the calendar year 1989. For purposes of this clause—

(I) the Consumer Price Index for any calendar year is the average of the Consumer Price Index for all-urban consumers published by the Department of Labor, as of the close of the 12-month period ending on August 31 of each calendar year, and

(II) the revision of the Consumer Price Index which is most consistent with the Consumer Price Index for calendar year 1989 shall be used.

(C)

(i) If the Administrator determines, under subsection (d) of this section, that the fee provisions of the operating permit program do not meet the requirements of this paragraph, or if the Administrator makes a determination, under subsection (i) of this section, that the permitting authority is not adequately administering or enforcing an approved fee program, the Administrator may, in addition to taking any other action authorized under this subchapter, collect reasonable fees from the sources identified under subparagraph (A). Such fees shall be designed solely to cover the Administrator's costs of administering the provisions of the permit program promulgated by the Administrator.

(ii) Any source that fails to pay fees lawfully imposed by the Administrator under this subparagraph shall pay a penalty of 50 percent of the fee amount, plus interest on the fee amount computed in accordance with section 6621(a)(2) of Title 26 (relating to computation of interest on underpayment of Federal taxes).

(iii) Any fees, penalties, and interest collected under this subparagraph shall be deposited in a special fund in the United States Treasury for licensing and other services, which thereafter shall be available for appropriation, to remain available until expended, subject to appropriation, to carry out the Agency's activities for which the fees were collected. Any fee required to be collected by a State, local, or interstate agency under this subsection shall be utilized solely to cover all reasonable (direct and indirect) costs required to support the permit program as set forth in subparagraph (A).

(4) Requirements for adequate personnel and funding to administer the program.

(5) A requirement that the permitting authority have adequate authority to:

(A) issue permits and assure compliance by all sources required to have a permit under this subchapter with each applicable standard, regulation or requirement under this chapter;

(B) issue permits for a fixed term, not to exceed 5 years;

(C) assure that upon issuance or renewal permits incorporate emission limitations and other requirements in an applicable implementation plan;

(D) terminate, modify, or revoke and reissue permits for cause;

(E) enforce permits, permit fee requirements, and the requirement to obtain a permit, including authority to recover civil penalties in a maximum amount of not less than $10,000 per day for each violation, and provide appropriate criminal penalties; and

(F) assure that no permit will be issued if the Administrator objects to its issuance in a timely manner under this subchapter.

(6) Adequate, streamlined, and reasonable procedures for expeditiously determining when applications are complete, for processing such applications, for public notice, including offering an opportunity for public comment and a hearing, and for expeditious review of permit actions, including applications, renewals, or revisions, and including an opportunity for judicial review in State court of the final permit action by the applicant, any person who participated in the public comment process, and any other person who could obtain judicial review of that action under applicable law.

(7) To ensure against unreasonable delay by the permitting authority, adequate authority and procedures to provide that a failure of such permitting authority to act on a permit application or permit renewal application (in accordance with the time periods specified in section 7661b of this title or, as appropriate, subchapter IV-A of this chapter) shall be treated as a final permit action solely for purposes of obtaining judicial review in State court of an action brought by any person referred to in paragraph (6) to require that action be taken by the permitting authority on such application without additional delay.

(8) Authority, and reasonable procedures consistent with the need for expeditious action by the permitting authority on permit applications and related matters, to make available to the public any permit application, compliance plan, permit, and monitoring or compliance report under section 7661b(e) of this title, subject to the provisions of section 7414(c) of this title.

(9) A requirement that the permitting authority, in the case of permits with a term of 3 or more years for major sources, shall require revisions to the permit to incorporate applicable standards and regulations promulgated under this chapter after the issuance of such permit. Such revisions shall occur as expeditiously as practicable and consistent with the procedures established under paragraph (6) but not later than 18 months after the promulgation of such standards and regulations. No such revision shall be required if the effective date of the standards or regulations is a date after the expiration of the permit term. Such permit revision shall be treated as a permit renewal if it complies with the requirements of this subchapter regarding renewals.

(10) Provisions to allow changes within a permitted facility (or one operating pursuant to section 7661b(d) of this title) without requiring a permit revision, if the changes are not modifications under any provision of subchapter I of this chapter and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions: *Provided,* That the facility provides the Administrator and the permitting authority with written notification in advance of the proposed changes which shall be a minimum of 7 days, unless the permitting authority provides in its regulations a different timeframe for emergencies.

(c) Single permit

A single permit may be issued for a facility with multiple sources.

(d) Submission and approval

(1) Not later than 3 years after November 15, 1990, the Governor of each State shall develop and submit to the Administrator a permit program under State or local law or under an interstate compact meeting the requirements of this subchapter. In addition, the Governor shall submit a legal opinion from the attorney general (or the attorney for those State air pollution control agencies that have independent legal counsel), or from the chief legal officer of an interstate agency, that the laws of the State, locality, or the interstate compact provide adequate authority to carry out the program. Not later than 1 year after receiving a program, and after notice and opportunity for public comment, the Administrator shall approve or disapprove such program, in whole or in part. The Administrator may approve a program to the extent that the program meets the requirements of this chapter, including the regulations issued under subsection (b) of this section. If the program is disapproved, in whole or in part, the Administrator shall notify the Governor of any revisions or modifications necessary to obtain approval. The Governor shall revise and resubmit the program for review under this section within 180 days after receiving notification.

(2)

(A) If the Governor does not submit a program as required under paragraph (1) or if the Administrator disapproves a program submitted by the Governor under paragraph (1), in whole or in part, the Administrator may, prior to the expiration of the 18-month period referred to in subparagraph (B), in the Administrator's discretion, apply any of the sanctions specified in section 7509(b) of this title.

(B) If the Governor does not submit a program as required under paragraph (1), or if the Administrator disapproves any such program submitted by the Governor under paragraph (1), in whole or in part, 18 months after the date required for such submittal or the date of such disapproval, as the case may be, the Administrator shall apply sanctions under section 7509(b) of this title in the same manner and subject to the same deadlines and other conditions as are applicable in the case of a determination, disapproval, or finding under section 7509(a) of this title.

(C) The sanctions under section 7509(b)(2) of this title shall not apply pursuant to this paragraph in any area unless the failure to submit or the disapproval referred to in subparagraph (A) or (B) relates to an air pollutant for which such area has been designated a nonattainment area (as defined in part D of subchapter I of this chapter).

(3) If a program meeting the requirements of this subchapter has not been approved in whole for any State, the Administrator shall, 2 years after the date required for submission of such a program under paragraph (1), promulgate, administer, and enforce a program under this subchapter for that State.

(e) Suspension

The Administrator shall suspend the issuance of permits promptly upon publication of notice of approval of a permit program under this section, but may, in such notice, retain jurisdiction over permits that have been federally issued, but for which the administrative or judicial review process is not complete. The Administrator shall continue to administer and enforce federally issued permits under this subchapter until they are replaced by a permit issued by a permitting program. Nothing in this subsection should be construed to limit the Administrator's ability to enforce permits issued by a State.

(f) Prohibition

No partial permit program shall be approved unless, at a minimum, it applies, and ensures compliance with, this subchapter and each of the following:

(1) All requirements established under subchapter IV-A of this chapter applicable to "affected sources".

(2) All requirements established under section 7412 of this title applicable to "major sources", "area sources," and "new sources".

(3) All requirements of subchapter I of this chapter (other than section 7412 of this title) applicable to sources required to have a permit under this subchapter.

Approval of a partial program shall not relieve the State of its obligation to submit a complete program, nor from the application of any sanctions under this chapter for failure to submit an approvable permit program.

(g) Interim approval

If a program (including a partial permit program) submitted under this subchapter substantially meets the requirements of this subchapter, but is not fully approvable, the Administrator may by rule grant the program interim approval. In the notice of final rulemaking, the Administrator shall specify the changes that must be made before the program can receive full approval. An interim approval under this subsection shall expire on a date set by the Administrator not later than 2 years after such approval, and may not be renewed. For the period of any such interim approval, the provisions of subsection (d)(2) of this section, and the obligation of the Administrator to promulgate a program under this subchapter for the State pursuant to subsection (d)(3) of this section, shall be suspended. Such provisions and such obligation of the Administrator shall apply after the expiration of such interim approval.

(h) Effective date

The effective date of a permit program, or partial or interim program, approved under this subchapter, shall be the effective date of approval by the

Administrator. The effective date of a permit program, or partial permit program, promulgated by the Administrator shall be the date of promulgation.

(i) Administration and enforcement

(1) Whenever the Administrator makes a determination that a permitting authority is not adequately administering and enforcing a program, or portion thereof, in accordance with the requirements of this subchapter, the Administrator shall provide notice to the State and may, prior to the expiration of the 18-month period referred to in paragraph (2), in the Administrator's discretion, apply any of the sanctions specified in section 7509(b) of this title.

(2) Whenever the Administrator makes a determination that a permitting authority is not adequately administering and enforcing a program, or portion thereof, in accordance with the requirements of this subchapter, 18 months after the date of the notice under paragraph (1), the Administrator shall apply the sanctions under section 7509(b) of this title in the same manner and subject to the same deadlines and other conditions as are applicable in the case of a determination, disapproval, or finding under section 7509(a) of this title.

(3) The sanctions under section 7509(b)(2) of this title shall not apply pursuant to this subsection in any area unless the failure to adequately enforce and administer the program relates to an air pollutant for which such area has been designated a nonattainment area.

(4) Whenever the Administrator has made a finding under paragraph (1) with respect to any State, unless the State has corrected such deficiency within 18 months after the date of such finding, the Administrator shall, 2 years after the date of such finding, promulgate, administer, and enforce a program under this subchapter for that State. Nothing in this paragraph shall be construed to affect the validity of a program which has been approved under this subchapter or the authority of any permitting authority acting under such program until such time as such program is promulgated by the Administrator under this paragraph.

42 U.S.C. § 7661b. Permit applications

(a) Applicable date

Any source specified in section 7661a(a) of this title shall become subject to a permit program, and required to have a permit, on the later of the following dates--

(1) the effective date of a permit program or partial or interim permit program applicable to the source; or

(2) the date such source becomes subject to section 7661a(a) of this title.

(b) Compliance plan

(1) The regulations required by section 7661a(b) of this title shall include a requirement that the applicant submit with the permit application a compliance plan describing how the source will comply with all applicable requirements under this chapter. The compliance plan shall include a schedule of compliance, and a schedule under which the permittee will submit progress reports to the permitting authority no less frequently than every 6 months.

(2) The regulations shall further require the permittee to periodically (but no less frequently than annually) certify that the facility is in compliance with any applicable requirements of the permit, and to promptly report any deviations from permit requirements to the permitting authority.

(c) Deadline

Any person required to have a permit shall, not later than 12 months after the date on which the source becomes subject to a permit program approved or promulgated under this subchapter, or such earlier date as the permitting authority may establish, submit to the permitting authority a compliance plan and an application for a permit signed by a responsible official, who shall certify the accuracy of the information submitted. The permitting authority shall approve or disapprove a completed application (consistent with the procedures established under this subchapter for consideration of such applications), and shall issue or deny the permit, within 18 months after the date of receipt thereof, except that the permitting authority shall establish a phased schedule for acting on permit applications submitted within the first full year after the effective date of a permit program (or a partial or interim program). Any such schedule shall assure that at least one-third of such permits will be acted on by such authority annually over a period of not to exceed 3 years after such effective date. Such authority shall establish reasonable procedures to prioritize such approval or disapproval actions in the case of applications for construction or modification under the applicable requirements of this chapter.

(d) Timely and complete applications

Except for sources required to have a permit before construction or modification under the applicable requirements of this chapter, if an applicant has submitted a timely and complete application for a permit required by this subchapter (including renewals), but final action has not been taken on such application, the source's failure to have a permit shall not be a violation of this chapter, unless the delay in final action was due to the failure of the applicant timely to submit information required or requested to process the application. No source required to have a permit under this subchapter shall be in violation of section 7661a(a) of this title before the date on which the source is required to submit an application under subsection (c) of this section.

(e) Copies; availability

A copy of each permit application, compliance plan (including the schedule of compliance), emissions or compliance monitoring report, certification, and each permit issued under this subchapter, shall be available to the public. If an applicant or permittee is required to submit information entitled to protection from disclosure under section 7414(c) of this title, the applicant or permittee may submit such information separately. The requirements of section 7414(c) of this title shall apply to such information. The contents of a permit shall not be entitled to protection under section 7414(c) of this title.

42 U.S.C. § 7661c. Permit requirements and conditions

(a) Conditions

Each permit issued under this subchapter shall include enforceable emission limitations and standards, a schedule of compliance, a requirement that the permittee submit to the permitting authority, no less often than every 6 months, the results of any required monitoring, and such other conditions as are necessary to assure compliance with applicable requirements of this chapter, including the requirements of the applicable implementation plan.

(b) Monitoring and analysis

The Administrator may by rule prescribe procedures and methods for determining compliance and for monitoring and analysis of pollutants regulated under this chapter, but continuous emissions monitoring need not be required if alternative methods are available that provide sufficiently reliable and timely information for determining compliance. Nothing in this subsection shall be construed to affect any continuous emissions monitoring requirement of subchapter IV-A of this chapter, or where required elsewhere in this chapter.

(c) Inspection, entry, monitoring, certification, and reporting

Each permit issued under this subchapter shall set forth inspection, entry, monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions.

Such monitoring and reporting requirements shall conform to any applicable regulation under subsection (b) of this section. Any report required to be submitted by a permit issued to a corporation under this subchapter shall be signed by a responsible corporate official, who shall certify its accuracy.

(d) General permits

The permitting authority may, after notice and opportunity for public hearing, issue a general permit covering numerous similar sources. Any general permit shall comply with all requirements applicable to permits under this subchapter. No source covered by a general permit shall thereby be relieved from the obligation to file an application under section 7661b of this title.

(e) Temporary sources

The permitting authority may issue a single permit authorizing emissions from similar operations at multiple temporary locations. No such permit shall be issued unless it includes conditions that will assure compliance with all the requirements of this chapter at all authorized locations, including, but not limited to, ambient standards and compliance with any applicable increment or visibility requirements under part C of subchapter I of this chapter. Any such permit shall in addition require the owner or operator to notify the permitting authority in advance of each change in location. The permitting authority may require a separate permit fee for operations at each location.

(f) Permit shield

Compliance with a permit issued in accordance with this subchapter shall be deemed compliance with section 7661a of this title. Except as otherwise provided by the Administrator by rule, the permit may also provide that compliance with the permit shall be deemed compliance with other applicable provisions of this chapter that relate to the permittee if—

(1) the permit includes the applicable requirements of such provisions, or

(2) the permitting authority in acting on the permit application makes a determination relating to the permittee that such other provisions (which shall be referred to in such determination) are not applicable and the permit includes the determination or a concise summary thereof.

Nothing in the preceding sentence shall alter or affect the provisions of section 7603 of this title, including the authority of the Administrator under that section.

PETITIONER'S BRIEF

RECORD
AND
BRIEFS

Nos. 12-1146, 12-1248, 12-1254,
12-1268, 12-1269, 12-1272

Supreme Court, U.S.
FILED
DEC - 9 2013
OFFICE OF THE CLERK

IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *et al.*,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF PETITIONERS AMERICAN CHEMISTRY COUNCIL, *ET AL.*, NO. 12-1248

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

PARTIES TO THE PROCEEDINGS

Petitioners herein, who were also petitioners in cases addressed by the consolidated judgment below, include the American Chemistry Council; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Iron and Steel Institute; American Petroleum Institute; Brick Industry Association; Clean Air Implementation Project; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Association of Manufacturers; National Federation of Independent Business; National Oilseed Processors Association; North American Die Casting Association; Portland Cement Association; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers and Commerce.

Other petitioners in cases addressed by the consolidated judgment below, who are not petitioners herein, include Greg Abbott, Attorney General of Texas; Alpha Natural Resources, Inc.; American Farm Bureau Federation; Michele Bachmann, U.S. Representative, Minnesota 6th District; Haley Barbour, Governor of the State of Mississippi; Marsha Blackburn, U.S. Representative, Tennessee 7th District; Kevin Brady, U.S. Representative, Texas 8th District; Paul Broun, U.S. Representative, 10th District; Dan Burton, U.S. Representative, Indiana 5th District; Chamber of Commerce of the United States of America; Coalition for Responsible Regulation, Inc.; Collins

Industries, Inc.; Collins Trucking Company, Inc.; Commonwealth of Virginia; Competitive Enterprise Institute; Nathan Deal, U.S. Representative, Georgia 9th District; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; FreedomWorks; Georgia Agribusiness Council, Inc.; Georgia Coalition for Sound Environmental Policy, Inc.; Georgia Motor Trucking Association, Inc.; Gerdau Ameristeel US Inc.; Phil Gingrey, U.S. Representative, Georgia 11th District; Glass Packaging Institute; Great Northern Project Development, L.P.; Industrial Minerals Association—North America; J&M Tank Lines, Inc.; Kennesaw Transportation, Inc.; Steve King, U.S. Representative, Iowa 5th District; Jack Kingston, U.S. Representative, Georgia 1st District; Landmark Legal Foundation; Langboard, Inc.–MDF; Langboard, Inc.–OSB; Langdale Chevrolet-Pontiac, Inc.; The Langdale Company; Langdale Farms, LLC; Langdale Ford Company; Langdale Forest Products Company; Langdale Fuel Company; Mark R. Levin; John Linder, U.S. Representative, Georgia 7th District; Louisiana Department of Environmental Quality; Missouri Joint Municipal Electric Utility Commission; National Cattlemen's Beef Association; National Environmental Development Association's Clean Air Project; National Mining Association; Ohio Coal Association; Pacific Legal Foundation; Peabody Energy Company; Rick Perry, Governor of Texas; Tom Price, U.S. Representative, Georgia 6th District; Dana Rohrabacher, U.S. Representative, California 46th District; Rosebud Mining Co.; the Science and Environmental Policy Project; John Shadegg, U.S. Representative, Arizona 3rd District; John Shimkus, U.S. Representative, Illinois 19th District; South Carolina Public Service Authority; Southeast Trailer Mart, Inc.; Southeastern Legal Foundation, Inc.; State of Alabama; State of Nebraska; State of North Dakota; State of South Carolina; State of South Dakota; State of Texas; Texas Agriculture Commission; Texas Commission on Environmental Quality; Texas General Land Office; Texas Public Utilities Commission; Texas Railroad Commission; Utility Air Regulatory Group; and Lynn Westmoreland, U.S. Representative, Georgia 3rd District.

Respondents herein, who were respondents in cases addressed by the consolidated judgment below, include the U.S. Environmental Protection Agency (EPA) and Lisa P. Jackson, Administrator, U.S. Environmental Protection Agency. Lisa Perez Jackson ceased to hold the office of Administrator, U.S. Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy, Administrator, U.S. Environmental Protection Agency.

Movant-intervenors for petitioners in certain of the cases addressed by the consolidated judgment below, who are not petitioners herein (unless identified above as petitioners herein), included Alpha Natural Resources, Inc.; American Farm Bureau Federation; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Petroleum Institute; Arkansas State Chamber of Commerce; Associated Industries of Arkansas; Brick Industry Association; Chamber of Commerce of the United States of America; Coalition for Responsible Regulation, Inc.; Colorado Association of Commerce & Industry; Commonwealth of Kentucky; Corn Refiners Association; Glass Association of North America; Glass Packaging Institute; Governor of Mississippi Haley Barbour; Great Northern Project Development, L.P.; Idaho Association of Commerce and Industry; Independent Petroleum Association of America; Indiana Cast Metals Association; Industrial Minerals Association-North

America; Kansas Chamber of Commerce and Industry; Langdale Chevrolet-Pontiac, Inc; Langdale Farms, LLC; Langdale Ford Company; Langdale Fuel Company; Langboard, Inc.–MDF; Langboard, Inc.–OSB; Louisiana Department of Environmental Quality; Louisiana Oil and Gas Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Association of Manufacturers; National Cattlemen's Beef Association; National Electrical Manufacturers Association; National Environmental Development Association's Clean Air Project; National Federation of Independent Business; National Mining Association; National Oilseed Processors Association; Nebraska Chamber of Commerce and Industry; North American Die Casting Association; Ohio Coal Association; Ohio Manufacturers Association; Peabody Energy Company; Pennsylvania Manufacturers Association; Portland Cement Association; Rosebud Mining Company; South Coast Air Quality Management District; Specialty Steel Industry of North America; State of Alaska; State of Florida; State of Georgia; State of Indiana; State of Louisiana; State of Michigan; State of Nebraska; State of North Dakota; State of Oklahoma; State of South Carolina; State of South Dakota; State of Utah; Steel Manufacturers Association; Tennessee Chamber of Commerce and Industry; Utility Air Regulatory Group; Virginia Manufacturers Association; Western States Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers & Commerce.

Movant-intervenors for respondents in certain of cases addressed by the consolidated judgment below included Alliance of Automobile Manufacturers; American Farm Bureau Federation; Brick Industry Association; Center for Biological Diversity; City of

New York; Commonwealth of Massachusetts; Conservation Law Foundation; Environmental Defense Fund; Georgia ForestWatch; Global Automakers; Indiana Wildlife Federation; Michigan Environmental Council; National Environmental Development Association's Clean Air Project; National Mining Association; Natural Resources Council of Maine; Natural Resources Defense Council; National Wildlife Federation; Ohio Environmental Council; Peabody Energy Company; Pennsylvania Department of Environmental Protection; Sierra Club; South Coast Air Quality Management District; State of California; State of Connecticut; State of Delaware; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of Minnesota; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State of Rhode Island; State of Vermont; State of Washington; Wetlands Watch; and Wild Virginia.

RULE 29.6 STATEMENT

None of the petitioners herein has a parent company, and no publicly held corporation has a 10% or greater ownership interest in any petitioner herein.

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JURISDICTION

The D.C. Circuit entered judgment on June 26, 2012, and denied timely petitions for rehearing en banc by order dated December 20, 2012. On March 8, 2013, the Chief Justice granted an extension to and including April 19, 2013, for filing a petition for a writ of certiorari. Several petitions were timely filed, and granted on October 15, 2013. This Court has jurisdiction pursuant to 28 U.S.C. § 1254(1).

STATUTORY AND REGULATORY PROVISIONS

Relevant provisions of the Clean Air Act, 42 U.S.C. §§ 7401, 7407-7409, 7470-7479, 7501-7503, 7602, are reproduced at 1a-47a of the addendum to this brief. Relevant rulemakings of the U.S. Environmental Protection Agency (EPA) are reproduced at J.A. 268-682, 1399-417.

INTRODUCTION

At issue in this case is whether EPA's regulation of greenhouse gas emissions from mobile sources under Title II of the Clean Air Act automatically triggers the regulation of those emissions from stationary sources under the permitting provisions of Part C of Title I—the "prevention of significant deterioration" (PSD) program. EPA has concluded that it does and that, as a result, millions of small sources such as hospitals, universities, and residential buildings are now potentially subject to permitting requirements, a concededly absurd result that Congress did not intend and that EPA improperly attempted to avoid by rewriting the statutory emissions thresholds that trigger PSD permitting obligations.

Six groups of petitioners have challenged the validity of EPA's stationary source regulations in these consolidated matters. While all petitioners agree that EPA's regulations cannot stand, this brief offers a distinct interpretive approach to the question presented. Whereas other parties address the meaning of "any air pollutant," and whether that term can be construed to include greenhouse gases for purposes of the PSD and Title V programs, this brief focuses instead on the interpretation of the triggering provision for the PSD permitting program.

That provision states that permitting obligations are triggered for "major emitting facilit[ies] ... in any area to which this part applies." 42 U.S.C. § 7475(a). "[T]his part" is Part C of Title I, which establishes a series of stationary source requirements, under the PSD program, designed to ensure that areas that have achieved attainment with a "national ambient air quality standard" (NAAQS) for a particular pollutant do not slip back into nonattainment (*i.e.*, to "prevent significant deterioration"). *Id.* § 7471. The key interpretive question for these purposes is whether, as EPA urges, once an area is in attainment for *any* NAAQS pollutant, Part C then "applies" to that area with respect to *all* pollutants—even those for which no NAAQS exists—or whether it instead "applies," as petitioners contend (and as EPA originally proposed, 44 Fed. Reg. 51924, 51949 (Sept. 5, 1979) (J.A. 1413-17)), to an attainment area only with respect to those particular NAAQS pollutants for which the area is attaining.

As explained below, the best interpretation of that language—indeed, the only reasonable one, considering the Act as a whole—is the latter, "pollutant-specific" interpretation. Under this view, PSD permitting obligations are triggered only when a facility emits major amounts of a pollutant in an area that is in attainment for *that* pollutant. This conclusion follows from the fact that Part C "applies" to an area only insofar as the area is in attainment for the particular NAAQS pollutant at issue, and not with respect to other pollutants.

EPA, however, has interpreted the PSD permitting provision instead to be triggered by emissions of threshold amounts of *any* regulated pollutant, including non-NAAQS pollutants such as greenhouse gases, when the area is in attainment for *any* NAAQS pollutant, even if the facility does not emit the NAAQS pollutant for which the area is attaining (or emits no NAAQS pollutant at all). 45 Fed. Reg. 52676, 52710-12 (Aug. 7, 1980) (J.A. 1399-412). This interpretation not only misconstrues the statute but, as EPA itself concedes, produces "absurd results" by sweeping into the PSD program millions of small commercial and residential facilities that Congress never intended to be covered. 75 Fed. Reg. 31514, 31557-67 (June 3, 2010) (J.A. 459-507). To address the acknowledged absurdities created by its interpretation, EPA has asserted authority, through an unprecedented and (in the words of the dissent below) "abus[ive]" expansion of administrative law doctrines, J.A. 158-59, to rewrite other provisions of the Act that set explicit and unambiguous numerical emissions thresholds.

EPA's misinterpretation of the PSD permitting provision, and its extraordinary assertion of power to rewrite the statute, must be rejected. By correcting that interpretation, the Court would conform the standard for triggering PSD permitting with the statutory language and structure and Congress's intent while avoiding the "absurd results" that led EPA impermissibly to rewrite other language in the Act, without prohibiting the regulation of greenhouse gases under other provisions.

STATEMENT OF THE CASE

The rules and regulations relevant here were developed over a period of more than 30 years, starting soon after enactment of the Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685, and culminating in EPA's most recent rulemakings.

1. Two titles of the Act, Title I and Title V, address permitting obligations for stationary sources in the United States. 42 U.S.C. §§ 7471, 7661-7661c.[1]

a. Title I of the Clean Air Act establishes a framework for EPA to address concerns over ambient air quality attributed to emissions of pollutants from stationary sources. 42 U.S.C. § 7401(b)(4). Central to this regulatory scheme are the NAAQS. *Id.* §§ 7408-7409. These standards set the maximum concentrations of "NAAQS pollutants"—also known as "criteria pollutants"—that may safely be present in the local ambient air. *Id.* The NAAQS pollutants currently include ozone, sulfur dioxide, particulate matter, nitrogen oxides, carbon monoxide, and lead. 40 C.F.R. §§ 50.1-50.12. For each of these pollutants, the statute directs EPA to determine whether each "air quality control region" in the country meets the applicable NAAQS, and to designate the region accordingly as either in "attainment" or "nonattainment." 42 U.S.C. § 7407(d). Because these designations are "pollutant-specific," a single geographic area may be classified as in "attainment" with one NAAQS and "nonattainment" with another. See *id.*; see also *Ala. Power Co.* v. *Costle*, 636 F.2d 323, 350 (D.C. Cir. 1980).

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[1] Although this case statement discusses the Title V permitting program (and is incorporated in the brief of the State of Texas *et al.*, No. 12-1269, which addresses the Title V program), the arguments in this brief focus on the PSD program of Title I.

To assist regions in maintaining compliance with the NAAQS they have attained, and making progress toward meeting those they have not, Title I establishes two independent but complementary permitting programs. The first, the PSD program of Part C, applies to the extent an area is in attainment with a NAAQS. 42 U.S.C. § 7471. The PSD permitting provision states that any "major emitting facility ... in any area to which this part applies" must obtain a permit before certain construction or modifications. *Id.* § 7475(a). "Major emitting facility" is defined as a source "with the potential to emit two hundred and fifty tons per year or more of any air pollutant." *Id.* § 7479(1).[2]

The second program, the "nonattainment new source review" (NNSR) program of Part D, applies to the extent an area is not in attainment with an applicable NAAQS. *Id.* § 7501. It precludes construction of any "major stationary source[ ] anywhere in the nonattainment area" unless the facility demonstrates, among other things, that its emissions will not exceed the "lowest achievable emission rate" for any pollutant for which the area is not attaining a

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[2] For certain facilities, the statute sets a lower emissions threshold of 100 tons per year or more of an air pollutant for a source to qualify as a "major emitting facility." 42 U.S.C. § 7479(1). For convenience, this brief refers only to the generally applicable 250 tons-per-year threshold.

NAAQS. *Id.* §§ 7502(c), 7503(a).[3] These more stringent requirements continue to apply until the local area is designated as in attainment with the relevant NAAQS. *Id.* Once it does, the PSD permitting provisions become applicable (at least with respect to that pollutant). *Id.* §§ 7471, 7501; see 45 Fed. Reg. at 52710-12 (J.A. 1399-412).

These programs were designed to act in tandem to prevent areas in attainment from slipping into nonattainment (PSD) and to bring nonattaining areas into attainment (NNSR). 42 U.S.C. §§ 7407, 7471, 7475, 7501-7502. Importantly, because these programs are complementary and "pollutant-specific," *Ala. Power,* 636 F.2d at 350, they may and often do apply concurrently to the same area and even the same facility. For instance, when a facility emits "major" quantities of both a NAAQS pollutant for which the area is in attainment and one for which it is not, the PSD program of Part C applies to the former and the NNSR program of Part D to the latter. *Id.*

b. Separate permitting obligations are imposed on certain stationary sources under Title V of the Act, which requires "major source[s]" of air pollution to obtain operating permits. 42 U.S.C. § 7661a(a). Those provisions "do[ ] not add new pollution control requirements," but instead generally mandate that a source certify compliance with requirements under other parts of the Act or other programs. 75 Fed. Reg. at 31521 (J.A. 301-05). "Major source[s]" under Title V are defined to include "any major stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant." 42 U.S.C. § 7602(j).

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[3] "Major stationary source" is defined as "any stationary facility ... [with] the potential to [emit] one hundred tons per year or more of any air pollutant." 42 U.S.C. § 7602(j).

Title V allows EPA to "exempt one or more source categories (in whole or in part)" from Title V if compliance would be "impracticable, infeasible, or unnecessarily burdensome on such categories." *Id.* § 7661a(a). But the statute flatly forbids EPA to "exempt any major source" from Title V's requirements. *Id.* Permitting authorities must approve or deny any completed operating-permit application within 18 months. *Id.* § 7661b(c).

2. Shortly after the PSD and NNSR provisions of Title I were enacted, EPA undertook rulemakings to implement them. As part of those proceedings, EPA proposed in 1979 to interpret the triggering provisions of the programs similarly, with each applicable only if a facility emits "major" quantities of a NAAQS pollutant for which the area is in either attainment (PSD) or nonattainment (NNSR) for the applicable NAAQS. 44 Fed. Reg. at 51949 (J.A. 1413-17). This interpretation was consistent with the structure and purpose of the programs, as discussed above, as well as the language of the respective triggering provisions. 42 U.S.C. § 7475(a) (requiring PSD permit for any "major emitting facility ... in any area to which this part applies"), § 7502(c)(5) (requiring NNSR permit for any "major stationary source anywhere in the non-attainment area").

In the final rule issued in 1980, however, EPA adopted a substantially different, and substantially expanded, interpretation of the PSD triggering provision (while retaining its construction of the NNSR provision). EPA held that a facility would be subject to PSD permitting if it emits "major" amounts of *any* pollutant regulated under any program of the Act, even if it emits no NAAQS pollutants whatsoever, as long as the region in which it is located has been designated as in attainment for at least one NAAQS. 45 Fed. Reg. at 52710-12 (J.A. 1399-412).

EPA explained that, in its view, this change was mandated by the statutory language. *Id.* EPA interpreted any "major emitting facility ... in any area to which this part applies," to encompass any facility emitting threshold amounts of any air pollutant that is located in an area to which Part C "applies" for any NAAQS pollutant, regardless of whether the facility actually emits that NAAQS pollutant. *Id.* EPA did not address the numerous questions raised by this interpretation. For example, it rendered the statutory phrase "in any area to which this part applies" effectively superfluous—since *all* areas in the country were then, and still are, in attainment for at least one NAAQS pollutant, see 75 Fed. Reg. at 31561 (J.A. 477-87)—and resulted in different triggers for the PSD and NNSR programs (the latter still limited to facilities emitting NAAQS pollutants) despite the similar language of the provisions and complementary nature of the programs.

This revised interpretation, although theoretically expanding the scope of the PSD program when issued, did not have any significant practical impact at that time, or for three decades thereafter. That is because facilities that emitted more than 250 tons per year of an air pollutant "subject to regulation" almost invariably also emitted 250 tons per year of a NAAQS pollutant for which the area is in attainment, and thus were subject to PSD permitting under either interpretation.

3. The practical inconsequence of the situation changed dramatically, however, with EPA's response to this Court's decision in *Massachusetts* v. *EPA*, 549

U.S. 497 (2007). *Massachusetts* held that greenhouse gases fall within the definition of "air pollutant" in Title II of the Clean Air Act, and that EPA was required to consider a rulemaking petition seeking regulation of greenhouse gas emissions from motor vehicles. *Id.* at 528-32.

In response, EPA commenced a series of rulemakings addressing greenhouse gas emissions. On December 15, 2009, it issued its *Endangerment Finding*, concluding that greenhouse gas emissions from motor vehicles "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 74 Fed. Reg. 66496 (Dec. 15, 2009) (J.A. 793-974). On May 7, 2010, it promulgated standards restricting greenhouse gas emissions from certain vehicles. 75 Fed. Reg. 25324 (May 7, 2010) (J.A. 683-704).

With this regulation, known as the *Tailpipe Rule*, greenhouse gases became for the first time regulated under the Clean Air Act. The consequences of this action were potentially significant, as EPA recognized, in light of its interpretation of the PSD permitting provision as applying to major sources of any air pollutant "subject to regulation." Greenhouse gases are emitted by a vastly greater number of stationary sources, and at vastly higher amounts, than other pollutants the agency had previously regulated. 73 Fed. Reg. 44354, 44400-01 (July 30, 2008) (J.A. 1090-96). If greenhouse gas emissions themselves triggered PSD permitting, millions of additional sources, including relatively small commercial, civic, and even residential facilities, would be immediately swept into the PSD program under the statutory "two hundred and fifty tons per year or more" threshold. 75 Fed. Reg. at 31556-58 (J.A. 455-68). Requiring all these facilities to comply with permitting obligations would, EPA said, "overwhelm permitting authorities," impose additional costs on these facilities and local governments of potentially billions of dollars annually, and "adversely affect national economic development." *Id.*[4]

These consequences—so clearly contrary to Congress's intent that EPA itself described them as "absurd," *id.* at 31557-58 (J.A. 459-68)—prompted the agency to undertake another rulemaking to address them. But instead of reconsidering its interpretation of the PSD provision, which had given rise to these problems, EPA asserted a right to alter the definition of "major emitting facility" by raising by orders of magnitude the statutory emissions threshold, which would have the effect of exempting a sufficient number of sources of greenhouse gas emissions to render the program manageable in the agency's view. *Id.* In the *Tailoring Rule*, EPA directed that, for the current "phase" of regulation, facilities emitting less than 100,000 tons per year of greenhouse gases—a 400-fold increase above the statutory threshold of 250 tons per year—would not be deemed "major emitting facilities" and would thus not be subject to PSD permitting. *Id.*[5] EPA also stated it would exercise its claimed discretion to make further downward adjustments to the statutory threshold on an ongoing basis, based on its continuing assessment of the benefits and burdens of regulation. *Id.* at 31524, 31548-49 (J.A. 312-18, 419-28).

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[4] As with the PSD program, EPA recognized that applying Title V permitting obligations to stationary sources of greenhouse gas emissions would produce intolerable consequences. Were EPA to apply that program under the 100 tons-per-year threshold, as required by statute, it would bring "millions of small sources into the title V program." 75 Fed. Reg. at 31533 (J.A. 353-57), with "approximately 6 million sources ... becom[ing immediately] subject to [T]itle V," as "[c]ompared to the 14,700 [T]itle V permits currently issued," *id.* at 31536 (J.A. 368-72). The annual cost for States to administer the Title V progam would increase from an estimated $62 million to $21 *billion*. *Id.* at 31540 (J.A. 385-88). In addition, the "great majority" of these newly covered sources would be small residential and commercial facilities that have never been permitted before and which would be issued "empty" permits, meaning the permit would have no applicable requirements. *Id.* at 31562-63 (J.A. 481-90).

4. Numerous petitions for review were thereafter filed in the D.C. Circuit challenging, *inter alia*, EPA's interpretation of the PSD permitting provision. J.A. 193-94.

In a single judgment issued on June 26, 2012, a three-judge panel rejected all of them. *Id.* The panel acknowledged EPA's concession that its construction produces "absurd results." *Id.* at 259. Nevertheless, it concluded that the agency's interpretation must be accepted because it represented, according to the panel, the "unambiguous" reading of the statute. *Id.* at 237-41. The panel held that the alternative construction proposed by the petitioners, interpreting the PSD permitting provision as being triggered only by emissions of NAAQS pollutants, was barred by *Massachusetts* v. *EPA* because, in its view, that would require reading the term "any air pollutant" in the definition of "major emitting facility" as limited to NAAQS pollutants. *Id.* The panel noted that EPA's own definition of "any air pollutant" deviated from *Massachusetts*, by limiting that phrase to "regulated" pollutants, but deemed this "slight[ ] narrow[ing of] the literal statutory definition" necessary to avoid the absurd results associated with applying permitting requirements to sources of non-regulated substances. *Id.* at 237-38.

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[5] In the same rulemaking, EPA simiarly "tailored" the Title V program by revising the statutory permitting threshold from 100 tons per year to 100,000 tons per year for greenhouse gases. *See* 75 Fed. Reg. at 31567 (J.A. 503-07).

The court subsequently denied several petitions for rehearing, with Judges Kavanaugh and Brown dissenting. *Id.* at 141-42. They found it "evident" that the most "straightforward" and "sensible" reading of the statute is that the trigger instead is "limited to NAAQS air pollutants." *Id.* at 173-75, 186. The PSD permitting program is focused expressly on NAAQS pollutants, they reasoned, and cannot be interpreted as applicable to sources of non-NAAQS pollutants—particularly in light of the "absurd results" concededly produced by that interpretation. *Id.* They were especially troubled by EPA's decision to address the absurdities created by its interpretation not by revisiting and adopting a more limited interpretation of the PSD permitting provision but instead, in the *Tailoring Rule*, "re-wr[iting] the very specific [emissions thresholds]" in the definition of "major emitting facility." *Id.* at 173-74. As Judge Kavanaugh put it: "When an agency is faced with two initially plausible readings of a statutory term, but it turns out that one reading would cause absurd results, I am aware of no precedent that suggests the agency can still choose the absurd reading and then start rewriting other perfectly clear portions of the statute to try to make it all work out." *Id.*

SUMMARY OF ARGUMENT

The PSD program was clearly structured to apply only to sources of those NAAQS pollutants for which the local area is in attainment. The program was designed for the express goal of ensuring that areas in attainment with a NAAQS would not fall out of compliance—*i.e.*, to "prevent[ ] ... significant deterioration," as the name and statutory language state—and ma[illegible] program requirements have meaning only when applied to NAAQS pollutants. See 75 Fed. Reg. at 31549 (J.A. 423-28) ("the basic purpose of the PSD program ... is to safeguard maintenance of the NAAQS"). The only real issue, then, is whether the statute can be interpreted so as to advance this fundamental purpose, limiting the program to sources of NAAQS pollutants for which the area is in attainment.

It clearly can. The PSD provision states that a "major emitting facility" is subject to permitting if it is "in any area to which this part [Part C] applies." 42 U.S.C. § 7475(a). This phrase is not defined in the statute, but in context it is most reasonably read—indeed, can only be read—as meaning that Part C "applies" to an area *only* with respect to those pollutants subject to a NAAQS that the area is attaining. *Id.* §§ 7470-7479. As such, a "major emitting facility" is "in any area to which this part applies," and subject to PSD permitting, only if it emits threshold quantities of one of these NAAQS pollutants. This "pollutant-specific" interpretation of the PSD provision accords with the statutory language and advances the undoubted purpose of the statute—to ensure the maintenance of NAAQS without imposing unnecessary regulatory burdens on sources of other pollutants.

The agency has nevertheless read the statute as imposing PSD permitting obligations on any source that qualifies as a "major emitting facility," even if the facility does not emit any NAAQS pollutant at all. 45 Fed. Reg. at 52710-12 (J.A. 1399-412). This interpretation renders several statutory clauses meaningless, including the modifying phrase "in any area to which this part applies" in the PSD permitting provision, and conflicts with the accepted construction of the identical language in 42 U.S.C. § 7473(b). It also concededly produces "absurd results" by sweeping into the PSD program millions of small commercial and residential sources that Congress never intended to be covered. 75 Fed. Reg. at 31549, 31557-67 (J.A. 423-28, 459-507).

EPA asserts it can eliminate this last problem—seemingly a dispositive ground foreclosing EPA's interpretation—by simply rewriting the definition of "major emitting facility." In particular, EPA would read the term "any air pollutant" in that definition to mean "any air pollutant *subject to regulation under the Act*" (thereby excluding non-regulated substances), and it would increase the emissions thresholds in the provision from 250 tons per year to 100,000 tons per year when the "air pollutant" is greenhouse gases. *Id.* EPA has, further, claimed authority to revise these thresholds from time to time in the future, as appropriate in the agency's judgment. *Id.* at 31573 (J.A. 528-33).

Nothing in the Clean Air Act or this Court's precedent supports this remarkable assertion of authority to rewrite the statute. When an agency concludes that its interpretation of a statute produces "absurd" consequences that Congress never intended, the proper response for the agency is to reexamine its interpretation, and if an alternative construction that avoids those consequences is available—as here—the agency must adopt that construction. *E.g.*, *Kloeckner* v. *Solis*, 133 S. Ct. 596, 606-07 (2012). Here, however, EPA treated its prior interpretation as fixed and unmovable, and chose instead to address the "absurd results" produced by its reading of the PSD permitting provision by rewriting other separate and explicit statutory directives. 75 Fed. Reg. at 31549, 31557-

67, 31573 (J.A. 423-28, 459-507, 528-33). In so doing, EPA not only committed a one-time impermissible act of statutory rewriting; it also asserted the extraordinary power, going forward, to continually readjust those statutory thresholds downward based on its ongoing assessments of the benefits and burdens of regulation, and thereby design its own climate change policy separate and apart from statutory requirements. *Id.* Under our system of separated powers, that was not a lawful option.

ARGUMENT

I. INTERPRETING THE PSD TRIGGERING PROVISION TO APPLY ONLY TO SOURCES OF NAAQS POLLUTANTS FOR WHICH THE AREA IS IN ATTAINMENT ACCORDS WITH THE STATUTORY TEXT, STRUCTURE, AND PURPOSE.

The PSD triggering provision states that a "major emitting facility ... in any area to which this part applies" is subject to PSD permitting. 42 U.S.C. § 7475(a). The term "major emitting facility" is defined elsewhere in Part C as any source of at least 250 tons per year of any air pollutant. *Id.* § 7479(1). The critical question, therefore, is the meaning of the phrase "in any area to which this part applies."

Congress did not define that phrase; nor did it expressly specify to which areas Part C "applies." Two things, however, are clear: Part C is designed "to prevent significant deterioration of air quality in each region ... designated pursuant to section 7407 of this title as attainment." *Id.* § 7471. And, under 42 U.S.C. § 7407(d), areas are designated as "attainment" or "nonattainment" on a pollutant-specific basis, so that the same area can be designated "attainment" for one pollutant and "nonattainment" for another. *Id.*

Thus, read in isolation, the phrase "area to which this part applies" could be read in one of two ways. It might be read to mean that Part C "applies" to an area, for all purposes and all pollutants, whenever the area is in attainment with any NAAQS for any pollutant. 45 Fed. Reg. at 52710-12 (J.A. 1399-412). Under that interpretation, urged by EPA, PSD permitting requirements would be imposed on any facility that emits major amounts of any pollutant in an area that is attaining a NAAQS for any pollutant, even if the facility does not emit the pollutant whose NAAQS the area is attaining (or any NAAQS pollutant at all). *Id.* Alternatively, the phrase could be read to mean that Part C "applies" to an area only with respect to those pollutants for which the area is in attainment. 44 Fed. Reg. at 51949 (J.A. 1413-17). Under this "pollutant-specific" interpretation, advanced by petitioners (and originally proposed by EPA in 1979, *id.*), PSD permitting requirements would be imposed only on facilities emitting major amounts of a pollutant in an area that is attaining a NAAQS for that pollutant. *Id.*

While potentially ambiguous in isolation, the phrase "in any area to which this part applies," when considered in the full context of the statute, can reasonably bear only the "pollutant-specific" interpretation.[6]

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[6] No deference is due EPA's statutory construction. EPA has defended that construction only as the "unambiguous" reading of the statute, and not as a reasonable agency choice among several possible readings of an ambiguous provision. *See Chevron, U.S.A., Inc.* v. *NRDC, Inc.*, 467 U.S. 837, 842 (1984); Br. for Fed. Resps. in Opp. 31-43; *cf.* Resps. Br. 13, 53 684 F.3d 102 (D.C. Cir., filed Aug. 3, 2011) (No. 10-1167). Under *SEC* v. *Chenery*

A. The statute makes clear that the only pollutants that are "subject to regulation under this Part [C]" are those NAAQS pollutants for which the area is in attainment. 75 Fed. Reg. at 31561 & n.44 (J.A. 477-487 & n.44). Part C is thus properly said to "apply" to an area only with respect to those pollutants for which the area is in attainment with a NAAQS. Indeed, Part C *cannot* "apply" to other pollutants in an area that are subject to regulation under different parts of the Act. In particular, with respect to NAAQS pollutants for which an area is not attaining, Part D of Title I—and *not* Part C—"applies" to the area in setting plan and permitting requirements. 42 U.S.C. § 7502(c). "The applicability of the PSD program to a particular source [in an area] ... is [therefore] pollutant-specific." 70 Fed. Reg. 59582, 59583 (Oct. 12, 2005).

This pollutant-specific interpretation is confirmed by the fact that another provision in Part C uses the phrase in *precisely* this way. Section 7473(b) provides:

> The maximum allowable concentration of any air pollutant *in any area to which this part applies* shall not exceed [the] concentration ... under the [relevant] national ... ambient air quality standard.

42 U.S.C. § 7473(b)(4) (emphasis added). There is no doubt, and EPA agrees (as did the panel below, J.A.

Corp., 332 U.S. 194 (1947), EPA's construction can be upheld only if the Court agrees that its interpretation was compelled by Congress. Indeed, as EPA apparently recognizes, a reading the agency acknowledges will generate absurd results that Congress did not intend could not be upheld as "reasonable" if an alternative interpretation is available, which is presumably why EPA must defend its actions as an unambiguous reading of the statute itself.

249-52), that in this provision the phrase "in any area to which this part applies" must be read as restricting the provision to those pollutants subject to a NAAQS for which the area is attaining. *Id.* Otherwise EPA would be required to perform the impossible task of establishing maximum NAAQS concentration levels for pollutants not subject to a NAAQS. *Id.*; see Resps. Br. 30-31, 684 F.3d 102 (D.C. Cir., filed Aug. 3, 2011) (No. 10-1167). "Moreover, 'any area to which this part applies' must mean 'any area that is in attainment for that NAAQS pollutant,' because if an area was in nonattainment for a particular pollutant, Part D—rather than the PSD program—would govern emissions limits for that specific pollutant." J.A. 250. The same pollutant-specific understanding of this phrase should also apply to the PSD triggering provision, particularly because these provisions were enacted at the same time in the same part of the Act. See *Powerex Corp* v. *Reliant Energy Servs., Inc.*, 551 U.S. 224, 232 (2007) ("[I]dentical words and phrases within the same statute should normally be given the same meaning.").[7]

Moreover, to hold to the contrary, that an area is one "to which this part applies" whenever the area is in attainment for any NAAQS pollutant, would render that phrase superfluous as it appears in the PSD permitting provision. *All* areas of the country are now and always have been in attainment for at least *one* pollutant, meaning that never in the statute's history has there been a single area in the country to which Part C does not "apply" in that sense. 75 Fed. Reg. at 31561 (J.A. 477-87).[8] The phrase has practical import only if it is read as restricting "major emitting facility" to those sources emitting threshold quantities of a NAAQS pollutant for which the area is attaining. See, *e.g.*, *Hibbs* v. *Winn*, 542 U.S. 88, 101 (2004) ("A statute should be construed ... so that no part will be inoperative or superfluous ....") (quoting 2A N. Singer, *Statutes and Statutory Construction* § 46.06 (6th ed. 2000)).

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[7] Other PSD provisions, by contrast, could be construed to apply to non-NAAQS pollutants as well, confirming that the permitting provision should be read more narrowly. For instance, 42 U.S.C. § 7475(a)(4) mandates that facilities adopt the "best available control technology" for any air pollutant "subject to regulation under this [Act]." *Id.* This language demonstrates Congress's understanding that, although facilities would be subject to PSD permitting only because of emissions of a NAAQS pollutant, once in the program they could be required to address a broader range of pollutants.

B. This interpretation also conforms best to the Act's structure. The permitting programs of Title I—the PSD program of Part C and the NNSR program of Part D—were designed to promote compliance with the NAAQS. See 42 U.S.C. §§ 7407, 7471, 7475, 7501-7502. For those NAAQS an area is attaining, the PSD program establishes standards to "prevent significant deterioration" of the ambient air quality with regard to that NAAQS pollutant; for those NAAQS the area is not attaining, the NNSR program mandates stricter requirements to affirmatively improve ambient air quality and "ensur[e] attainment of the applicable [NAAQS]." *Id.* Put simply, only sources that may impact the locality's continued attainment or nonattainment of a NAAQS, through their emissions of "major" quantities of a NAAQS pollutant, are targeted by these programs.

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[8] EPA does not, and could not, contend Congress was unaware of the extent of area designations when it enacted the PSD program. *See* S. Subcomm. on Environmental Pollution of the S. Comm. on Environment & Public Works, 95th Cong., A Section-by-Section Analysis of S. 252 and S. 253 Clean Air Act Amendments and S. 2533.

This structure is fundamentally inconsistent with an interpretation of the PSD provision that imposes permitting requirements on major sources of any pollutant, without regard to whether a NAAQS exists for that pollutant or whether the area is in attainment for that pollutant. While Congress *might* have crafted a nationwide permitting scheme applicable to any major source of any pollutant anywhere in the country, it clearly did not. Instead, it designed a system in which permitting is triggered only if the facility is located in a particular area that has been designated either as "attainment" or "nonattainment" for a specific NAAQS pollutant. *Id.* This design makes sense only if the permitting obligations are viewed as pollutant-specific—imposed only on facilities emitting major quantities of a NAAQS pollutant for which the area is either attaining (PSD) or not attaining (NNSR). Conversely, it would have been irrational for Congress to create a permitting program that is by its terms location- and pollutant-specific but nevertheless applies to any major source of any pollutant in any area.

Indeed, EPA does not dispute that the parallel NNSR triggering provision must be interpreted in a pollutant-specific manner. That provision states that any "new or modified major stationary source[ ] anywhere in the nonattainment area" must comply with NNSR permitting requirements. *Id.* § 7502(c)(5). Like the PSD triggering provision, it might be interpreted, if considered in isolation, to impose those requirements on any facility emitting threshold amounts of any air pollutant, including a non-NAAQS pollutant. Nevertheless, EPA has adopted a pollutant-specific reading of the NNSR provision, holding that a facility is subject to permitting only if it emits threshold quantities of a NAAQS pollutant for which the area is not in attainment. 45 Fed. Reg. at 52710-12 (J.A. 1399-412).

The PSD triggering provision must be construed similarly. The PSD and NNSR programs were designed to work in tandem, and the scope of the two programs should be interpreted consistently. Indeed, both programs reference and rely upon the same provision, 42 U.S.C. § 7407(d), to define the areas to which they apply, see *id.* § 7471 ("attainment area"), § 7501(2) ("nonattainment area"), and that provision states that both "attainment" and 'nonattainment" areas are to be classified "for the pollutant" at issue, *id.* § 7407(d)(1)(A)(i-ii). Particularly given EPA's position that the NNSR definition of "nonattainment area" compels a pollutant-specific interpretation, see Resps. Br. 25-26, 684 F.3d 102 (D.C. Cir., filed Aug. 3, 2011) (No. 10-1167), the same interpretation should govern the PSD provision.[9]

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[9] EPA has argued that the pollutant-specific interpretation should be applied to the NNSR triggering provision, but not the PSD provision, because the term "nonattainment area" (as used in the NNSR provision) is expressly defined in Part D in a pollutant-specific manner, as "for any air pollutant, an area which is designated 'nonattainment' *with respect to that pollutant* within the meaning of section 7407(d)." 42 U.S.C. § 7501(2) (emphasis added). This argument ignores, however, that this definition incorporates 42 U.S.C. § 7407(d)—which sets forth the meaning of *both* "attainment" and "nonattainment," and (as noted above) describes each in precisely the same pollutant-specific way. *Id.* (a "nonattainment" area is "any area that does not meet ... the national primary or secondary ambient air quality standard *for the pollutant*"; an "attainment" area is "any area ... that meets the national primary or secondary ambient air quality standard *for the pollutant*") (emphases added). Thus, far from justifying a distinction between the PSD and NNSR programs, the definition of "nonattainment area" in Part D confirms that both "attainment area" and "nonattainment area" carry the same pollutant-

C. A pollutant-specific interpretation of the PSD triggering provision would, moreover, adhere to Congress's intent and expectations regarding the PSD program. Congress crafted the PSD program for the express purpose of "protect[ing] national ambient air quality standards." S. Rep. No. 95-127, at 27-30, 96-98 (1977). It anticipated, in accord with that purpose, that the program would apply only to sources of those pollutants, such as "particulate matter and sulfur oxides," that can affect local ambient air quality and are subject to a NAAQS. *Id.*; see 122 Cong. Rec. S12675, S12701-02 (daily ed. July 28, 1976) (statement of Sen. Tunney); 122 Cong. Rec. S13313-13326 (daily ed. Aug. 4, 1976) (statement of Sen. Hart).

Nowhere does the legislative record indicate that PSD permitting obligations would be triggered also by sources of non-NAAQS pollutants, such as smaller commercial and residential facilities. Quite the contrary, Congress recognized that requiring these facilities to comply with these obligations would be "costly" and "unreasonable." S. Rep. No. 95-127, at 96-98; S. Rep. No. 94-717, at 79-80 (1976); 122 Cong. Rec. S12775, S12809 (daily ed. July 29, 1976) (statement of Sen. McClure). The program would apply, Congress understood, only to "very large" facilities—like "industrial plant[s]," "electrical generating plants," and "new steel mills," S. Rep. No. 95-127, at 27-30, 96-98—that are, "due to their size, [ ] financially able to bear the substantial regulatory costs imposed by ... PSD [permitting] and which, as a group, are primarily responsible for emission of the deleterious pollutants that befoul our nation's air." *Ala. Power*, 636 F.2d at 353. That category includes only facilities emitting major quantities of a NAAQS pollutant.

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specific meaning and that the triggering provisions of the two programs must be interpreted in that manner.

This is, notably, how the regulatory predecessor to the statutory PSD program was designed and administered. EPA promulgated regulations in 1974 requiring state implementation plans to incorporate a "prevention of significant deterioration" preconstruction review process. 39 Fed. Reg. 42510 (Dec. 5, 1974). Those regulations were expressly limited to sources "of any pollutant for which a national standard has been promulgated"—*i.e.*, NAAQS pollutants. *Id.* at 42514. Congress expressly relied on, and in many circumstances directly incorporated, those regulations in crafting the statutory PSD program enacted in 1977. S. Rep. No. 95-127, at 25-28; see 75 Fed. Reg. at 31550 n.34 (J.A. 428 n.34) (describing 1974 regulations as "precursor" to the statutory PSD program); cf., *e.g.*, ***McElroy* v. *United States***, 455 U.S. 642, 648-49 (1982) (statutory language should be interpreted in light of meaning in precursor provisions).

The only reasonable reading of the phrase "in any area to which this part applies" in the PSD triggering provision—the only one consistent with the statute's language, structure, and history—is the "pollutant-specific" interpretation. Under this view, in accord with Congress's intent and expectation, only those facilities emitting major amounts of a NAAQS pollutant for which the area is in attainment—those facilities to which Part C "applies"—are subject to PSD permitting under 42 U.S.C. § 7475(a).[10]

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[10] Thus, under the correct interpretation of 42 U.S.C. § 7475(a), only emissions of NAAQS pollutants can trigger PSD permit requirements. This follows, not from any construction of the term "any air pollutant" in the definition of "major emitting facility," *cf. infra* pp. 24-26, but from the fact that Part C "applies" only to those areas that are in attainment for the pollutant at issue, and an area can be in attainment only for NAAQS pollutants.

II. EPA'S INTERPRETATION OF THE PSD TRIGGERING PROVISION CANNOT BE ACCEPTED BECAUSE IT CREATES RESULTS THAT EPA CONCEDES ARE ABSURD AND THAT, IN EPA'S VIEW, REQUIRE REWRITING THE STATUTE.

EPA nevertheless maintains that a "major emitting facility" is "in any area to which this part applies" if it is located in an area that is in attainment for any NAAQS pollutant, even if the facility does not itself emit that pollutant (or even any NAAQS pollutant at all). 45 Fed. Reg. at 52710-12 (J.A. 1399-412). The phrase "in any area to which this part applies" serves no modifying role under this interpretation, because all areas of the country are and always have been in attainment for at least one NAAQS pollutant, meaning Part C "applies" nationwide in this sense. *Supra* pp. 18-19. Under this view, any source that qualifies as a "major emitting facility" under the separate definition of that term, in 42 U.S.C. § 7479(1), is subject to PSD permitting. See 75 Fed. Reg. at 31561 (J.A. 477-87).

EPA has defended its interpretation as the "unambiguous" and "literal" meaning of the statute. *Id.* at 31516-17 (J.A. 280-84); Br. for Fed. Resps. in Opp. 31-43. Clearly it is neither. EPA's interpretation is not only inconsistent with the statute's structure and history, as discussed above, but by EPA's own admission it produces "absurd results" that Congress did not intend. EPA asserts that it was compelled, in light of these absurd results, to rewrite two separate elements of the definition of "major emitting facility"—altering the term "air pollutant" and the statutory emissions threshold—to avoid the consequences of its misconstruction.

A. The first element modified by the agency is "air pollutant." "Major emitting facility" is defined in Part C as a source of threshold amounts of "any air pollutant," 42 U.S.C. § 7479(1), and "air pollutant" is in turn defined as "any physical, chemical, [or] biological ... substance [which] enters the ambient air, *id.* § 7602(g). This definition can be read, as this Court stated in ***Massachusetts*** v. ***EPA***, to "embrace[ ] all airborne compounds of whatever stripe," including substances regulated as "air pollutants," such as greenhouse gases, but also non-regulated substances like oxygen and water vapor. 549 U.S. at 528-32. Under this view, and under EPA's interpretation of the PSD permitting provision, any source of 250 tons per year or more of *any* airborne agent would be a "major emitting facility" and subject to PSD permitting.

The statute undoubtedly cannot be interpreted in this manner. To hold that all "major" sources of non-regulated airborne agents, such as oxygen and water vapor, are covered by the PSD permitting process would mean that nearly *every* building in the country—every industrial plant, every commercial complex, every agricultural facility, and even residential buildings—could be subject to permitting, as nearly all of them do or can emit certain agents in amounts of more than 250 tons per year. See 45 Fed. Reg. at 52710-12 (J.A. 1399-412); see also 75 Fed. Reg. at 31516-17 (J.A. 280-84). All parties agree that this outcome would be inconsistent with the statute and would render the PSD program permanently unworkable. See 45 Fed. Reg. at 52710-12 (J.A. 1399-412); see also Resps. Br. 30-32, 684 F.3d 102 (D.C. Cir., filed Aug. 3, 2011) (No. 10-1167).

To avoid this result, EPA has read the term "any air pollutant" in this context as "any air pollutant *subject to regulation under the Act.*" See 45 Fed. Reg. at 52710-12 (J.A. 1399-412). Under this construction, only sources of regulated pollutants can qualify as a "major emitting facility" subject to PSD permitting. *Id.*

This reading, although it addressed some (but not all) of the problems with EPA's interpretation of the PSD provision, has no basis in the statutory language. The phrase "subject to regulation" appears nowhere in the definition of "major emitting facility," and the statute grants EPA no discretion to restrict or redefine the term in that manner. See 42 U.S.C. § 7479(1). Indeed, because the statute elsewhere uses the phrase "subject to regulation under this [Act]" to modify "pollutant," *id.* § 7475(a)(4), it is clear that Congress did not use or understand "any air pollutant" as inherently limited to regulated pollutants. *Russello* v. *United States*, 464 U.S. 16, 22-23 (1983) ("[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion."). Whether or not the meaning of "any air pollutant" should be limited in some way in this context, for instance as encompassing only NAAQS pollutants (as Judge Kavanaugh concluded below, J.A. 184-85), it clearly cannot be rewritten—as EPA has done—to be modified by the absent phrase "subject to regulation under the Act."

B. EPA later deemed it necessary to further rewrite the definition of "major emitting facility," to modify the statutory 250 tons-per-year emissions threshold. When EPA adopted regulations addressing greenhouse gases in the mobile source context, and greenhouse gases became "subject to regulation," millions of small residential and commercial facilities not previously subject to PSD permitting were immediately swept into the program, under EPA's interpretation of the PSD provision. 75 Fed. Reg. at 31547 (J.A. 415-19). EPA itself characterized this result as so plainly inconsistent with Congress's intent as to be "absurd." *Id.*

To address these remaining absurdities, left unresolved by its rewriting of "any air pollutant," EPA rewrote the emissions threshold for a "major emitting facility" from 250 tons per year, as stated in the statute, to 100,000 tons per year for greenhouse gases. *Id.* at 31560-62 (J.A. 472-85). The resulting 400-fold increase in the emissions threshold was rationalized by the agency as a "reasonable balancing of protection of the environment with promotion of economic development." *Id.* at 31573 (J.A. 529-33).

This rewriting of the emissions threshold, like EPA's rewriting of "any air pollutant," has no basis in the statute. The definition of "major emitting facility" grants no discretion to EPA to revise that limit. 42 U.S.C. § 7479(1). Quite the contrary, the fact that Congress set forth an explicit emissions threshold in this context, whereas other provisions expressly authorize EPA to undertake such determinations, see, *e.g.*, *id.* § 7476, confirms that EPA has no discretion to alter that threshold. Numerous cases from this Court and others admonish that agencies cannot unilaterally revise acts of Congress in this way. *E.g.*, *Kloeckner*, 133 S. Ct. at 606-07; *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564 (1982).[11]

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[11] *See Mova Pharm. Corp.* v. *Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998) (agencies faced with perceived "statutory anomaly" do not "thereby obtain a license to rewrite the statute"); *Ala. Power*, 636 F.2d at 357-58 (agencies lack "general administrative power to create exemptions to statutory requirements based upon the agency's perceptions of costs and benefits").

* * *

EPA's interpretation of the PSD permitting provision cannot stand. That interpretation, as discussed above, is inconsistent with the language and structure of the statute and by the agency's own admission produces "absurd results" contrary to congressional intent. *Supra* pp. 24-27. EPA's attempts to rewrite the statute to avoid the absurdities, far from resolving the problems with its interpretation, confirm and highlight the invalidity of its approach. *Kloeckner*, 133 S. Ct. at 606-07 (an interpretation that produces "absurd results" cannot be cured by adding "new words into the statute" but must be reconsidered). Whether or not an agency's construction of the statute might otherwise be entitled to some level of deference, an interpretation that produces absurd results and requires rewriting other provisions cannot be accepted. *Id.*; see *Bd. of Governors* v. *Dimension Fin. Corp.*, 474 U.S. 361, 368 (1986) ("deference ... to agency interpretation is not to be applied to alter the clearly expressed intent of Congress").

The only reasonable construction of the phrase "in any area to which this part applies" in the PSD triggering provision is the pollutant-specific interpretation set forth above (and originally proposed by EPA, 44 Fed. Reg. at 51949 (J.A. 1413-17)). That construction would avoid all of the absurdities identified by the agency and limit the scope of the PSD program as Congress undoubtedly intended. It would not require rewriting any other aspects of the statutory definition of "major emitting facility," as EPA did, because it relies on the language of the PSD triggering provision to limit the program to facilities emitting major quantities of a NAAQS pollutant for which the area is in attainment. And, it would not preclude regulation of greenhouse gases or other air pollutants under the

PSD program or other parts of the Act, once statutory prerequisites are satisfied.[12] Regardless of how this Court resolves the arguments regarding the meaning of "air pollutant" in 42 U.S.C. § 7479(1) and the other issues raised by other petitioners, adopting the pollutant-specific interpretation of the PSD triggering provision, 42 U.S.C. § 7475(a), will ensure that the program is administered consistent with the statute and with congressional intent in at least this important respect.

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[12] Facilities subject to PSD permitting based on their emissions of NAAQS pollutants could, for example, still be required by EPA's regulations to adopt the "best available control technology" for greenhouse gas emissions under 42 U.S.C. § 7475(a)(4), assuming that greenhouse gases are properly considered a "pollutant subject to regulation" for purposes of 42 U.S.C. § 7475(a)(4). Indeed, if the Court adopts a pollutant-specific construction of the PSD triggering provision, and if the Court also concludes that greenhouse gases are a "pollutant subject to regulation" under the PSD program, approximately 83% of national greenhouse gas emissions potentially subject to regulation under EPA's construction could still be covered—which is only 3% less than the national emissions covered under the current "phase" of EPA's *Tailoring Rule*. *See* 75 Fed. Reg. at 31540, 31568, 31571, 31600 (J.A. 385-88, 507-11, 520-24, 644-48). But EPA would then no longer be able to claim the power to revise the statutory thresholds, because the "absurd results" on which it relied to do so would be avoided.

CONCLUSION

The decision of the court of appeals should be reversed, with directions that the petitions for review be granted and that EPA's interpretation of the PSD permitting provision be vacated.

Respectfully submitted,

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STATUTORY ADDENDUM

STATUTORY ADDENDUM

42 U.S.C. § 7401. Congressional findings and declaration of purpose

(a) Findings

The Congress finds—

(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally cross the boundary lines of local jurisdictions and often extend into two or more States;

(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation;

(3) that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of States and local governments; and

(4) that Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

(b) Declaration

The purposes of this subchapter are—

(1) to protect and enhance the quality of the Nation's air resources so as to promote the public

health and welfare and the productive capacity of its population;

(2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;

(3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and

(4) to encourage and assist the development and operation of regional air pollution prevention and control programs.

(c) Pollution prevention

A primary goal of this chapter is to encourage or otherwise promote reasonable Federal, State, and local governmental actions, consistent with the provisions of this chapter, for pollution prevention.

42 U.S.C. § 7407. Air quality control regions

(a) Responsibility of each State for air quality; submission of implementation plan

Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State.

(b) Designated regions

For purposes of developing and carrying out implementation plans under section 7410 of this title--

(1) an air quality control region designated under this section before December 31, 1970, or a region designated after such date under subsection (c) of this section, shall be an air quality control region; and

(2) the portion of such State which is not part of any such designated region shall be an air quality control region, but such portion may be subdivided by the State into two or more air quality control regions with the approval of the Administrator.

(c) Authority of Administrator to designate regions; notification of Governors of affected States

The Administrator shall, within 90 days after December 31, 1970, after consultation with appropriate State and local authorities, designate as an air quality control region any interstate area or major intrastate area which he deems necessary or appropriate for the attainment and maintenance of ambient air quality standards. The Administrator shall immediately notify the Governors of the affected States of any designation made under this subsection.

(d) Designations

(1) Designations generally

(A) Submission by Governors of initial designations following promulgation of new or revised standards

By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under section 7409 of this title, the Governor of each State shall (and at any other time the Governor of a State deems appropriate the Governor may) submit to the Administrator a list of all areas (or portions thereof) in the State, designating as--

> (i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,
>
> (ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or
>
> (iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

The Administrator may not require the Governor to submit the required list sooner than 120 days after promulgating a new or revised national ambient air quality standard.

(B) Promulgation by EPA of designations

> (i) Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) submitted under subparagraph (A) as expeditiously as practicable, but in no case later than 2 years from the date of promulgation of the new or revised national ambient air

quality standard. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.

(ii) In making the promulgations required under clause (i), the Administrator may make such modifications as the Administrator deems necessary to the designations of the areas (or portions thereof) submitted under subparagraph (A) (including to the boundaries of such areas or portions thereof). Whenever the Administrator intends to make a modification, the Administrator shall notify the State and provide such State with an opportunity to demonstrate why any proposed modification is inappropriate. The Administrator shall give such notification no later than 120 days before the date the Administrator promulgates the designation, including any modification thereto. If the Governor fails to submit the list in whole or in part, as required under subparagraph (A), the Administrator shall promulgate the designation that the Administrator deems appropriate for any area (or portion thereof) not designated by the State.

(iii) If the Governor of any State, on the Governor's own motion, under subparagraph (A), submits a list of areas (or portions thereof) in the State designated as nonattainment, attainment, or unclassifiable, the Administrator shall act on such designations in accordance with the procedures under paragraph (3) (relating to redesignation).

(iv) A designation for an area (or portion thereof) made pursuant to this subsection shall remain in effect until the area (or portion thereof) is redesignated pursuant to paragraph (3) or (4).

(C) Designations by operation of law

(i) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(A), (B), or (C) of this subsection (as in effect immediately before November 15, 1990) is designated, by operation of law, as a nonattainment area for such pollutant within the meaning of subparagraph (A)(i).

(ii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(E) (as in effect immediately before November 15, 1990) is designated by operation of law, as an attainment area for such pollutant within the meaning of subparagraph (A)(ii).

(iii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(D) (as in effect immediately before November 15, 1990) is designated, by operation of law, as an unclassifiable area for such pollutant within the meaning of subparagraph (A)(iii).

(2) Publication of designations and redesignations

(A) The Administrator shall publish a notice in the Federal Register promulgating any designation under paragraph (1) or (5), or announcing any designation under paragraph (4), or promulgating any redesignation under paragraph (3).

(B) Promulgation or announcement of a designation under paragraph (1), (4) or (5) shall not be subject to the provisions of sections 553 through

557 of Title 5 (relating to notice and comment), except nothing herein shall be construed as precluding such public notice and comment whenever possible.

(3) Redesignation

(A) Subject to the requirements of subparagraph (E), and on the basis of air quality data, planning and control considerations, or any other air quality-related considerations the Administrator deems appropriate, the Administrator may at any time notify the Governor of any State that available information indicates that the designation of any area or portion of an area within the State or interstate area should be revised. In issuing such notification, which shall be public, to the Governor, the Administrator shall provide such information as the Administrator may have available explaining the basis for the notice.

(B) No later than 120 days after receiving a notification under subparagraph (A), the Governor shall submit to the Administrator such redesignation, if any, of the appropriate area (or areas) or portion thereof within the State or interstate area, as the Governor considers appropriate.

(C) No later than 120 days after the date described in subparagraph (B) (or paragraph (1)(B)(iii)), the Administrator shall promulgate the redesignation, if any, of the area or portion thereof, submitted by the Governor in accordance with subparagraph (B), making such modifications as the Administrator may deem necessary, in the same manner and under the same procedure as is applicable under clause (ii) of paragraph (1)(B), except that the phrase "60 days" shall be substituted for the phrase "120 days" in that clause. If the Governor does not submit, in accordance with subparagraph (B), a redesignation for an area (or portion thereof) identified by the Administrator under subparagraph (A), the Administrator shall promulgate such redesignation, if any, that the Administrator deems appropriate.

(D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation. The submission of a redesignation by a Governor shall not affect the effectiveness or enforceability of the applicable implementation plan for the State.

(E) The Administrator may not promulgate a redesignation of a nonattainment area (or portion thereof) to attainment unless—

> (i) the Administrator determines that the area has attained the national ambient air quality standard;
>
> (ii) the Administrator has fully approved the applicable implementation plan for the area under section 7410(k) of this title;
>
> (iii) the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;

(iv) the Administrator has fully approved a maintenance plan for the area as meeting the requirements of section 7505a of this title; and

(v) the State containing such area has met all requirements applicable to the area under section 7410 of this title and part D of this subchapter.

(F) The Administrator shall not promulgate any redesignation of any area (or portion thereof) from nonattainment to unclassifiable.

* * * *

(e) Redesignation of air quality control regions

(1) Except as otherwise provided in paragraph (2), the Governor of each State is authorized, with the approval of the Administrator, to redesignate from time to time the air quality control regions within such State for purposes of efficient and effective air quality management. Upon such redesignation, the list under subsection (d) of this section shall be modified accordingly.

(2) In the case of an air quality control region in a State, or part of such region, which the Administrator finds may significantly affect air pollution concentrations in another State, the Governor of the State in which such region, or part of a region, is located may redesignate from time to time the boundaries of so much of such air quality control region as is located within such State only with the approval of the Administrator and with the consent of all Governors of all States which the Administrator determines may be significantly affected.

(3) No compliance date extension granted under section 7413(d)(5) of this title (relating to coal conver-

sion) shall cease to be effective by reason of the regional limitation provided in section 7413(d)(5) of this title if the violation of such limitation is due solely to a redesignation of a region under this subsection.

42 U.S.C. § 7408. Air quality criteria and control techniques

(a) Air pollutant list; publication and revision by Administrator; issuance of air quality criteria for air pollutants

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall within 30 days after December 31, 1970, publish, and shall from time to time thereafter revise, a list which includes each air pollutant--

> (A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;
>
> (B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and
>
> (C) for which air quality criteria had not been issued before December 31, 1970 but for which he plans to issue air quality criteria under this section.

(2) The Administrator shall issue air quality criteria for an air pollutant within 12 months after he has included such pollutant in a list under paragraph (1). Air quality criteria for an air pollutant shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected

from the presence of such pollutant in the ambient air, in varying quantities. The criteria for an air pollutant, to the extent practicable, shall include information on—

(A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant;

(B) the types of air pollutants which, when present in the atmosphere, may interact with such pollutant to produce an adverse effect on public health or welfare; and

(C) any known or anticipated adverse effects on welfare.

(b) Issuance by Administrator of information on air pollution control techniques; standing consulting committees for air pollutants; establishment; membership

(1) Simultaneously with the issuance of criteria under subsection (a) of this section, the Administrator shall, after consultation with appropriate advisory committees and Federal departments and agencies, issue to the States and appropriate air pollution control agencies information on air pollution control techniques, which information shall include data relating to the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact of the emission control technology. Such information shall include such data as are available on available technology and alternative methods of prevention and control of air pollution. Such information shall also include data on alternative fuels, processes, and operating methods which will result in elimination or significant reduction of emissions.

(2) In order to assist in the development of information on pollution control techniques, the Administrator may establish a standing consulting committee for each air pollutant included in a list published pursuant to subsection (a)(1) of this section, which shall be comprised of technically qualified individuals representative of State and local governments, industry, and the academic community. Each such committee shall submit, as appropriate, to the Administrator information related to that required by paragraph (1).

(c) Review, modification, and reissuance of criteria or information

The Administrator shall from time to time review, and, as appropriate, modify, and reissue any criteria or information on control techniques issued pursuant to this section. Not later than six months after August 7, 1977, the Administrator shall revise and reissue criteria relating to concentrations of NO2 over such period (not more than three hours) as he deems appropriate. Such criteria shall include a discussion of nitric and nitrous acids, nitrites, nitrates, nitrosamines, and other carcinogenic and potentially carcinogenic derivatives of oxides of nitrogen.

* * * *

42 U.S.C. § 7409. National primary and secondary ambient air quality standards

(a) Promulgation

(1) The Administrator—

(A) within 30 days after December 31, 1970, shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall by regulation promulgate such proposed national primary and secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after December 31, 1970, the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) of this section shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) of this section shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary

standards may be revised in the same manner as promulgated.

(c) National primary ambient air quality standard for nitrogen dioxide

The Administrator shall, not later than one year after August 7, 1977, promulgate a national primary ambient air quality standard for NO_2 concentrations over a period of not more than 3 hours unless, based on the criteria issued under section 7408(c) of this title, he finds that there is no significant evidence that such a standard for such a period is requisite to protect public health.

(d) Review and revision of criteria and standards; independent scientific review committee; appointment; advisory functions

(1) Not later than December 31, 1980, and at five-year intervals thereafter, the Administrator shall complete a thorough review of the criteria published under section 7408 of this title and the national ambient air quality standards promulgated under this section and shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section. The Administrator may review and revise criteria or promulgate new standards earlier or more frequently than required under this paragraph.

* * * *

42 U.S.C. § 7470. Congressional declaration of purpose

The purposes of this part are as follows:

(1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate[1] to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air)[2], notwithstanding attainment and maintenance of all national ambient air quality standards;

(2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;

(3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;

(4) to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other State; and

(5) to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process.

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[1] So in original. Probably should be "anticipated".

[2] So in original. Section was enacted without an opening parenthesis.

42 U.S.C. § 7471. Plan requirements

In accordance with the policy of section 7401(b)(1) of this title, each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 7407 of this title as attainment or unclassifiable.

42 U.S.C. § 7472. Initial classifications

(a) Areas designated as class I

Upon the enactment of this part, all—

(1) international parks,

(2) national wilderness areas which exceed 5,000 acres in size,

(3) national memorial parks which exceed 5,000 acres in size, and

(4) national parks which exceed six thousand acres in size,

and which are in existence on August 7, 1977, shall be class I areas and may not be redesignated. All areas which were redesignated as class I under regulations promulgated before August 7, 1977, shall be class I areas which may be redesignated as provided in this part. The extent of the areas designated as Class I under this section shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990.

(b) Areas designated as class II

All areas in such State designated pursuant to section 7407(d) of this title as attainment or unclassifiable which are not established as class I under subsection (a) of this section shall be class II areas unless redesignated under section 7474 of this title.

42 U.S.C. § 7473. Increments and ceilings

(a) Sulfur oxide and particulate matter; requirement that maximum allowable increases and maximum allowable concentrations not be exceeded

In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of any maximum allowable increase (except an allowable increase specified under section 7475(d)(2)(C)(iv) of this title) for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.

(b) Maximum allowable increases in concentrations over baseline concentrations

(1) For any class I area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	5
Twenty-four-hour maximum	10
Sulfur dioxide:	
Annual arithmetic mean	2
Twenty-four-hour maximum	5
Three-hour maximum	25

(2) For any class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	512

(3) For any class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of

such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	37
Twenty-four-hour maximum	75
Sulfur dioxide:	
Annual arithmetic mean	40
Twenty-four-hour maximum	182
Three-hour maximum	700

(4) The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to--

(A) the concentration permitted under the national secondary ambient air quality standard, or

(B) the concentration permitted under the national primary ambient air quality standard,

whichever concentration is lowest for such pollutant for such period of exposure.

(c) Orders or rules for determining compliance with maximum allowable increases in ambient concentrations of air pollutants

(1) In the case of any State which has a plan approved by the Administrator for purposes of carrying out this part, the Governor of such State may, after notice and opportunity for public hearing, issue orders or promulgate rules providing that for purposes

of determining compliance with the maximum allowable increases in ambient concentrations of an air pollutant, the following concentrations of such pollutant shall not be taken into account:

(A) concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of sections 792(a) and (b) of Title 15 (or any subsequent legislation which supersedes such provisions) over the emissions from such sources before the effective date of such order.[1]

(B) the concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from using natural gas by reason of a natural gas curtailment pursuant to a natural gas curtailment plan in effect pursuant to the Federal Power Act [16 U.S.C.A. § 791a et seq.] over the emissions from such sources before the effective date of such plan,

(C) concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities, and

(D) the increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration determined in accordance with section 7479(4) of this title.

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[1] So in original. The period probably should be a comma.

(2) No action taken with respect to a source under paragraph (1)(A) or (1)(B) shall apply more than five years after the effective date of the order referred to in paragraph (1)(A) or the plan referred to in paragraph (1)(B), whichever is applicable. If both such order and plan are applicable, no such action shall apply more than five years after the later of such effective dates.

(3) No action under this subsection shall take effect unless the Governor submits the order or rule providing for such exclusion to the Administrator and the Administrator determines that such order or rule is in compliance with the provisions of this subsection.

42 U.S.C. § 7474. Area redesignation

(a) Authority of States to redesignate areas

Except as otherwise provided under subsection (c) of this section, a State may redesignate such areas as it deems appropriate as class I areas. The following areas may be redesignated only as class I or II:

> (1) an area which exceeds ten thousand acres in size and is a national monument, a national primitive area, a national preserve, a national recreation area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore, and
>
> (2) a national park or national wilderness area established after August 7, 1977, which exceeds ten thousand acres in size.

The extent of the areas referred to in paragraph[1] (1) and (2) shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990. Any area (other than an area referred to in paragraph (1) or (2) or an area established as class I under the first sentence of section 7472(a) of this title) may be redesignated by the State as class III if—

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[1] So in original. Probably should be "paragraphs".

> (A) such redesignation has been specifically approved by the Governor of the State, after consultation with the appropriate Committees of the legislature if it is in session or with the leadership of the legislature if it is not in session (unless State law provides that such redesignation must be specifically approved by State legislation) and if general purpose units of local government representing a majority of the residents of the area so redesignated enact legislation (including for such units of local government resolutions where appropriate) concurring in the State's redesignation;
>
> (B) such redesignation will not cause, or contribute to, concentrations of any air pollutant which exceed any maximum allowable increase or maximum allowable concentration permitted under the classification of any other area; and
>
> (C) such redesignation otherwise meets the requirements of this part.

Subparagraph (A) of this paragraph shall not apply to area redesignations by Indian tribes.

* * * *

42 U.S.C. § 7475. Preconstruction requirements

(a) Major emitting facilities on which construction is commenced

No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless—

(1) a permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;

(2) the proposed permit has been subject to a review in accordance with this section, the required analysis has been conducted in accordance with regulations promulgated by the Administrator, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;

(3) the owner or operator of such facility demonstrates, as required pursuant to section 7410(j) of this title, that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter;

(4) the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility;

(5) the provisions of subsection (d) of this section with respect to protection of class I areas have been complied with for such facility;

(6) there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility;

(7) the person who owns or operates, or proposes to own or operate, a major emitting facility for which a permit is required under this part agrees to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such source; and

(8) in the case of a source which proposes to construct in a class III area, emissions from which would cause or contribute to exceeding the maximum allowable increments applicable in a class II area and where no standard under section 7411 of this title has been promulgated subsequent to August 7, 1977, for such source category, the Administrator has approved the determination of best available technology as set forth in the permit.

(b) Exception

The demonstration pertaining to maximum allowable increases required under subsection (a)(3) of this section shall not apply to maximum allowable increases for class II areas in the case of an expansion or modification of a major emitting facility which is in existence on August 7, 1977, whose allowable emissions of air pollutants, after compliance with subsection (a)(4) of this section, will be less than fifty tons per year and for which the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur oxides will not cause or contribute to ambient air quality levels in excess of the national secondary ambient air quality standard for either of such pollutants.

(c) Permit applications

Any completed permit application under section 7410 of this title for a major emitting facility in any area to which this part applies shall be granted or denied not later than one year after the date of filing of such completed application.

(d) Action taken on permit applications; notice; adverse impact on air quality related values; variance; emission limitations

(1) Each State shall transmit to the Administrator a copy of each permit application relating to a major emitting facility received by such State and provide notice to the Administrator of every action related to the consideration of such permit.

(2)(A) The Administrator shall provide notice of the permit application to the Federal Land Manager and the Federal official charged with direct responsibility for management of any lands within a class I area which may be affected by emissions from the proposed facility.

(B) The Federal Land Manager and the Federal official charged with direct responsibility for management of such lands shall have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands within a class I area and to consider, in consultation with the Administrator, whether a proposed major emitting facility will have an adverse impact on such values.

(C)(i) In any case where the Federal official charged with direct responsibility for management of any lands within a class I area or the Federal Land Manager of such lands, or the Administrator, or the Governor of an adjacent State containing such a class I area files a notice alleging that emissions from a proposed major emitting facility may cause or contribute to a change in the air quality in such area and identifying the potential adverse impact of such change, a permit shall not be issued unless the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur dioxide will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area.

(ii) In any case where the Federal Land Manager demonstrates to the satisfaction of the State that the emissions from such facility will have an adverse impact on the air quality-related values (including visibility) of such lands, notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area, a permit shall not be issued.

(iii) In any case where the owner or operator of such facility demonstrates to the satisfaction of the Federal Land Manager, and the Federal Land Manager so certifies, that the emissions from such facility will have no adverse impact on the air quality-related values of such lands (including visibility), notwithstanding the fact that the change in air quality resulting from emissions from such facility will cause or contribute to concentrations which exceed the maximum allowable increases for class I areas, the State may issue a permit.

(iv) In the case of a permit issued pursuant to clause (iii), such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides and particulates from such facility will not cause or contribute to concentrations of such pollutant which exceed the following maximum allowable increases over the baseline concentration for such pollutants:

	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	325

(D)(i) In any case where the owner or operator of a proposed major emitting facility who has been denied a certification under subparagraph (C)(iii) demonstrates to the satisfaction of the Governor, after notice and public hearing, and the Governor finds, that the facility cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any class I area and, in the case of Federal mandatory class I areas, that a variance under this clause will not adversely affect the air quality related values of the area (including visibility), the Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant a variance from such maximum allowable increase. If such variance is granted, a permit may be issued to such source pursuant to the requirements of this subparagraph.

* * * *

(e) Analysis; continuous air quality monitoring data; regulations; model adjustments

(1) The review provided for in subsection (a) of this section shall be preceded by an analysis in accordance with regulations of the Administrator, promulgated under this subsection, which may be conducted by the State (or any general purpose unit of local government) or by the major emitting facility applying for such permit, of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regulation under this chapter which will be emitted from such facility.

(2) Effective one year after August 7, 1977, the analysis required by this subsection shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part. Such data shall be gathered over a period of one calendar year preceding the date of application for a permit under this part unless the State, in accordance with regulations promulgated by the Administrator, determines that a complete and adequate analysis for such purposes may be accomplished in a shorter period. The results of such analysis shall be available at the time of the public hearing on the application for such permit.

(3) The Administrator shall within six months after August 7, 1977, promulgate regulations respecting the analysis required under this subsection which regulations—

(A) shall not require the use of any automatic or uniform buffer zone or zones,

(B) shall require an analysis of the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility at the site of the proposed major emitting facility and in the area potentially affected by the emissions from such facility for each pollutant regulated under this chapter which will be emitted from, or which results from the construction or operation of, such facility, the size and nature of the proposed facility, the degree of continuous emission reduction which could be achieved by such facility, and such other factors as may be relevant in determining the effect of emissions from a proposed facility on any air quality control region,

(C) shall require the results of such analysis shall be available at the time of the public hearing on the application for such permit, and

(D) shall specify with reasonable particularity each air quality model or models to be used under specified sets of conditions for purposes of this part.

Any model or models designated under such regulations may be adjusted upon a determination, after notice and opportunity for public hearing, by the Administrator that such adjustment is necessary to take into account unique terrain or meteorological characteristics of an area potentially affected by emissions from a source applying for a permit required under this part.

42 U.S.C. § 7476. Other pollutants

(a) Hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides

In the case of the pollutants hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides, the Administrator shall conduct a study and not later than two years after August 7, 1977, promulgate regulations to prevent the significant deterioration of air quality which would result from the emissions of such pollutants. In the case of pollutants for which national ambient air quality standards are promulgated after August 7, 1977, he shall promulgate such regulations not more than 2 years after the date of promulgation of such standards.

(b) Effective date of regulations

Regulations referred to in subsection (a) of this section shall become effective one year after the date of promulgation. Within 21 months after such date of promulgation such plan revision shall be submitted to the Administrator who shall approve or disapprove the plan within 25 months after such date or promulgation in the same manner as required under section 7410 of this title.

(c) Contents of regulations

Such regulations shall provide specific numerical measures against which permit applications may be evaluated, a framework for stimulating improved control technology, protection of air quality values, and fulfill the goals and purposes set forth in section 7401 and section 7470 of this title.

(d) Specific measures to fulfill goals and purposes

The regulations of the Administrator under subsection (a) of this section shall provide specific measures at least as effective as the increments established in section 7473 of this title to fulfill such goals and purposes, and may contain air quality increments, emission density requirements, or other measures.

(e) Area classification plan not required

With respect to any air pollutant for which a national ambient air quality standard is established other than sulfur oxides or particulate matter, an area classification plan shall not be required under this section if the implementation plan adopted by the State and submitted for the Administrator's approval or promulgated by the Administrator under section 7410(c) of this title contains other provisions which when considered as a whole, the Administrator finds will carry out the purposes in section 7470 of this title at least as effectively as an area classification plan for such pollutant. Such other provisions referred to in the preceding sentence need not require the establishment of maximum allowable increases with respect to such pollutant for any area to which this section applies.

(f) PM-10 increments

The Administrator is authorized to substitute, for the maximum allowable increases in particulate matter specified in section 7473(b) of this title and section 7475(d)(2)(C)(iv) of this title, maximum allowable increases in particulate matter with an aerodynamic diameter smaller than or equal to 10 micrometers. Such substituted maximum allowable increases shall be of equal stringency in effect as those specified in the provisions for which they are substituted. Until the Administrator promulgates regulations under the authority of this subsection, the current maximum allowable increases in concentrations of particulate matter shall remain in effect.

42 U.S.C. § 7477. Enforcement

The Administrator shall, and a State may, take such measures, including issuance of an order, or seeking injunctive relief, as necessary to prevent the construction or modification of a major emitting facility which does not conform to the requirements of this part, or which is proposed to be constructed in any area designated pursuant to section 7407(d) of this title as attainment or unclassifiable and which is not subject to an implementation plan which meets the requirements of this part.

42 U.S.C. § 7478. Period before plan approval

(a) Existing regulations to remain in effect

Until such time as an applicable implementation plan is in effect for any area, which plan meets the requirements of this part to prevent significant deterioration of air quality with respect to any air pollutant, applicable regulations under this chapter prior to August 7, 1977, shall remain in effect to prevent significant deterioration of air quality in any such area for any such pollutant except as otherwise provided in subsection (b) of this section.

(b) Regulations deemed amended; construction commenced after June 1, 1975

If any regulation in effect prior to August 7, 1977, to prevent significant deterioration of air quality would be inconsistent with the requirements of section 7472(a), section 7473(b) or section 7474(a) of this title, then such regulations shall be deemed amended so as to conform with such requirements. In the case of a facility on which construction was commenced (in accordance with the definition of "commenced" in section 7479(2) of this title) after June 1, 1975, and prior to August 7, 1977, the review and permitting of such facility shall be in accordance with the regulations for the prevention of significant deterioration in effect prior to August 7, 1977.

42 U.S.C. § 7479. Definitions

For purposes of this part—

(1) The term "major emitting facility" means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British

thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

(2)(A) The term "commenced" as applied to construction of a major emitting facility means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (i) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (ii) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed within a reasonable time.

(B) The term "necessary preconstruction approvals or permits" means those permits or approvals, required by the permitting authority as a precondition to undertaking any activity under clauses (i) or (ii) of subparagraph (A) of this paragraph.

(C) The term "construction" when used in connection with any source or facility, includes the modification (as defined in section 7411(a) of this title) of any source or facility.

(3) The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 7411 or 7412 of this title. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to November 15, 1990.

(4) The term "baseline concentration" means, with respect to a pollutant, the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part, based on air quality data available in the Environmental Protection Agency or a State air pollution control agency and on such monitoring data as the permit applicant is required to submit. Such ambient concentration levels shall take into account all projected emissions in, or which may affect, such area from any major emitting facility on which construction com-

menced prior to January 6, 1975, but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

* * * *

42 U.S.C. § 7501. Definitions

For the purpose of this part—

(1) Reasonable further progress

The term "reasonable further progress" means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.

(2) Nonattainment area

The term "nonattainment area" means, for any air pollutant, an area which is designated "nonattainment" with respect to that pollutant within the meaning of section 7407(d) of this title.

(3) The term "lowest achievable emission rate" means for any source, that rate of emissions which reflects—

(A) the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or

(B) the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent.

In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance.

(4) The terms "modifications" and "modified" mean the same as the term "modification" as used in section 7411(a)(4) of this title.

42 U.S.C. § 7502. Nonattainment plan provisions in general

(a) Classifications and attainment dates

(1) Classifications

(A) On or after the date the Administrator promulgates the designation of an area as a nonattainment area pursuant to section 7407(d) of this title with respect to any national ambient air quality standard (or any revised standard, including a revision of any standard in effect on November 15, 1990), the Administrator may classify the area for the purpose of applying an attainment date pursuant to paragraph (2), and for other purposes. In determining the appropriate classification, if any, for a nonattainment area, the Administrator may consider such factors as the severity of nonattainment in such area and the availability and feasibility of the pollution control measures that the Administrator believes may be necessary to provide for attainment of such standard in such area.

(B) The Administrator shall publish a notice in the Federal Register announcing each classification under subparagraph (A), except the Administrator shall provide an opportunity for at least 30 days for written comment. Such classification shall not be subject to the provisions of sections 553 through 557 of Title 5 (concerning notice and comment) and shall not be subject to judicial review until the Administrator takes final action under subsection (k) or (l) of section 7410 of this title (concerning action on plan submissions) or section 7509 of this title (concerning sanctions) with respect to any plan submissions required by virtue of such classification.

(C) This paragraph shall not apply with respect to nonattainment areas for which classifications are specifically provided under other provisions of this part.

(2) Attainment dates for nonattainment areas

(A) The attainment date for an area designated nonattainment with respect to a national primary ambient air quality standard shall be the date by which attainment can be achieved as expeditiously as practicable, but no later than 5 years from the date such area was designated nonattainment under section 7407(d) of this title, except that the Administrator may extend the attainment date to the extent the Administrator determines appropriate, for a period no greater than 10 years from the date of designation as nonattainment, considering the severity of nonattainment and the availability and feasibility of pollution control measures.

(B) The attainment date for an area designated nonattainment with respect to a secondary national ambient air quality standard shall be the date by which attainment can be achieved as expeditiously as practicable after the date such area was designated nonattainment under section 7407(d) of this title.

(C) Upon application by any State, the Administrator may extend for 1 additional year (hereinafter referred to as the "Extension Year") the attainment date determined by the Administrator under subparagraph (A) or (B) if—

(i) the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan, and

(ii) in accordance with guidance published by the Administrator, no more than a minimal number of exceedances of the relevant national ambient air quality standard has occurred in the area in the year preceding the Extension Year.

No more than 2 one-year extensions may be issued under this subparagraph for a single nonattainment area.

(D) This paragraph shall not apply with respect to nonattainment areas for which attainment dates are specifically provided under other provisions of this part.

(b) Schedule for plan submissions

At the time the Administrator promulgates the designation of an area as nonattainment with respect to a national ambient air quality standard under section 7407(d) of this title, the Administrator shall establish a schedule according to which the State containing such area shall submit a plan or plan revision (including the plan items) meeting the applicable requirements of subsection (c) of this section and section 7410(a)(2) of this title. Such schedule shall at a minimum, include a date or dates, extending no later than 3 years from the date of the nonattainment designation, for the submission of a plan or plan revision (including the plan items) meeting the applicable requirements of subsection (c) of this section and section 7410(a)(2) of this title.

(c) Nonattainment plan provisions

The plan provisions (including plan items) required to be submitted under this part shall comply with each of the following:

(1) In general

Such plan provisions shall provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the national primary ambient air quality standards.

(2) RFP

Such plan provisions shall require reasonable further progress.

(3) Inventory

Such plan provisions shall include a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in such area, including such periodic revisions as the Administrator may determine necessary to assure that the requirements of this part are met.

(4) Identification and quantification

Such plan provisions shall expressly identify and quantify the emissions, if any, of any such pollutant or pollutants which will be allowed, in accordance with section 7503(a)(1)(B) of this title, from the construction and operation of major new or modified stationary sources in each such area. The plan shall demonstrate to the satisfaction of the Administrator that the emissions quantified for this purpose will be consistent with the achievement of reasonable further progress and will not interfere with attainment of the applicable national ambient air quality standard by the applicable attainment date.

(5) Permits for new and modified major stationary sources

Such plan provisions shall require permits for the construction and operation of new or modified major stationary sources anywhere in the nonattainment area, in accordance with section 7503 of this title.

(6) Other measures

Such plan provisions shall include enforceable emission limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment of such standard in such area by the applicable attainment date specified in this part.

(7) Compliance with section 7410(a)(2)

Such plan provisions shall also meet the applicable provisions of section 7410(a)(2) of this title.

(8) Equivalent techniques

Upon application by any State, the Administrator may allow the use of equivalent modeling, emission inventory, and planning procedures, unless the Administrator determines that the proposed techniques are, in the aggregate, less effective than the methods specified by the Administrator.

(9) Contingency measures

Such plan shall provide for the implementation of specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date applicable under this part. Such measures shall be included in the plan revision as contingency measures to take effect in any such case without further action by the State or the Administrator.

(d) Plan revisions required in response to finding of plan inadequacy

Any plan revision for a nonattainment area which is required to be submitted in response to a finding by the Administrator pursuant to section 7410(k)(5) of this title (relating to calls for plan revisions) must correct the plan deficiency (or deficiencies) specified by the Administrator and meet all other applicable plan requirements of section 7410 of this title and this part. The Administrator may reasonably adjust the dates otherwise applicable under such requirements to such revision (except for attainment dates that have not yet elapsed), to the extent necessary to achieve a consistent application of such requirements. In order to facilitate submittal by the States of adequate and approvable plans consistent with the applicable requirements of this chapter, the Administrator shall, as appropriate and from time to time, issue written guidelines, interpretations, and information to the States which shall be available to the public, taking into consideration any such guidelines, interpretations, or information provided before November 15, 1990.

(e) Future modification of standard

If the Administrator relaxes a national primary ambient air quality standard after November 15, 1990, the Administrator shall, within 12 months after the relaxation, promulgate requirements applicable to all areas which have not attained that standard as of the date of such relaxation. Such requirements shall provide for controls which are not less stringent than the controls applicable to areas designated nonattainment before such relaxation.

42 U.S.C. § 7503. Permit requirements

(a) In general

The permit program required by section 7502(b)(6) of this title shall provide that permits to construct and operate may be issued if--

(1) in accordance with regulations issued by the Administrator for the determination of baseline emissions in a manner consistent with the assumptions underlying the applicable implementation plan approved under section 7410 of this title and this part, the permitting agency determines that--

(A) by the time the source is to commence operation, sufficient offsetting emissions reductions have been obtained, such that total allowable emissions from existing sources in the region, from new or modified sources which are not major emitting facilities, and from the proposed source will be sufficiently less than total emissions from existing sources (as determined in accordance with the regulations under this paragraph) prior to the application for such permit to construct or modify so as to represent (when considered together with the plan provisions required under section 7502 of this title) reasonable further progress (as defined in section 7501 of this title); or

(B) in the case of a new or modified major stationary source which is located in a zone (within the nonattainment area) identified by the Administrator, in consultation with the Secretary of Housing and Urban Development, as a zone to which economic development should be targeted, that emissions of such pollutant resulting from the proposed new or modified major stationary source will not cause or contribute to emissions levels which exceed the allowance permitted for such pollutant for such area from new or modified major stationary sources under section 7502(c) of this title;

(2) the proposed source is required to comply with the lowest achievable emission rate;

(3) the owner or operator of the proposed new or modified source has demonstrated that all major stationary sources owned or operated by such person (or by any entity controlling, controlled

by, or under common control with such person) in such State are subject to emission limitations and are in compliance, or on a schedule for compliance, with all applicable emission limitations and standards under this chapter; and[1]

(4) the Administrator has not determined that the applicable implementation plan is not being adequately implemented for the nonattainment area in which the proposed source is to be constructed or modified in accordance with the requirements of this part; and

(5) an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.

Any emission reductions required as a precondition of the issuance of a permit under paragraph (1) shall be federally enforceable before such permit may be issued.

(b) Prohibition on use of old growth allowances

Any growth allowance included in an applicable implementation plan to meet the requirements of section 7502(b)(5) of this title (as in effect immediately before November 15, 1990) shall not be valid for use in any area that received or receives a notice under section 7410(a)(2)(H)(ii) of this title (as in effect immediately before November 15, 1990) or under section 7410(k)(1) of this title that its applicable implementation plan containing such allowance is substantially inadequate.

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[1] So in original. The word "and" probably should not appear.

(c) Offsets

(1) The owner or operator of a new or modified major stationary source may comply with any offset requirement in effect under this part for increased emissions of any air pollutant only by obtaining emission reductions of such air pollutant from the same source or other sources in the same nonattainment area, except that the State may allow the owner or operator of a source to obtain such emission reductions in another nonattainment area if (A) the other area has an equal or higher nonattainment classification than the area in which the source is located and (B) emissions from such other area contribute to a violation of the national ambient air quality standard in the nonattainment area in which the source is located. Such emission reductions shall be, by the time a new or modified source commences operation, in effect and enforceable and shall assure that the total tonnage of increased emissions of the air pollutant from the new or modified source shall be offset by an equal or greater reduction, as applicable, in the actual emissions of such air pollutant from the same or other sources in the area.

(2) Emission reductions otherwise required by this chapter shall not be creditable as emissions reductions for purposes of any such offset requirement. Incidental emission reductions which are not otherwise required by this chapter shall be creditable as emission reductions for such purposes if such emission reductions meet the requirements of paragraph (1).

(d) Control technology information

The State shall provide that control technology information from permits issued under this section will be promptly submitted to the Administrator for purposes of making such information available through the RACT/BACT/LAER clearinghouse to other States and to the general public.

* * * *

42 U.S.C. § 7602. Definitions

When used in this chapter—

* * * *

(g) The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

* * * *

(j) Except as otherwise expressly provided, the terms "major stationary source" and "major emitting facility" mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator).

PETITIONER'S BRIEF

RECORD
AND
BRIEFS

Nos. 12-1146, 12-1248, 12-1254,
12-1268, 12-1269, 12-1272

Supreme Court, U.S.
FILED
DEC 9 - 2013
OFFICE OF THE CLERK

In The
Supreme Court of the United States

◆

UTILITY AIR REGULATORY GROUP, et al.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, et al.,

Respondents.

◆

**On Writs Of Certiorari To The
United States Court Of Appeals For The
District Of Columbia Circuit**

◆

BRIEF OF PETITIONERS IN NO. 12-1254, THE ENERGY-INTENSIVE MANUFACTURERS WORKING GROUP ON GREENHOUSE GAS REGULATION AND THE GLASS PACKAGING INSTITUTE

◆

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December 9, 2013

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

PARTIES TO THE PROCEEDINGS

The following were parties to the proceedings in the U.S. Court of Appeals for the District of Columbia Circuit:

Challenges to 75 Fed. Reg. 17,004 (Apr. 2, 2010) (the "Timing Rule"):

1. The Utility Air Regulatory Group, petitioner on review, was a petitioner below.

2. The United States Environmental Protection Agency, respondent on review, was a respondent below.

3. Additional petitioners below, who are nominal respondents on review were Coalition for Responsible Regulation, Inc.; Industrial Minerals Association – North America; National Cattlemen's Beef Association; Great Northern Project Development, L.P.; Rosebud Mining Co.; Alpha Natural Resources, Inc.; Southeastern Legal Foundation, Inc.; The Langdale Company; Langdale Forest Products Company; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc.; Langdale Ford Company; Langboard, Inc. – MDF; Langboard, Inc. – OSB; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw Transportation, Inc.; J&M Tank Lines, Inc.; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc.; John Linder, U.S. Representative, Georgia 7th District; Dana Rohrabacher, U.S. Representative, California 46th District; John

PARTIES TO THE PROCEEDINGS – Continued

Shimkus, U.S. Representative, Illinois 19th District; Phil Gingrey, U.S. Representative, Georgia 11th District; Lynn Westmoreland, U.S. Representative, Georgia 3rd District; Tom Price, U.S. Representative, Georgia 6th District; Paul Broun, U.S. Representative, Georgia 10th District; Steve King, U.S. Representative, Iowa 5th District; Nathan Deal, U.S. Representative, Georgia 9th District; Jack Kingston, U.S. Representative, Georgia 1st District; Michele Bachmann, U.S. Representative, Minnesota 6th District; Kevin Brady, U.S. Representative, Texas 8th District; John Shadegg, U.S. Representative, Arizona 3rd District; Marsha Blackburn, U.S. Representative, Tennessee 7th District; Dan Burton, U.S. Representative, Indiana 5th District; Clean Air Implementation Project; American Iron and Steel Institute; Gerdau Ameristeel US Inc.; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; Peabody Energy Company; American Farm Bureau Federation; National Mining Association; Chamber of Commerce of the United States of America; Missouri Joint Municipal Electric Utility Commission; National Environmental Development Association's Clean Air Project; Ohio Coal Association; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Packaging Institute; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers

PARTIES TO THE PROCEEDINGS – Continued

Association; National Association of Home Builders; National Federation of Independent Business; National Oilseed Processors Association; National Petrochemical & Refiners Association; North American Die Casting Association; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers and Commerce; State of Texas; State of Alabama; State of South Carolina; State of South Dakota; State of Nebraska; State of North Dakota; Commonwealth of Virginia; Rick Perry, Governor of Texas; Greg Abbott, Attorney General of Texas; Texas Commission on Environmental Quality; Texas Agriculture Commission; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; Haley Barbour, Governor of the State of Mississippi; Portland Cement Association.

4. Petitioner-Intervenors below (with respect to certain petitions for review), who are nominal respondents on review, were American Frozen Food Institute; American Petroleum Institute; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Louisiana Department of Environmental Quality; Michigan Manufacturers Association; National Association Manufacturers; National Mining Association; National Oilseed Processors Association; National Petrochemical

PARTIES TO THE PROCEEDINGS – Continued

& Refiners Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers & Commerce.

5. Respondent-Intervenors below (with respect to certain petitions for review), who are nominal respondents on review, were Alpha Natural Resources, Inc.; American Farm Bureau Federation; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Chamber of Commerce of the United States of America; Clean Air Implementation Project; Coalition for Responsible Regulation, Inc.; Corn Refiners Association; Glass Packaging Institute; Great Northern Project Development, L.P.; Independent Petroleum Association of America; Michigan Manufacturers Association; Industrial Minerals Association – North America; Mississippi Manufacturers Association; National Association of Home Builders; National Association of Manufacturers; National Cattlemen's Beef Association; National Environmental Development Association's Clean Air Project; National Federation of Independent Business; National Mining Association; National Oilseed Processors Association; National Petrochemical and Refiners Association; Ohio Coal Association; Peabody Energy Company; Rosebud Mining Company; South Coast Air Quality Management District; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and

Industry; Utility Air Regulatory Group; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers and Commerce.

6. Respondent below, who is a nominal respondent on review, was Lisa Perez Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy, Administrator, United States Environmental Protection Agency.

Challenges to 75 Fed. Reg. 31,514 (June 3, 2010) (the "Tailoring Rule"):

1. The Utility Air Regulatory Group, petitioner on review, was a petitioner below.

2. The United States Environmental Protection Agency, respondent on review, was a respondent below.

3. Additional petitioners below, who are nominal respondents on review were Southeastern Legal Foundation, Inc.; John Linder, U.S. Representative, Georgia 7th District; Dana Rohrabacher, U.S. Representative, California 46th District; John Shimkus, U.S. Representative, Illinois 19th District; Phil Gingrey, U.S. Representative, Georgia 11th District; Lynn Westmoreland, U.S. Representative, Georgia

PARTIES TO THE PROCEEDINGS – Continued

3rd District; Tom Price, U.S. Representative, Georgia 6th District; Paul Broun, U.S. Representative, Georgia 10th District; Steve King, U.S. Representative, Iowa 5th District; Jack Kingston, U.S. Representative, Georgia 1st District; Michele Bachmann, U.S. Representative, Minnesota 6th District; Kevin Brady, U.S. Representative, Texas 8th District; John Shadegg, U.S. Representative, Arizona 3rd District; Marsha Blackburn, U.S. Representative, Tennessee 7th District; Dan Burton, U.S. Representative, Indiana 5th District; The Langdale Company; Langdale Forest Products Company; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc.; Langdale Ford Company; Langboard, Inc. – MDF; Langboard, Inc. – OSB; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw Transportation, Inc.; J&M Tank Lines, Inc.; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc.; Coalition for Responsible Regulation, Inc.; Industrial Minerals Association – North America; National Cattlemen's Beef Association; Great Northern Project Development, L.P.; Rosebud Mining Co.; Alpha Natural Resources, Inc.; The Ohio Coal Association; American Iron and Steel Institute; Gerdau Ameristeel US Inc.; Chamber of Commerce of the United States of America; Georgia Coalition for Sound Environmental Policy, Inc.; National Mining Association; American Farm Bureau Federation; Peabody Energy Company; Energy-Intensive Manufacturers' Working Group on

PARTIES TO THE PROCEEDINGS – Continued

Greenhouse Gas Regulation; South Carolina Public Service Authority; Mark R. Levin; Landmark Legal Foundation; National Environmental Development Association's Clean Air Project; State of Alabama; State of North Dakota; State of South Dakota; Haley Barbour, Governor of Mississippi; State of South Carolina; State of Nebraska; Missouri Joint Municipal Electric Utility Commission; Clean Air Implementation Project; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Association of North America; Glass Packaging Institute; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Oilseed Processors Association; National Petrochemical & Refiners Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers & Commerce; National Association of Home Builders; National Federation of Independent Business; Portland Cement Association; Louisiana Department of Environmental Quality; Rick Perry, Governor of Texas; Greg Abbott, Attorney General of Texas; Texas Commission on Environmental Quality; Texas Department of Agriculture; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; State of Texas.

PARTIES TO THE PROCEEDINGS – Continued

4. Petitioner-Intervenors below (with respect to certain petitions for review), who are nominal respondents on review, were American Frozen Food Institute; American Petroleum Institute; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; National Association of Home Builders; National Association of Manufacturers; National Oilseed Processors Association; National Petrochemical & Refiners Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers & Commerce.

5. Respondent-Intervenors below (with respect to certain petitions for review), who are nominal respondents on review, were American Farm Bureau Federation; Brick Industry Association; Center for Biological Diversity; Clean Air Implementation Project; Commonwealth of Massachusetts; Conservation Law Foundation; Georgia ForestWatch; National Environmental Development Association's Clean Air Project; National Mining Association; Natural Resources Council of Maine, Inc.; Peabody Energy Company; South Coast Air Quality Management District; State of California; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State

PARTIES TO THE PROCEEDINGS – Continued

of Rhode Island; Utility Air Regulatory Group; West Virginia.

6. Respondent below, who is a nominal respondent on review, was Lisa Perez Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy, Administrator, United States Environmental Protection Agency.

CORPORATE DISCLOSURE STATEMENT

The Energy-Intensive Manufacturers Working Group on Greenhouse Gas Regulation is a coalition of individual companies and the Glass Packaging Institute is a non-profit association. Neither has outstanding shares or debt securities in the hands of the public nor has a parent company. No publicly held company has a 10 percent or greater ownership interest in either.

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OPINIONS BELOW AND JURISDICTION

Pursuant to the Court's briefing order, we adopt these portions of the briefs of other petitioners.

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CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Relevant provisions of Article I of the Constitution of the United States are set out at Pet. App. 2. Relevant provisions of the Clean Air Act, 42 U.S.C. §§ 7401 *et seq*. are reproduced at Pet. App. 162-190.

◆

STATEMENT OF THE CASE

Pursuant to the Court's briefing order, we adopt the Statements of the other petitioners, and add the following points concerning the PSD program:

1. Pre-GHG History.

Over the contentious course of its pre-greenhouse-gas (GHG) history, the Prevention of Significant Deterioration (PSD) program was focused primarily on the relatively straightforward matter of "bolt on" control devices such as catalytic converters and particle precipitators.[1] Nevertheless, it has been

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[1] The nature of the program is well reflected in the administrative litigation involving it. A compilation of Environmental

(Continued on following page)

among the Clean Air Act's most criticized and controversial programs, primarily because of the complexity involved in the determination of "best available control technology" (BACT), which it requires. Thus, in proposing its Tailoring Rule, EPA described the PSD program – because of the complexity of the BACT determination – as a "complicated, resource-intensive, time consuming and sometimes contentious process." 74 Fed. Reg. at 55,321-22. In its Advance Notice of Proposed Rulemaking on Regulating Greenhouse Gases Under the Clean Air Act (ANPR), EPA reviewed a long list of the program's controversial aspects, including:

> Because of the case-by-case nature . . . the complexity . . . and the time needed to complete the PSD permitting process, it can take . . . more than a year to receive a permit. . . . There have been significant and broad-based concerns . . . over the years due to the program's complexity and the costs, uncertainty, and construction delays. . . .

73 Fed. Reg. at 44,500-01.

2. As Applied to GHGs.

A remarkably detailed picture of the PSD program as applied to GHGs is already available, from three sources. First, the Agency's discussion in the Tailoring Rule of the reach and burdensomeness of

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Review Board cases is available at http://yosemite.epa.gov./oa/EAB_Web_Docket.nsf/PSD+Permit+Appeals?OpenView.

the program when applied to GHGs, which EPA, in turn, used to justify the temporary exemption of minor emitters from it; second, the extensive and detailed general "PSD and Title V Permitting Guidance for Greenhouse Gases"[2] (hereinafter "*Guidance*"); and, third, some initial EPA sector-specific additional permitting guides. Below is a brief summary of two important aspects revealed in those documents.

a. Local Orientation of the Statute To Be Ignored.

The statute imposes as part of its permitting regime – using "shall" language – requirements explicitly made applicable to "each pollutant subject to regulation under the Act" to monitor and assess the air quality surrounding the facility to be permitted, as well as to assess local environmental impacts, as to vegetation, soil or visibility. 42 U.S.C §§ 7475(a)(6), 7475(a)(7), 7475(e)(1), 7475(e)(3)(B). The monitoring, analysis and data required are preconditions to issuing a permit and are to be available for the required local hearing. 42 U.S.C. §§ 7475(a), 7475(a)(1), 7475(a)(2), 7475(e)(1), 7475(e)(3)(C); *Guidance*, 20, 38, 44, 45.

Because these locale-centric factors do not fit the nature of GHGs and the harm associated with them, the Agency, in an aside in the Tailoring Rule, 75 Fed. Reg. at 31,520 (June 3, 2010) (J.A. 300-01), elaborated in the *Guidance* (47-48; *see also* 39, 41-42), declared that these requirements may be ignored by permitting officials and applicants. Further, the Agency declared, a "proxy" for these considerations will be "to focus on reducing GHG emissions to the maximum extent." *Guidance*, 48.

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[2] PSD and Title V Permitting Guidance for Greenhouse Gases, Pub. No. EPA-457/B-11/001 (March 2011), http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf.

b. Aspects of Production Regulated.

The statute requires BACT, which is defined to include not just "control technology" in the everyday sense but also production technology, as well as operational and "process" options. In the statute's words, it includes "production processes and available methods, systems, and techniques." 42 U.S.C. § 7479(3).

Because of the correlation of carbon emissions with energy consumption, PSD carbon regulation, explicitly, is mostly a scheme to regulate energy consumption. As the Guidance puts it, "The application of methods, systems, or techniques to increase energy efficiency is a key GHG-reducing opportunity that falls under the category of 'lower-polluting processes/practices.'" *Guidance,* 29; *see also* 21-22, 28-32, 40-46. For example, all of the BACT options in the Agency's 39-page document on reducing GHG emissions in steel-industry production are about *energy efficiency*. *See generally*, Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Iron and Steel Industry (Sept. 2012).

As that document also notes, "Because energy is a major part of a manufacturer's cost of production, many companies typically have strong internal programs that perform the same functions. . . ." *Id.*, 5.

The broader Guidance calls for ranking each *option* for each *aspect* of production that could affect the emission of carbon dioxide or consumption of energy, from best to worst. The end sought is "control options that result in energy efficiency measures to achieve the lowest possible emission level." *Guidance*, 37; *see also* 21-22, 28-32, 40-46. The Agency specifies that selection should "default to the highest level of control for which the applicant could not adequately justify its elimination based on energy, environmental and economic impacts." *Id.*, 45.

At one extreme, the microscopic, the Agency confirms that control options could reach the selection of light bulbs in a factory cafeteria, yet it assures that is unlikely "since the burden of this level of review would likely outweigh any gain in emissions reductions achieved." *Guidance*, 31. However, regulation of "induced draft fans and electric water pumps," for example, is likely to be worth the effort. *Id.*

At the other extreme, with respect to the most fundamental matters, EPA states that permitting authorities can demand changes that would "fundamentally redefine the source," as otherwise defined by the facility owner's "goal, objectives, purpose or basic design of the facility." *Guidance,* 26. However, the Agency cautions, this should be ordered only after a "hard look." *Id.*

One example of regulation between these extremes of light-bulb selection and facility-redefinition involves the commercially and industrially ubiquitous "natural gas boiler." Regulation of a boiler could include specification of a "combination of oxygen trim control, an economizer and condensate recovery for the boiler, along with high transfer efficiency design for the heat exchanger," a "preventative maintenance program" for the controller, and "a requirement for periodic maintenance and calibration of the natural gas meter and the steam flow analyzer." *Guidance*, F1-3.

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SUMMARY OF ARGUMENT

There are differences between, on the one hand, the conventional pollutants and conventional pollution Congress had in mind as it wrote the provisions of the PSD and title V programs, and, on the other, carbon dioxide and global warming. These differences cause the nature, function, effect or import of each of the key statutory provisions that make up these programs to change dramatically when they are applied to GHGs. As a result, at least ten of these provisions – nine for the PSD program and one for title V – are damaged in various ways by their extension to GHGs. The various types of damage include: (*i*) nullification, as reflected in the obscured but critical Agency admission that all concerned may ignore statutorily-commanded provisions essential to the integrity of PSD regulation; (*ii*) self-contradiction, exemplified by the fact that a provision meant to assure that minor emitters were excluded from the program instead becomes a provision that requires their regulation; (*iii*) absurdities, admitted and unadmitted, that result; and (*iv*) elephantine expansion, beyond Congressional intent and beyond all reason.

With respect to the last, inflation of the effect of textual provisions to unintended and unreasonable dimensions, the best example is PSD's signature BACT requirement. BACT is defined by the statute to include not just "control technology" as commonly understood, but to include "production processes and available methods, systems and techniques." 42 U.S.C. § 7479(3). Applied to the conventional pollutants for which PSD was intended, this resulted in a program that was essentially about "add on" controls such as catalytic converters or particle collectors, with only occasional forays into operations. Applied to carbon dioxide, it covers – as the Agency has explained in great detail – every aspect of a facility's operation and design that affects either its emission of carbon dioxide or its consumption of energy, because the latter is the primary determinant of the former. This is – as EPA has explained – everything conceivable, from light bulbs in the factory cafeteria to changes that, in the Agency's term, "fundamentally redefine the facility."

With respect to "absurdity," the Agency correctly acknowledged that its reading would lead to regulation of millions of previously and intentionally excluded minor emitters of all sizes. EPA employed the absurdity, administrative necessity and one-step-at-a-time doctrines to *facilitate* the eventual achievement of permanent contravention of the statute's meaning and intent, by promising to regulate, eventually, as many as possible of the minor emitters Congress told it to exclude.

The Agency explicitly equated the "absurdity" involved with the "administrative necessity" it could not yet meet: it did not have enough permitting capacity to regulate all of the small facilities and minor emitters swept into the program by the inclusion of CO_2. In keeping with this, EPA promises to find (statute-contravening) ways to "streamline" permitting, through such things as "general permits" and "presumptive BACT." Its goal – and commitment – is to regulate as many as possible of the minor emitters, as rapidly as possible. This is the same reasoning that would attempt to solve the problem of an over-broadly interpreted criminal statute by streamlining indictment and eliminating trial for the newly targeted would-be criminals, because of the "absurdity" of not enough enforcement personnel and courtrooms.

The Agency trumpets its commitment to eventual full compliance with the literal terms of the Act as it reads it. This is as damaging a mistaken commitment as ever made by an administrative agency. Compliance with the literal GHG-*transformed* meaning, import or effect of CAA provisions is a commitment to Congressional-intent-defying, statute-destroying, elephantine regulation, created without constitutional processes.

The underlying errors of interpretive approach that produced this commitment and any number of other errors of interpretive outcome in this matter, are truly fundamental, and both the Agency and lower court make them. Their approach had two primary characteristics: undue reliance on "plain" and "isolated" language. The Agency and court stopped at "plain language," or as the Agency often put it, "literal" meaning. Hence, their approach was unable to see the damage to the text's import and intended effects caused by the GHG application. This can only be seen by an interpretive process that includes "substantive effects" or "textual consequences."

Similarly, the approach of the Agency and court fell victim to the limitations of "isolated language," in two respects. First, abandoning the process that it had begun in an ANPR, the Agency made no effort to see the statute as an integrated whole. It thereby abandoned any effort to consider alternative ways of regulating stationary sources under the statute that might better serve what the Agency itself has correctly identified as the statute's "dual" purposes – controlling pollution and "promoting" economic growth. 75 Fed. Reg. at 31,555 (J.A. 452). Second, it ignored the "whole statute" in another sense by ignoring all of the relevant substantive statutory components of the PSD program and their transformation, contradiction, and nullification that result when they are applied to GHGs.

The misuse of plain meaning and the associated error of ignoring relevant statutory context and its effects in the new GHG context produced an indefensible claim by the Agency and lower court that there existed a *Chevron*-one command of Congress that tied the Agency's hands. The law made the Agency do it.

Chevron step one, in its original and full formulation, applies where Congress has "directly addressed the precise question at issue" and answered it "unambiguously." *Chevron, U.S.A., Inc. v. N.R.D.C.*, 467 U.S. 837, 842-43 (1984). PSD carbon regulation – and its "triggering" – were not within Congress' wildest imagination as it created the program, just as they would not be within the contemplation of any rational policymaker as a means to regulate carbon and combat climate change.

In fact, Congress was speaking with *Chevron* clarity – about conventional pollutants, not carbon dioxide and global warming and their marriage with the PSD program. And, any "ambiguity" that exists in this case is, precisely, the radical change in meaning, import or effect of otherwise clear terms when they are applied to GHGs, to the point of their self-contradiction.

Rather than being a *Chevron*-one command, PSD and title V GHG regulation fails at step one of *Chevron* because it clearly contravenes the statute – as apparent under the proper interpretive approach.

Moreover, it represents a clearly impermissible construction of the statute under *Chevron* step two for exactly the same reasons. And, because it is impermissible, it is also beyond the Agency's authority under the separation-of-powers-bounded conception of agency authority last stated by this Court in *City of Arlington, Texas v. F.C.C.*, 133 S.Ct. 1863, 1870 (2013). Similarly, for the same reason, it violates the judicial review provisions incorporated into the Act itself, which, in addition to the familiar "contrary to law" standard for reversing agency actions, contains the less often quoted but even more basic standard "in excess of statutory jurisdiction, authority or limitations, or short of statutory right." 42 U.S.C. §§ 7607(b)(9)(B), 7607(b)(9)(C).

A fundamentally erroneous approach to statutory construction for cases involving application of the CAA to GHGs has created – without ownership of the decision in any branch – a prescriptive and particularistic scheme of comprehensive regulation of industrial operations that has the potential for almost unlimited harm.

It is, however, just the beginning. This is but the first of a likely endless parade of cases that turn the CAA on its head, and claims the Act's plain language requires it.

The second has arrived. It is *Center for Biological Diversity v. E.P.A.*, No. 11-1101, slip. op. (D.C. Cir. July 12, 2013). There the court on various grounds sided with environmental-group petitioners who argued that exempting from the PSD program – as EPA wished to do – so-called "biogenic" carbon dioxide, the kind that comes from decaying plant material, "violates the Clean Air Act's plain language" and that therefore "the agency has no *authority* to exempt any sources of carbon dioxide." *Id.*, 12. (emphasis added).

Against this, the Agency had argued that it had authority to defer regulation while it studied the matter "because these sources have unique characteristics that were 'unquestionably unforeseen when Congress enacted [the] PSD program.'" *Id.* As a concurrence stated, however, given the D.C. Circuit precedent – that is, the case presently before this Court – "There is zero basis in the text . . . to distinguish biogenic carbon dioxide. . . . " (Kavanaugh, J., concurring, at 1).

As our argument demonstrates, EPA does not have the authority to regulate GHGs under the PSD program, because of the damage to the statute's terms it causes. Under the precedent represented by the case under review, however, and the mistaken approach to interpretation it represents, parties are successfully arguing, by contrast, that the Agency does not have authority *not* to regulate, even, a distinctively different form of GHGs, or, even, as the Agency thought wise, take time to study the question in a way that took into account factual differences of potentially enormous policy significance.

For the present – broader – case, the factual differences between GHGs and conventional pollutants are the reasons that no reasonable person or political entity would choose or has chosen a prescriptive, particularistic, public-hearing-requiring means of regulating carbon – and energy. They are also the reasons that the meaning, import or effect of all of the important PSD and title V statutory components has been destructively transformed.

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ARGUMENT

I. Whether Any Particular CAA Provision or Program Can Encompass GHGs Requires an Interpretive Approach that Considers the Effects of Applying the Relevant Provisions to GHGs.

The Agency and lower court relied on plain and isolated language, making it impossible for them to see the effect that the GHG application had on the relevant statutory provisions.[3] Before proceeding in Section II to the particular statute-defying effects of applying the PSD statutory provisions to GHGs, we briefly outline the relationship of *Massachusetts v. E.P.A.*, 549 U.S. 497 (2007), to the change in meaning or import of CAA terms in this and similar cases and the approach to interpretation it makes necessary, using three propositions.

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[3] The approach of the lower court, featuring "plain" language, lack of "ambiguity," "clear" congressional intent, *Chevron* step one, and "judicial inquiry is complete," is illustrated at: Pet. 18-19, and J.A. 144, 145, 236, 242.

1. The change in meaning or import of the Act's terms can only be seen by examination of what the Court has called "substantive effects," rather than relying on plain and isolated language alone. As the Court has explained,

> Statutory construction is a holistic endeavor. A provision that may seem ambiguous in isolation is often clarified by the remainder of the statutory scheme . . . because only one of the permissible meanings produces a substantive effect compatible with the rest of the law.

United Sav. Ass'n of Tex. v. Timbers of Indwood Forest Assoc., Ltd., 484 U.S. 365, 371 (1988). This element of the requisite interpretive process could also be called attending to "textual consequences."[4]

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[4] *See*, ANTONIN SCALIA & BRYAN GARNER, READING LAW: THE INTERPRETATION OF LEGAL TEXTS, at 352 (Thompson/West 2012). ["Some outcome-pertinent consequences – what might be called textual consequences – are relevant to a sound textual decision – specifically those that: . . . cause a private instrument or governmental prescription to be ineffective . . . invalid . . . contain a provision that contradicts another provision . . . (or) produce an absurd result . . . "]; *cf.*, STEVEN BREYER, ACTIVE LIBERTY: INTERPRETING OUR DEMOCRATIC CONSTITUTION 120 (Vintage 2006) ["(T)o emphasize consequences is to emphasize consequences related to the particular textual provision at issue."].

2 Even if *Massachusetts*' holding was that the statu[illegible] general definition of "air pollutant" was such that it *must* include greenhouse gases, as opposed to that it is broad enough *to* include greenhouse gases, that would not necessarily control its meaning in any given "statutory context." This is the holding of *Brown & Williamson*, which was addressing, *inter alia*, a definition of "drug" in the Food, Drug & Cosmetic Act that did in fact, as all agreed, necessarily include nicotine. Yet there the Court warned:

> In determining whether Congress has specifically addressed the question at issue, a reviewing court should not confine itself to examining a particular statutory provision in isolation. The meaning – or ambiguity – of certain words or phrases may only become evident when placed in context. *See Brown v. Gardner*, 513 U.S. 115, 118 (1994) ("Ambiguity is a creature not of definitional possibilities but of statutory context.").

Food & Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 132-33 (2000) (other internal citations omitted).

Similarly, that is the import of *United States v. Palmer*, 16 U.S. 610, 631 (1818), wherein Chief Justice Marshall said of the meaning of "any person or persons" in a piracy statute under consideration:

> The words of the section are in terms of unlimited extent. The words "any person or persons" are broad enough to comprehend every human being. But general words must

> not only be limited to cases within jurisdiction of the state, but also those objects to which the legislature intended to apply them.

3. Moreover, in any event, the definition of "air pollutant" in the CAA cannot be said necessarily to include GHGs. The limited statement that definition can support is that it is unambiguously broad enough *to* include GHGs, such that one cannot say as a matter of definition alone that it cannot. A careful reading of ***Massachusetts*** indicates that was all the Court was saying, in keeping with terms of the definition.

That definition is essentially circular, turning on a tautological use of the adjective "polluting" in the term "polluting agent." 42 U.S.C. § 7602(g). It would be possible to misread the Court's opinion, as the lower court seems to, to say that because the definition contains an unexceptional elaboration that the "polluting agent" can be in any form of matter, from molecule to compound or radiation, that, therefore, any molecule, compound or electromagnetic wave is an "air pollutant" so long as it meets the definition's other (also very broadly defined) requirement that it is "emitted" into the air. This, however, would include light, data transmission, baseballs and animal waste – solid, liquid or gaseous. Most of the definition's restrictiveness – and the key to its meaning – are in the open-ended and flexible "polluting."

Underlying the mistaken reading, of course, is a logical fallacy. It would be no more valid than this claim: "Because 'American hero' is defined as 'any agent of a heroic action, including a person of any gender, nationality or country of birth,' we are all American heroes thereby."

II. The Most Important PSD and Title V Statutory Provisions Are Contravened in Various Ways by Their Application to GHGs.

We note at the outset two preliminary points about the meaning, effect or import of key PSD and title V provisions as affected by their application to GHGs.

First, all of the PSD provisions at issue are directly tied to one of the *four* usages in the PSD part of the Act of the term "any air pollutant subject to regulation under the Act" (or variants of it), or to the fifth instance in which the phrase "regulated under the Act" has been added, by the Agency's "longstanding" interpretation, to the statute's broader term "any air pollutant."

With respect to that phrase in particular, a kind of "cross reference" (of which the Act is laden), our argument is that the principles of holism, which include the statute's purposes and all of its relevant provisions, and the importance of statutory context and "substantive effects," apply just as they do to any other statutory term, whatever its function. Since this phrase is what the Agency refers to as the "automatic trigger" of PSD (and title V) regulation, the key point is that whether Congress would have intended that an "automatic trigger" apply to a new or transformed context depends on what is triggered thereby and the effect on relevant text.

This is in the same way that triggering of a pound of gunpowder is one thing, of plastic explosives quite another. In formal terms, the trigger is in the nature of an if/then statement: if *x*, then *y*. Such statements are not necessarily valid for all meanings of *x*.

Second, all of the substantive effects that contravene the provisions in various ways result from three categories of differences between GHGs and conventional pollutants.

1. Carbon dioxide's relative ubiquity and abundance in human productive activity as compared to that of conventional pollutants. Much of industrial activity involves using heat, derived from combustion, which by definition releases carbon dioxide, to cause chemical reactions involving carbonate materials that separately release carbon dioxide, to produce things using energy-consuming machinery.[5]

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[5] *See, generally*, Comments of Energy-Intensive Manufacturers Working Group on Greenhouse Gas Regulation, at 11, also 19-22, 27-29, 30-36, 40-41; EPA-HQ-OAR-2009-0517 (also: 2009-0472 and 2009-0597) (Dec. 26, 2009).

2. GHGs are "well mixed" in the atmosphere and their harm is caused by long-term build-up in upper atmospheric levels. 68 Fed. Reg. at 52,926-27 (Sep. 8, 2003). These differences render it impossible to use ambient levels of GHGs or assessment of local impacts to gauge regulation of GHGs, in practice and in theory.

3. Energy is a "first party" cost. As a consequence, unlike with respect to the emission of conventional pollutants, energy efficiency, which is what the PSD GHG scheme regulates, is incentivized by market forces, especially for energy-intensive industries.[6] Moreover, for related reasons, PSD GHG regulation amounts to the second-guessing of an almost unlimited number of production-management trade-offs involving such things as reliability, speed, familiarity, convenience, maintenance and product quality and differentiation.[7] This difference also explains why, when an inter-agency task force, which included EPA, last examined the matter, America's energy-intensive industries were on course to meet the President's goals for carbon emissions – without regulation.[8]

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[6] *See,* Steel Industry Guidance Document, *ante*, p.4, at 45.

[7] *See,* Comments, *supra* note 5.

[8] *See*, The Effects of H.R. 2454 on International Competitiveness and Emission Leakage in Energy-Intensive and Trade-Exposed Industries (Dec. 2, 2009) (available at http://www.epa.gov/climatechange/economics/economicanalyses.html#interagency) ("Overall . . . the total energy-related CO_2 emissions of the six sectors . . . would decline nearly 20 percent from 1996 to 2020 under business-as-usual circumstances." *Id.*, 19).

There are at least nine instances in which applying the PSD provisions to GHGs contravenes those provisions in various ways, and a tenth related to title V. We briefly outline them below, including references to places where the Agency for various reasons – including declaring some provisions void – has itself elaborated them.

1 & 2. The statutory scheme features provisions, as part of the PSD permitting process, requiring monitoring and analysis of the ambient air quality around the facility to be regulated and, similarly, analysis of local impacts as to "climate, meteorology, terrain, soils, vegetation and visibility." 42 U.S.C §§ 7475(a)(6), 7475(a)(7), 7475(e)(1), 7475(e)(3)(B). These requirements are expressed in "shall" terms by the statute, and pertain to "each pollutant subject to regulation under the Act." The required actions and information are preconditions for issuing a permit. 42 U.S.C. §§ 7475(a), 7475(a)(1), 7475(a)(2), 7475(e)(1). And, the information is to be available for the required local hearing. 42 U.S.C. §§ 7475(a)(2), 7475(e)(3)(C); *Guidance*, 44. The information is an essential part of a reasonable case-by-case permitting decision, as required by the Act, and is an essential part of the showing an applicant must make, and the burden it must carry, to obtain its permit. *Guidance*, 20, 38, 44, 45. Yet, because these requirements make no sense for GHGs, EPA declared in an aside in the Tailoring Rule that permitting officials and applicants may ignore them. 75 Fed. Reg. at 31,520 (J.A.

300-01). It elaborates on the point at length in the Guidance. *Guidance*, 47-48, *see also* 39, 41-42. In other words, these statutory provisions, as EPA effectively concedes, are contradicted, rendered ineffective or nullified, or, alternatively, rendered absurd, by the GHG application.

3 & 4. By limiting the program to objectively defined "major emitters," Congress blocked EPA from regulating minor emitters – because they could not afford it *and* because they were a minor part of the problem of local conventional pollution. *See*, *Alabama Power v. Costle,* 636 F.2d 323, 353-54 (D.C. Cir. 1979); *see also,* 75 Fed. Reg. at 31,550, 31,558-59 (J.A. 430, 467-68). For instance, the Senate version of the legislation gave an exemplary list of the kinds of minor emitters to be excluded even if they somehow had the potential to emit more than the legislation's general threshold of 100 tpy of "any air pollutant": "houses, dairies, farms, highways, hospitals, schools, grocery stores and other such sources." *See*, 75 Fed. Reg. at 31,550 (J.A. 429) and the legislative history cited there. In the statute as enacted, Congress chose to assure their (and similar minor facilities') exclusion by raising the regulatory threshold as to them to *250* tpy of "any air pollutant" – creating an extra margin to assure that these facilities would never be subjected to PSD permitting. 42 U.S.C. § 7479(1); *see also,* 75 Fed. Reg. at 31,550 (J.A. 430). Hence, in selecting both the 100- and 250-tpy definitions of "major" facilities, Congress was taking advantage of a common quality of all conventional pollutants: the fact that they are emitted in small, even if harmful, amounts.

It did so to remove EPA discretion to determine how major was major, but to accomplish that in a way that did not try to name all of the kinds of excluded facilities. However, as EPA explains, it is the marked difference of CO_2 in the relevant dimension – its relative ubiquity and abundance in human productive activity – that causes the statutory terms to take on an import that is opposite that of the enacted provision and the Congressional intent that accompanied it. 75 Fed. Reg. at 31,535 (J.A. 363). The Agency, nonetheless, promises to regulate as many of these minor emitters as possible, as soon as possible, through streamlining of the permitting process. *See,* 75 Fed. Reg. at 31,523, 31,548, 31,566, 31,573, 31,577 (J.A. 310, 421-22, 502-03, 529, 549).[9] The comparable dynamic respecting the title-V 100-tpy threshold makes the fourth statutory contravention. 42 U.S.C. § 7602(j); 75 Fed. Reg. at 31,583 (J.A. 485-502, 574). Lastly, the Court needs to be aware of this additional point: To accomplish conveniently these statutory contraventions without the need for states to change their parallel statutes, the Agency has adopted a radically new GHG-specific regulation interpreting the words "subject to regulation," under which GHGs are both subject to regulation and not, depending not on their chemical identity but the quantity and location of their emission. *See,*

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[9] The government correctly insists that the Agency "did not disavow the goal of ultimately applying those thresholds according to their literal terms." Br. for Fed. Resps. in Opp. 41.

75 Fed. Reg. 31,607 (J.A. 680-81); *see also* 75 Fed. Reg. 31,525 (J.A. 320-23).

5. BACT – Production Processes, Methods, Systems, Techniques, etc. The sweeping definition of BACT includes "production processes and available methods, systems, and techniques. . . ." 42 U.S.C. § 7479(3). Again, the effect of this provision when it is applied to GHGs transforms the program from one of limited intrusion to a comprehensive scheme of regulation of industrial operations.

6. BACT – Energy. The definition of BACT incorporates the following qualification: "which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility. . . ." 42 U.S.C. § 7479(3). The statute contemplated "energy" as one of the potential costs of regulating conventional pollutants – as is almost always the case because devices such as catalytic converters and particle precipitators consume energy, and low-contaminant fuels likewise are often less energy-efficient. *See, e.g., Guidance*, 39, 41. Applied to carbon dioxide, the role of energy is turned on its head. PSD regulation becomes mostly a scheme for the *mandating of energy efficiency* in all its manifestations. It converts a limitation on regulation – *i.e.*, the weighing of increases in energy consumption required to control conventional pollutants – into an object of regulation, a regulated *first*-party cost, one that opens the factory door or the farm gate to unlimited regulator access.

7 & 8. BACT – Case-by-Case Requirement and Local Hearing Requirement. In the language quoted above, the BACT definition incorporates the statute's requirement of case-by-case analysis, hearing, and decision. A companion of the BACT-definition case-by-case requirement is the PSD public hearing requirement, found in 42 U.S.C. § 7475(a)(2), requiring as a pre-condition of a permit that "a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations." *See also,* 42 U.S.C § 7475(e)(3)(C). Commenting on changes to the program worked by the 1977 amendments, in *Alabama Power v. Costle*, 636 F. 2d 323, 350 (D.C. Cir. 1979), the court emphasized these changes: "case-by-case determination of BACT rather than automatic application of NSPS . . . provisions requiring public hearing in all cases instead of mere opportunity for written comment." Both of these provisions are rendered ineffective or nullified both by the elimination of local-impacts information and analysis and the proposed streamlining of the permitting process through "general permits" and "presumptive BACT."

9. BACT – Local Impacts. As indicated above, the BACT definition incorporates the phrase "on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, [the permitting authority] determines is achievable for such facility." 42 U.S.C. § 7479(3). Hence, this

aspect of *the definition of BACT* also incorporates consideration of the local information to be adduced under the requirements of §§ 7475(a)(6) and 7475(e) discussed above, the same requirements and associated information that the Agency has declared applicants and permitting authorities are free to ignore.

10. BACT – "Economic Effects and Other Costs." The damage to the BACT definitional factors is nowhere greater than with respect to the "economic impacts and other costs." 42 U.S.C. § 7479(3). Given the pervasiveness of the effects of PSD carbon regulation on production, and the nearly impossible-to-measure impact it could have on production efficiency, reliability, quality, familiarity of personnel with existing practices, maintenance, and such, factoring in costs to permit applicants would be so complex and uncertain as to be nearly impossible.

In response, EPA adopts the following extraordinarily liberating – and statute-defying – conception of such "costs" for purposes of PSD carbon regulation: "The emphasis should be on the cost of control relative to the amount of pollutant removed, rather than the economic parameters that provide an indication of the general affordability of the control alternative relative to the source." *Guidance,* 38.

The "economic parameters that provide an indication of the general affordability of the control alternative to the source," of course, concern things like "production costs," "capital costs," "materials costs," "costs of maintenance and repair," "cost of goods sold," "profit margins," and "return on investment" – the "parameters" that make private economic activity possible. Concern with cost to a regulated entity in this everyday sense has been turned into the very different concept of the relative efficiency of one pollution/energy-control strategy to another. The irony is that the very structure of PSD regulation – prescriptive and particularistic – makes true efficiency even in that sense unachievable.

III. Extension of the PSD Program to GHGs, as the Agency and Lower Court Conceive It, Contradicts Important Doctrines in Administrative Law, Defeating Their Purposes.

In addition to the absurd consequences doctrine discussed above, two others have been subjected to rationale-defying contravention.

A. The *Chevron* Doctrine Is Misused, Causing the Mis-Assignment of Accountability for the Policy Decisions Implicit in PSD GHG Regulation and Defeating Rational Policymaking.

Of the many reasons for the *Chevron* typology, the most basic is to assign policymaking responsibility and accompanying accountability to the two policymaking branches, as opposed to courts. *See*, *Chevron*, 467 U.S. at 864-65 ["Such policy arguments are more properly addressed to legislators or administrators, not to judges. . . . (A)n agency to which Congress has delegated policymaking responsibilities may, within limits of the delegation, properly rely on the incumbent administration's views of wise policy to inform its judgments."].

Here, by virtue of the false *Chevron*-one claim, EPA and the lower court assign responsibility for PSD and title V carbon regulation – "directly" and "precisely" – to Congress, even though it is a way of regulating *carbon dioxide* Congress did not contemplate and that would be unthinkable to it. By the same token, political responsibility is evaded by the Executive,[10] which claims its hands are tied by Congress.

Moreover, *rational* policymaking, not just accountable policymaking, is utterly defeated. It is replaced by the irrational premise that a means of regulation appropriate for conventional pollutants is necessarily appropriate – or tolerable – for GHGs.

Additionally, this Court has explained *Chevron* as a stable "background" rule against which Congress can legislate. Congress knows that if it leaves ambiguous gaps in statutes it will be for agencies to fill them, and, if it wishes to avoid that, it must write unambiguously. *See generally, City of Arlington, Texas v. F.C.C.*, 133 S.Ct. 1863, 1868 (2013).

Chevron is usually thought to refer to a statutory gap, which, indeed, is how *Chevron* explained itself. *See*, *Chevron*, 467 U.S. 837 at 843-44 ("If congress has explicitly left a gap. . . ."). This case is not about gap-filling. It is a case of stretching the coverage of a statute beyond that for which it was designed, and each statutory contravention represents a snapping of a thread of the statutory fabric stitched by Congress.

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[10] Indeed, PSD carbon regulation seems directly contrary to Administration policy. *See*, Barack Obama, President, U.S.A., 2013 State of the Union Address (Feb. 12, 2013) (calling for "market-based" carbon regulation).

There is no colorable *Chevron*-one command *to* regulate GHGs under the PSD program. The *Chevron* command was to regulate *conventional* pollutants under the program if they are regulated elsewhere in the Act. Congress supported this command with substantive PSD provisions that make sense for conventional pollutants, but not for GHGs. Congress cannot be said to have commanded an application that contravenes the provisions that it wrote.

A *Chevron*-one command with respect to GHGs exists in this case – the *Chevron*-one command *not* to regulate GHGs under the PSD and title V programs. Under an approach to interpretation that includes substantive effect, this is clear. Moreover, for the same reasons – the ten contraventions of the text – PSD and title V GHG regulation would represent an impermissible construction of the Act under *Chevron* step two.

B. The Implied Delegation Doctrine Is Misused.

As the above indicates, any implicit delegation to regulate GHGs under the CAA found in its flexible and capacious definition of "air pollutant" cannot apply to PSD and title V regulation. To so apply it would be to create an irrational "term" for such delegation, under which Congress would be said to require: apply the Act's PSD provisions, written for the conventional-pollutant context, to GHGs without considering whether the application changes their effect in ways that contravene the provisions, whether it makes sense, or whether there are better ways under the Act to attempt to achieve the statute's purposes. Because this also involves the constitutionally significant destruction of any intelligible principle for a delegation of authority to regulate GHGs, we discuss it further in that context, below.

IV. PSD Application to GHGs Fails Because It Causes Absurdity and Raises Grave Constitutional Issues.

Other petitioners have explicated well the principle that any permissible alternative interpretation, in particular the interpretation that PSD and title V do not apply to GHGs, should prevail over one that causes absurdity. To this we add the constitutional doubt avoidance canon: "When the validity of an act of Congress is drawn into question, and even if a serious doubt of constitutionality is raised, it is a cardinal principle that this Court will first ascertain whether a construction of the statute is fairly possible by which the question can be avoided." *Crowell v. Bensen*, 285 U.S. 22, 62 (1932).

In the normal case, these two avoidance canons, seeking to avoid unnecessary constitutional doubt and absurd outcomes, could be said to seek to protect Congress from itself – to protect its presumed intent from its imperfect execution. In the present case, the canons apply in a different way and with added force – they protect, in addition, Congress' Article I prerogatives, and its ability to fulfill the obligations that accompany them, to exercise reasoned judgment about the necessary and proper means of exercising its powers. Because the canons would protect against absurdity and unconstitutionality caused not by any action of Congress or its drafting, but from actions of other branches that cause untoward results in a statute that otherwise does not contain them, the canons serve the separation of powers, as well as sound interpretation.

A. It Causes Absurdity.

PSD GHG regulation is thoroughly absurd, root and branch. For instance, it constitutes this three-headed absurd-policy creature: (*i*) an energy-efficiency-driven BACT definition so intrusive it can impose almost unlimited costs on trade-exposed, energy-intensive industries, costs as extensive as could be imposed on any regulated utility; (*ii*) a regulatory "cost" mechanism so transformed it is no longer concerned with costs to the facility owner in a business-survival-relevant sense; yet, (*iii*) no mechanism of a rate-regulation type to assure that the demi-utility can earn an asset-replacement-level return, or any return. And, in response to pleas from the energy-intensive industries that this could create quintessential CAA-policy absurdity, severe economic harm to the country coupled with worsening of global

GHG emissions, the Agency responded it may someday look into that matter under its "absurd consequences" powers: Regulate first; find out if it is absurd later. 75 Fed. Reg. at 31,589-90 (J.A. 602-04); Comments of EIM Group, *ante*, p.18 n.5.

B. It Raises Grave Constitutional Issues.

The core Article I issues in this case can be summarized using two concepts that have been well explored by this Court – proper "means" of regulation and a proper "delegation" of legislative powers.

While Congress' power under the Commerce Clause to regulate GHGs is not challenged in this case, there are pressing questions of the proper *means* of regulation and the delegation of the determination of the proper means. The text and form of PSD regulation, applied to carbon dioxide, produce the most extensive and intrusive exercise of the Commerce Power in our history. In order to regulate one thing – the level of GHG emissions – the PSD program claims the power to prescribe virtually everything, even to the point of "fundamentally redefining the facility" regulated.

Because pollution, and *a fortiori* carbon dioxide emissions and energy consumption, are not themselves "interstate commerce," Congress' power to regulate them comes from the Necessary and Proper Clause. In *McCulloch v. Maryland,* 4 Wheat. 316, 421 (1819), the Court, in an opinion by Chief Justice Marshall, established the test for determining whether an act of Congress has selected a means permissible under that clause to regulate a concededly proper end:

> Let the end be legitimate, let it be within the scope of the constitution, and all means which are appropriate, which are plainly adapted to that end, which are not prohibited, but consistent with the letter and spirit of the constitution, are constitutional.

As Justice Scalia wrote in his concurrence in *Gonzales v. Raich,* 485 U.S. 1, 39 (2005), the requirements that the means selected be "appropriate," "plainly adapted" to the end sought, "not prohibited," and "consistent with the letter and spirit of the constitution," are "not mere hortatory." The Court enforces them by striking down legislation.

If Congress had enacted PSD/title V carbon regulation, that would have presented a substantial issue as to whether the means chosen met the *McCullough v. Maryland* requirements. Because Congress did not choose these means, additional substantial constitutional questions are raised, because Congress was denied the opportunity *to make the judgments* involved in determining whether the means were proper.

The opportunity to make these judgments is a necessary concomitant of the vesting of both the Commerce and Necessary and Proper powers in Congress by Article I. The most important cases of this Court establishing the broad limits of the Commerce

Power turn on deference to *Congress'* exercise of judgment in the exercise of its powers. *See, e.g., United States v. Carolene Products Co.*, 304 U.S. 144 (1938); and *United States v. Darby,* 312 U.S. 100, 121 (1941).

The fundamental Article I concerns involved in this can also be seen by considering this Court's explication of proper terms of delegation of legislative powers. In fact, carefully expressed, as this Court has made clear, the legislative power vested in Congress by Article I *cannot* be delegated. *Touby v. United States*, 500 U.S. 160, 165 (1991) ["From the (language of this section of the Constitution) the Court has derived the non-delegation doctrine: that Congress may not constitutionally delegate its legislative power to another branch of Government."].

Accordingly, to retain the legislative power but leave some important decision-making to others, Congress must lay down in the delegating legislation "intelligible principles" to govern its exercise. "When Congress confers decision-making authority upon agencies *Congress* must 'lay down by legislative act an intelligible principle to which the person or body authorized to [act] is directed to conform.'" *Whitman v. American Trucking Associations, Inc.,* 531 U.S. 457, 472 (2001) (quoting *J.W. Hampton, Jr., Co. v. United States,* 276 U.S. 394, 409 (1928)).

If decision-making authority pursuant to an Article I power cannot be delegated without an intelligible principle to govern it, it follows that it cannot be delegated *implicitly* without an intelligible principle to govern it. Indeed, such a scenario would seem to present even greater separation of powers problems, since potentially it would involve other branches in the expropriation of unguided legislative powers – not just their delegation by Congress.

The PSD program is an elaborate and detailed *express* delegation to EPA to regulate conventional pollutants. At a general level, the most fundamental principles upon which that delegation is based involve careful study of, and the making of distinctions appropriate to, the different conventional pollutants to be covered by PSD. In addition to this and other general principles, there are *specific terms, provisions, rules and standards* to govern the delegation. All of this is rendered incoherent, even self-contradictory, by the application to GHGs.

The most aggressive exercise of the Commerce Power in our history, PSD/title V carbon regulation, does not in any real sense represent an "act" of Congress, nor does it represent, therefore, an opportunity afforded Congress to guide and restrict its exercise. In *Whitman*'s phrase, while the PSD-enacting Congress enacted principles and terms to which the Agency's actions must "conform" as part of the express PSD delegation, these are "deformed" by a misperceived implied delegation (or, here, misperceived command) to regulate GHGs.

◆

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted,

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December 9, 2013

PETITIONER'S BRIEF

RECORD
AND
BRIEFS

Nos. 12-1146, 12-1248, 12-1254,
12-1268, 12-1269, 12-1272

Supreme Court, U.S.
FILED
DEC - 9 2013
OFFICE OF THE CLERK
SUPREME COURT, U.S.

In The
Supreme Court of the United States

◆

UTILITY AIR REGULATORY GROUP, *et al.*,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

◆

On Writs Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

◆

BRIEF FOR PETITIONERS SOUTHEASTERN LEGAL FOUNDATION, INC., ET AL., NO. 12-1268

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December 9, 2013

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ADDITIONAL PETITIONERS

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

RULE 24.1(b) STATEMENT

The parties to the proceedings below were as follows:

***Challenges to 75 Fed. Reg. 17,004 (Apr. 2, 2010) (Triggering Rule)*:**

1. Petitioners Southeastern Legal Foundation, Inc.; U.S. Representative Michele Bachmann; U.S. Representative Marsha Blackburn; U.S. Representative Kevin Brady; U.S. Representative Paul Broun; U.S. Representative Phil Gingrey; U.S. Representative Steve King; U.S. Representative Jack Kingston; U.S. Representative Tom Price; U.S. Representative Dana Rohrabacher; U.S. Representative John Shimkus; U.S. Representative Lynn Westmoreland; The Langdale Company; Langdale Forest Products Company; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc.; Langdale Ford Company; Langboard, Inc. – MDF; Langboard, Inc. – OSB; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw Transportation, Inc.; J&M Tank Lines; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc.; Competitive Enterprise Institute; FreedomWorks; and The Science and Environmental Policy Project petitioners on review, were petitioners below.

2. Respondent United States Environmental Protection Agency, respondent on review, was a respondent below.

RULE 24.1(b) STATEMENT – Continued

3. Additional petitioners below, who are nominal respondents on review, were Coalition for Responsible Regulation, Inc.; Industrial Minerals Association – North America; National Cattlemen's Beef Association; Great Northern Project Development, L.P.; Rosebud Mining Co.; Massey Energy Company; Alpha Natural Resources, Inc.; Clean Air Implementation Project; American Iron and Steel Institute; Gerdau Ameristeel US Inc.; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; Center for Biological Diversity; Peabody Energy Company; American Farm Bureau Federation; National Mining Association; Utility Air Regulatory Group; Chamber of Commerce of the United States of America; Missouri Joint Municipal Electric Utility Commission; National Environmental Development Association's Clean Air Project; Ohio Coal Association; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Packaging Institute; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Federation of Independent Business; National Oilseed Processors Association; National Petrochemical & Refiners Association; North American Die Casting Association; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum

Association; West Virginia Manufacturers Association; Wisconsin Manufacturers and Commerce; State of Texas; State of Alabama; State of South Carolina; State of South Dakota; State of Nebraska; State of North Dakota; Commonwealth of Virginia; Rick Perry, Governor of Texas; Greg Abbott, Attorney General of Texas; Texas Commission on Environmental Quality; Texas Agriculture Commission; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; Haley Barbour, Governor of the State of Mississippi; and Portland Cement Association.

4. Petitioner-intervenor below who is nominal respondent on review, was Louisiana Department of Environmental Quality.

5. Respondents-intervenors below who are nominal respondents on review, were Environmental Defense Fund; Natural Resources Defense Council; Sierra Club; Indiana Wildlife Federation; Michigan Environmental Council; Ohio Environmental Council; National Mining Association; American Farm Bureau Federation; Peabody Energy Company; Ohio Coal Association; National Environmental Development Association's Clean Air Project; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Packaging Institute; Independent Petroleum Association of America; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of

RULE 24.1(b) STATEMENT – Continued

Home Builders; National Federation of Independent Business; National Oilseed Processors Association; National Petrochemical and Refiners Association; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers & Commerce; Utility Air Regulatory Group; Coalition for Responsible Regulation, Inc.; Industrial Minerals Association-North America; National Cattlemen's Beef Association; Great Northern Project Development, L.P.; Rosebud Mining Company; Alpha Natural Resources, Inc.; and Clean Air Implementation Project.

6. A respondent below, who is a nominal respondent on review, was Lisa Perez Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy, Administrator, United States Environmental Protection Agency.

Challenges to 75 Fed. Reg. 31,514 (June 3, 2010) (Tailoring Rule):

1. Petitioners Southeastern Legal Foundation, Inc.; U.S. Representative Michele Bachmann; U.S. Representative Marsha Blackburn; U.S. Representative Kevin Brady; U.S. Representative Paul Broun; U.S. Representative Phil Gingrey; U.S.

RULE 24.1(b) STATEMENT – Continued

Representative Steve King; U.S. Representative Jack Kingston; U.S. Representative Tom Price; U.S. Representative Dana Rohrabacher; U.S. Representative John Shimkus; U.S. Representative Lynn Westmoreland; The Langdale Company; Langdale Forest Products Company; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc.; Langdale Ford Company; Langboard, Inc. – MDF; Langboard, Inc. – OSB; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw Transportation, Inc.; J&M Tank Lines, Inc.; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc.; Competitive Enterprise Institute; FreedomWorks; and The Science and Environmental Policy Project, petitioners on review, were petitioners below.

2. Respondent United States Environmental Protection Agency, respondent on review, was a respondent below.

3. Additional petitioners below, who are nominal respondents on review, were Coalition for Responsible Regulation, Inc.; Industrial Minerals Association – North America; National Cattlemen's Beef Association; Great Northern Project Development, L.P.; Rosebud Mining Co.; Massey Energy Company; Alpha Natural Resources, Inc.; The Ohio Coal Association; American Iron and Steel Institute; Gerdau Ameristeel US Inc.; Chamber of Commerce of the United States of America; Georgia Coalition for Sound Environmental Policy,

RULE 24.1(b) STATEMENT – Continued

Inc.; National Mining Association; American Farm Bureau Federation; Peabody Energy Company; Center for Biological Diversity; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; South Carolina Public Service Authority; Mark R. Levin; Landmark Legal Foundation; National Alliance of Forest Owners; American Forest & Paper Association; Environmental Development Association's Clean Air Project; State of Alabama; State of North Dakota; State of South Dakota; Haley Barbour, Governor of Mississippi; State of South Carolina; State of Nebraska; Utility Air Regulatory Group; Missouri Joint Municipal Electric Utility Commission; Sierra Club; Clean Air Implementation Project; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Association of North America; Glass Packaging Institute; Independent Petroleum Association of America; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Oilseed Processors Association; National Petrochemical and Refiners Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers & Commerce; National Federation of Independent Business; Portland Cement Association; Louisiana Department of Environmental Quality; Rick Perry, Governor of Texas; Greg Abbott, Attorney

RULE 24.1(b) STATEMENT – Continued

General of Texas; Texas Commission on Environmental Quality; Texas Department of Agriculture; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; and State of Texas.

4. Petitioners-intervenors below who are nominal respondents on review, were National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; National Association of Home Builders; National Oilseed Processors Association; National Petrochemical and Refiners Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers & Commerce.

5. Respondents-intervenors below who are respondents on review, were Natural Resources Defense Council; Environmental Defense Fund; Sierra Club; Conservation Law Foundation, Inc.; Georgia Forest Watch; Natural Resources Council of Maine; Wild Virginia; State of New York; State of California; State of Illinois; State of Iowa; State of Maine; State of Maryland; Commonwealth of Massachusetts; State of New Hampshire; State of New Mexico; State of North Carolina; State of Oregon; Commonwealth of Pennsylvania Department of Environmental Protection; State of Rhode Island; South Coast Air Quality

Management District; Center for Biological Diversity; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Glass Association for North America; Independent Petroleum Association for America; Indiana Cast Metals Association; Michigan Manufacturers Association; National Association of Home Builders; National Oilseed Processors Association; National Petrochemical and Refiners Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufactures & Commerce; Peabody Energy Company; National Association of Manufacturers; Corn Refiners Association; National Environmental Development Association; Clean Air Project; and Utility Air Regulatory Group.

6. A respondent below, who is a nominal respondent on review, was Lisa Perez Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy, Administrator, United States Environmental Protection Agency.

RULE 29.6 DISCLOSURE STATEMENT

Petitioner Southeastern Legal Foundation, Inc. (SLF) is a non-profit Georgia corporation and constitutional public interest law firm and policy center that advocates limited government, individual economic freedom, and the free enterprise system in the courts of law and public opinion. SLF has no parent companies. No publicly held corporation has ten percent or greater ownership interest in SLF.

Petitioner the Langdale Company is a Georgia corporation and is the parent company for a diverse group of businesses, some of which were described in Petitioners' Petition. The Langdale Company has no parent companies. No publicly held corporation has ten percent or greater ownership in the Langdale Company.

Petitioner Langdale Forest Products Company is a Georgia corporation and is a leading producer of lumber, utility poles, marine piling, and fence posts. Langdale Forest Products Company is a wholly owned subsidiary of the Langdale Company. No publicly held corporation has ten percent or greater ownership in Langdale Forest Products Company.

Petitioner Langdale Farms, LLC is a Georgia Corporation in the business of producing soybeans, peanuts, cotton, pecans, tomatoes, hay, cattle, and fish. Langdale Farms, LLC is a wholly owned subsidiary of the Langdale Company. No publicly held corporation has ten percent or greater ownership in Langdale Farms, LLC.

RULE 29.6 DISCLOSURE STATEMENT
– Continued

Petitioner Langdale Fuel Company is a Georgia corporation in the business of providing fuel and lubricants for the Langdale Company's needs. Langdale Fuel Company is a wholly owned subsidiary of the Langdale Company. No publicly held corporation has ten percent or greater ownership in Langdale Fuel Company.

Petitioner Langdale Chevrolet-Pontiac, Inc. is a Georgia corporation in the business of selling and servicing automobiles. Langdale Chevrolet-Pontiac, Inc. is a wholly owned subsidiary of the Langdale Company. No publicly held corporation has ten percent or greater ownership in Langdale Chevrolet-Pontiac, Inc.

Petitioner Langdale Ford Company, Inc. is a Georgia corporation in the business of selling and servicing automobiles and trucks, including for commercial fleets. Langdale Ford Company is a wholly owned subsidiary of the Langdale Company. No publicly held corporation has ten percent or greater ownership in Langdale Ford Company.

Petitioner Langboard, Inc. – OSB is a Georgia corporation in the business of producing oriented strand board, which is used as flooring, roofing, and siding in the home construction industry. Langboard, Inc. – OSB is a wholly owned subsidiary of the Langdale Company. No publicly held corporation has

RULE 29.6 DISCLOSURE STATEMENT
– Continued

ten percent or greater ownership in Langboard, Inc. – OSB.

Petitioner Langboard, Inc. – MDF is a Georgia corporation in the business of producing medium density fiberboard, which is used, among other things, in the construction of molding, flooring, and furniture. Langboard, Inc. – MDF is a wholly owned subsidiary of the Langdale Company. No publicly held corporation has ten percent or greater ownership in Langboard, Inc. – MDF.

Petitioner Georgia Motor Trucking Association, Inc. is a Georgia corporation and trade association for the trucking industry in Georgia. The mission of the Georgia Motor Trucking Association is to promote: reasonable laws; evenhanded, common-sense administration; equitable and competitive fees and taxes; a market, political and social environment favorable to the trucking industry; and good citizenship among the people and companies of Georgia's trucking industry. It represents more than 400 for-hire carriers, 400 private carriers, and 300 associate members. Georgia Motor Trucking Association, Inc. has no parent corporation. No publicly held corporation has ten percent or greater ownership interest in the Georgia Motor Trucking Association.

Petitioner Collins Industries, Inc. is a Georgia corporation in the business of transporting building

RULE 29.6 DISCLOSURE STATEMENT
– Continued

products. Collins Industries, Inc. has no parent corporation. No publicly held corporation has ten percent or greater ownership interest in Collins Industries.

Petitioner Collins Trucking Company, Inc. is a Georgia corporation in the business of transporting pine and hardwood logs in Georgia. Collins Trucking Company, Inc. is a subsidiary of Collins Industries, Inc. No publicly held corporation has ten percent or greater ownership interest in Collins Trucking Company, Inc.

Petitioner Kennesaw Transportation, Inc. is a Georgia corporation in the business of truckload long-haul transportation of goods across the United States. Kennesaw Transportation, Inc. has no parent company. No publicly held corporation has a ten percent or greater ownership interest in Kennesaw Transportation, Inc.

Petitioner J&M Tank Lines, Inc. is a Georgia corporation in the business of transporting industrial-grade products, such as lime, calcium carbonate, cement, and sand; food-grade products, such as flour; and agricultural-grade products, such as salt. J&M Tank Lines, Inc. operates a fleet of tractors and tanks and has terminals located in Georgia, Alabama, and Texas. J&M Tank Lines, Inc. has no parent company.

RULE 29.6 DISCLOSURE STATEMENT
– Continued

No publicly held corporation has a ten percent or greater ownership in J&M Tank Lines, Inc.

Petitioner Southeast Trailer Mart, Inc. is a Georgia corporation in the business of selling and servicing semi-trailers. Southeast Trailer Mart, Inc. has no parent company. No publicly held company has a ten percent or greater ownership in Southeast Trailer Mart, Inc.

Petitioner Georgia Agribusiness Council, Inc. is a Georgia corporation whose mission is to advance the business of agriculture and promote environmental stewardship in Georgia. The Georgia Agribusiness Council, Inc. has no parent company. No publicly held company has a ten percent or greater ownership in Georgia Agribusiness Council, Inc.

Petitioner Competitive Enterprise Institute is a non-profit 501(c)(3) corporation organized under the laws of the District of Columbia for the purpose of defending free enterprise, limited government, and the rule of law. Competitive Enterprise Institute has no parent companies. No publicly held corporation has a ten percent or greater ownership interest in Competitive Enterprise Institute.

Petitioner FreedomWorks is a non-profit 501(c)(4) corporation organized under the laws of the District of Columbia for the purpose of promoting individual liberty, consumer choice and competition, and has

RULE 29.6 DISCLOSURE STATEMENT
– Continued

over 870,000 members nationwide. FreedomWorks has no parent companies, and no publicly held corporation has a ten percent or greater ownership interest in FreedomWorks.

Petitioner The Science and Environmental Policy Project is a non-profit 501(c)(3) corporation organized under the laws of the State of Virginia for the purpose of promoting sound and credible science as the basis for regulatory decisions. The Science and Environmental Policy Project has no parent companies, and no publicly held corporation has a ten percent or greater ownership interest in The Science and Environmental Policy Project.

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PRELIMINARY STATEMENT

This case involves perhaps the most audacious seizure of pure legislative power over domestic economic matters attempted by the Executive Branch since *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579 (1952). EPA's assumption of authority to "tailor" stationary source permitting to target a select universe of greenhouse gas (GHG) emitters on a scale and schedule of the Agency's own choosing directly contravenes the carefully chosen numerical permitting thresholds mandated by Congress in the Clean Air Act. This action is an unabashed assault on the foundational structure of the Constitution, and this Court should confront EPA's executive overreach and firmly invalidate it.

Answering the question before the Court in this case calls for more than routine judicial review of an administrative action. In a moment of unusual candor, EPA acknowledged that regulating GHG emissions under the Act's "Prevention of Significant Deterioration" (PSD) and Title V provisions would inevitably lead to "absurd results" involving "undue costs for sources and impossible administrative burdens for permitting authorities." *See* Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31514 (June 3, 2010) [hereinafter Tailoring Rule], Joint Appendix [hereinafter JA] 418-19. Further, these extreme results could never have been contemplated by Congress and would actually "undermine" the "congressional purposes" behind the PSD program and Title V of the Clean Air Act. *Id*. In light of those acknowledged consequences, the proper template for analyzing and resolving the question of statutory interpretation presented here is supplied by this Court's decision in *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000).

In *Brown & Williamson,* this Court held that Congress had not authorized FDA to regulate tobacco products under the Food, Drug, and Cosmetic Act (FDCA), given the extreme consequences that would follow and the history of congressional actions addressing tobacco issues. The *Brown & Williamson* framework should lead the Court to similarly conclude here that Congress foreclosed PSD and Title V regulation of GHG emissions. EPA's GHG regulatory program is foreclosed by (1) the text and structure of the Clean Air Act read as a whole, (2) the legislative history of the Act, and (3) the "absurd results" and administrative impossibility that EPA itself conceded would necessarily follow if the PSD and Title V mandatory permitting thresholds were applied to GHG emissions.

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OPINIONS AND ORDERS BELOW

The opinion of the Court of Appeals is reported at 684 F.3d 102 and is reproduced at JA 191-267. The unpublished order denying rehearing en banc is reproduced at JA 139-90.

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JURISDICTION

The Court of Appeals issued its opinion on June 26, 2012, and denied petitions for rehearing en banc by order dated December 20, 2012. Nine groups of petitioners filed timely petitions for writs of certiorari with this Court, and on October 15, 2013, this Court granted six of the petitions. This Court has jurisdiction under 28 U.S.C. § 1254(1).

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CONSTITUTIONAL AND STATUTORY PROVISIONS

Article I of the Constitution of the United States provides: "All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives." U.S. Const. art. I, § 1.

Article II of the Constitution provides: The President "shall from time to time give to the Congress Information of the State of the Union, and recommend to their Consideration such Measures as he shall judge necessary and expedient," and "shall take Care that the Laws be faithfully executed." U.S. Const. art. II, § 3, cl. 1 & cl. 4.

Relevant provisions of the Clean Air Act, 42 U.S.C. § 7471-7476, 7479, 7602(j) are reproduced at 1-30 of the appendix to this brief. Relevant rulemakings of the U.S. Environmental Agency are reproduced at JA 268-1331.

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STATEMENT OF THE CASE

Petitioners Southeastern Legal Foundation, Inc., *et al.,* hereby incorporate by reference, as if set forth in this brief, the Statement of the Case contained in the Opening Brief of Petitioners Chamber of Commerce of the United States of America, State of Alaska, and American Farm Bureau Federation (Chamber Brief) and the Statutory and Regulatory Background contained in the Brief of the Utility Air Regulatory Group (UARG Brief).

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SUMMARY OF THE ARGUMENT

Congress has not authorized EPA to regulate GHG emissions under PSD and Title V. This Court's decision in *Brown & Williamson* is on all fours with the present case and provides the controlling framework for that conclusion. The text and structure of the Clean Air Act, read as a whole, plainly foreclose EPA's conclusion that PSD and Title V permitting requirements are triggered by the Agency's separate decision to regulate GHG emissions from new motor vehicles. EPA's recognition that applying the Act's PSD and Title V provisions to GHGs would produce "absurd results" and "impossible administrative burdens" that could never have been contemplated or intended by Congress resoundingly confirms that EPA has no such authority. As in *Brown & Williamson*, there is a rich legislative backdrop of failed climate change legislation that further supports this reading of the statute.

EPA's contrary interpretation of the statute, which depended upon an assertion of unbounded administrative discretion, must be rejected as beyond the limits of proper executive authority under the Constitution. EPA misapplied the "absurd results" and "administrative necessity" canons of construction in an agenda-driven effort to aggrandize its own discretionary policy-making power at the expense of Congress. In doing so, it effected an intolerable invasion of Congress's domain that threatens to obliterate the line dividing executive from legislative power. This breakdown in the constitutional separation of powers must be avoided where, as here, there are other reasonable readings of the statute that preserve and respect the Constitution's great bulwarks.

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ARGUMENT

There are two core rulings at issue in the orders under review. First, EPA ruled that the Clean Air Act compels PSD and Title V regulation of GHG emissions as an unavoidable result of the Agency's decision to regulate GHG emissions from new motor vehicles. *See* Reconsideration of Interpretation of

Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17004 (Apr. 2, 2010) [hereinafter Triggering Rule], JA 705-92. Second, though it conceded that applying the Act's mandatory numerical permitting thresholds to GHGs would produce absurd and impossible consequences never intended by Congress, EPA chose to relieve those consequences by rewriting those thresholds and constructing a regulatory framework far different from that carefully specified in the Act. In the process, EPA created a new permitting regime that would be rolled out on a scale and schedule more politically palatable and more administratively convenient. Tailoring Rule, JA 268-682.

The first ruling is based on a misconstruction of the Clean Air Act. A proper reading of the Act as a whole confirms that the statute forecloses GHG regulation under PSD and Title V. The second ruling plainly invades the legislative domain reserved exclusively to Congress under our constitutional structure. For the sake of preserving that founding structure, this Court should decisively reject EPA's effort to assume for itself unbounded law-making discretion.

I. The text, structure, and background of the Clean Air Act make it plain that Congress has not authorized EPA to regulate GHG emissions under PSD and Title V.

In *Brown & Williamson*, this Court addressed another federal agency's response to a pressing national issue – the public health problems attendant to tobacco use. Frustrated by Congress's refusal to enact legislation comprehensively addressing the issue, FDA took the dramatic step of attempting to regulate the promotion, labeling, and sale of tobacco products under the FDCA, by interpreting the term "drug" under the Act to include nicotine and the term "drug delivery device" to encompass cigarettes and smokeless tobacco. *See Brown & Williamson*, 529 U.S. at 127-29. The Court's approach to FDA's assertion of regulatory authority over tobacco products has direct relevance in the present case and should control the outcome here.[1]

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[1] The grounds stated in *Massachusetts v. EPA*, 549 U.S. 497 (2007), for not applying *Brown & Williamson* to foreclose EPA from regulating GHG emissions in new motor vehicles do not hold in the present case. In *Massachusetts*, the Court observed that there had been no showing that the regulation of GHG in new motor vehicles would produce "extreme measures" and counter-intuitive results or that such regulation would be incompatible with the expressed purposes of Congress. *See* 549 U.S. at 530-31. Here, by contrast, EPA acknowledges that extending the PSD and Title V permitting requirements as written to GHG emissions would generate "absurd results" that would "vitiate much of the purpose" of the permitting thresholds and "would directly

(Continued on following page)

A. *Brown & Williamson* is the correct framework for reviewing EPA's action.

In striking down FDA's action under step one of *Chevron U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984), the Court in *Brown & Williamson* did not probe for subtle ambiguities in the statutory terms. Rather, the Court looked to the overall structure of the statutory regime for drug regulation and read it against the background of other congressional enactments addressing tobacco products. *See Brown & Williamson*, 529 U.S. at 132-33, 142-43. First, the Court noted that "[t]hese findings [that tobacco products are harmful] logically imply that, if tobacco products were 'devices' under the FDCA, the FDA would be required to remove them from the market." *Id.* at 135. The Court continued, "Congress, however, has foreclosed the removal of tobacco products from the market." *Id.* at 137. As a result, "[a] ban on tobacco products by the FDA would therefore plainly contradict congressional policy." *Id.* at 139. Precisely the same analysis applies here. Part C of the Act logically implies that if GHGs are "air pollutants" for purposes of PSD, EPA would be required to regulate numerous small sources. Congress, however, intended to foreclose the regulation of numerous small sources by the way the PSD provisions were drafted. In both cases, therefore, for both FDA and EPA, the agency reading of the statute requires it to do something that Congress has precluded.

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contravene Congress's intention" to limit such permitting to the largest industrial sources. Tailoring Rule, JA 457.

"In addition," the Court observed, "we must be guided to a degree by common sense as to the manner in which Congress is likely to delegate a policy decision of such economic and political magnitude to an administrative agency." *Id.* at 133 (citing *MCI Telecomms. Corp. v. AT&T Co.*, 512 U.S. 218, 231 (1994)). In the case of tobacco regulation, the Court concluded, "we are confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion." *Id.* at 160; *see also MCI*, 512 U.S. at 231 ("It is highly unlikely that Congress would leave the determination of whether an industry will be entirely, or even substantially, rate-regulated to agency discretion – and even more unlikely that it would achieve that through such a subtle device as permission to 'modify' rate-filing requirements.").

B. The *Brown & Williamson* analysis shows that Congress foreclosed regulation of GHG emissions under PSD and Title V.

EPA's present action is, if anything, even more extraordinary and implausible than FDA's effort to regulate tobacco products, and the *Brown & Williamson* analysis leads to a very similar conclusion here.

The text and structure of the Act. For the reasons argued in greater detail in Argument Point I of the Chamber Brief and in the UARG Brief, the PSD and Title V provisions of the Clean Air Act, read as a whole, make it plain that Congress intended such stationary source permitting to be triggered only for a small number of large sources and only by the emission of certain types of air pollutants, namely those that have adverse effects in the region where they are emitted.

In contrast, as EPA itself has found, the asserted dangers of GHG emissions are the opposite of local: They occur only through the mixing of gases in the upper atmosphere and the global diffusion of those gases to produce worldwide climate effects, such that a molecule of carbon dioxide released in one location will produce precisely the same potential climate effect as a molecule of carbon dioxide released on the other side of the world. *See* Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496 (Dec. 15, 2009) [hereinafter Endangerment Finding], JA 793-974, 858 ("Greenhouse gases, once emitted, become well mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment, but other regions of the world as well. Likewise, emissions in other countries can affect the United States."); *id.* at 894 ("[T]he air over the United States will by definition affect climate change only in circumstances where the air around the world is also doing so. The impacts of the air over the United States cannot be assessed separately from the impacts from the global pool, as they occur together and work together to affect the climate."). The direct exposure to carbon dioxide in the ambient air poses no human health risks, and GHGs have no measurable or differentiated local effect on air quality. *See* Regulating Greenhouse Gas Emissions Under the Clean Air Act, 73 Fed. Reg. 44354 (July 30, 2008), JA 975-1331, 1135.

Just as this Court concluded that tobacco products "simply do not fit" within the statutory regime enacted by Congress, *Brown & Williamson*, 529 U.S. at 143, so too is it plain that GHG emissions do not fit within the Clean Air Act's regime for local PSD and Title V permitting. Indeed, even apart from the mandatory numerical thresholds for PSD and Title V regulation contained in 42 U.S.C. §§ 7479(1) and 7602(j), discussed below, there are numerous other provisions of the Act that are incompatible with EPA's interpretation. As more fully set forth in the Chamber and UARG Briefs, the PSD and Title V provisions of the Clean Air Act form a complex, integrated, coherent whole. EPA's regulatory scheme dismantles this entire structure. For example:

(1) Section 161, 43 U.S.C. § 7471, requires implementation plans for areas designated as attainment or nonclassifiable relative to National Ambient Air Quality Standards (NAAQS). This requirement cannot work for GHGs because they are globally well-mixed and have no regional variation in concentration, and because there is no NAAQS standard by which an area can be classified;

(2) Section 162, 42 U.S.C. § 7472, provides for initial classifications of air quality areas. This provision is meaningless for GHGs because they are globally well-mixed and have no effect on local air quality;

(3) Section 163, 42 U.S.C. § 7473, limits the "maximum allowable increases" in the concentration of pollutants in attainment areas. This limitation cannot work for GHGs because they are globally well-mixed and there are no NAAQS against which an increase can be compared;

(4) Section 164, 42 U.S.C. § 7474, establishes procedures for reclassification of local air quality areas. This provision is meaningless for GHGs because they are globally well-mixed and have no effect on local air quality;

(5) Section 165, 42 U.S.C. § 7475, requires pre-construction permits, which are keyed to maximum allowable increments relative to NAAQS in local air quality areas. As a condition of permitting, this Section requires local air quality impact monitoring and analysis. These requirements make no sense for GHGs because they are globally well-mixed, have no effect on local air quality, and there are no NAAQS for such gases. For these reasons, EPA has dispensed with the statutory air quality impact analysis and monitoring requirements. *See* PSD and

Title V Permitting Guidance for Greenhouse Gases,[2] p. 48 ("Considering the nature of greenhouse gas emissions and their global impacts, EPA does not believe it is practical or appropriate to expect permitting authorities to collect monitoring data for purpose of assessing ambient air impacts of greenhouse gases.");

(6) Section 166, 42 U.S.C. § 7476, establishes procedures for promulgating regulations for pollutants with newly established NAAQS. Since EPA's new GHG program does not and cannot set a NAAQS for GHGs, the program necessarily ignores and bypasses these procedures; and

(7) EPA's interpretation is inconsistent with the Federal-State partnership construct found throughout the Act.

As with tobacco regulation under the FDCA, GHG regulation under PSD and Title V simply does not fit, and the program EPA has enacted bears essentially no resemblance to the structure carefully crafted by Congress. EPA claims this statutory debris field is compelled by a triumphalist definition for the phrase "any air pollutant" to which all contrary provisions of the Act are subordinate. But no statute can be properly read to compel its own repudiation.

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[2] *Available at* http://www.epa.gov/nsr/ghgdocs/ghgpermitting-guidance.pdf (last visited Dec. 6, 2013).

Absurd consequences. Any conceivable doubt that might exist about the impermissibility of EPA's interpretation, and the consequent encroachment into Congress's legislative domain, is erased completely by the "absurd results" and "impossible administrative burdens" that EPA acknowledged would occur from the application of the Clean Air Act's mandatory numerical permitting thresholds to GHGs. Tailoring Rule, JA 418-19, 454-55 (applying the numerical thresholds "would result in a program that would have been unrecognizable to the Congress that designed PSD" and "contrary to Congress's careful efforts to confine PSD to large industrial sources" because it would expand the program "from the current 280 sources per year to almost 82,000 sources, virtually all of which would be smaller than the sources currently in the PSD program and most of which would be small commercial and residential sources" that "would each incur, on average, almost $60,000 in PSD permitting expenses").

Once the Agency recognized that interpreting the statute to require PSD and Title V permitting for GHGs would necessarily produce extreme and absurd consequences under the mandatory terms of the Act, that realization should have been the end of the enterprise. To avoid encroaching on legislative prerogatives, "interpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with the legislative purpose are available." *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982). As shown in the briefs of petitioners, the alternative interpretation of the Act that limits stationary source permitting to certain pollutants not including GHGs is fully consistent with the plain language of the statute and the purposes of the permitting regime.

Legislative background. The conclusion that Congress has not authorized EPA to require PSD and Title V permitting for GHGs under the Clean Air Act is further confirmed by the relevant legislative background. *See Brown & Williamson*, 529 U.S. at 144 (canvassing legislative proposals in which Congress had addressed tobacco-related legislation on the understanding that FDA "lacked authority under the FDCA to regulate tobacco," including bills rejected by Congress "that would have granted the FDA such jurisdiction").

EPA acknowledged that Congress chose the 100- and 250-tons-per-year mandatory numerical PSD and Title V permitting thresholds so they would apply only to a few of the largest industrial sources that could bear the costs. *See* Tailoring Rule, JA 430-31. Because GHGs are typically emitted in volumes far greater than these statutory thresholds by small businesses – and even by many residential buildings and other non-commercial facilities like churches and schools – the application of PSD and Title V permitting requirements to GHGs cannot possibly be consistent with congressional intent. *Id.*

Congress has considered a huge volume of bills for regulating or reducing GHG emissions since enactment of the PSD program in the 1977 Amendments to the Clean Air Act and since the addition of the Title V permitting provisions in the Clean Air Act Amendments of 1990. *See, e.g.*, Center for Climate and Energy Solutions, *Climate Debate in Congress*, *available at* http://www.c2es.org/federal/congress (overview of all legislative proposals related to climate change from the 106th Congress to the present) (last visited Dec. 6, 2013); *see* JA 152 (Brown, J., dissenting from denial of rehearing *en banc*), citing Abigail R. Moncrieff, Reincarnating the "Major Questions" Exception to Chevron Deference as a Doctrine of Non-interference (or Why Massachusetts v. EPA Got It Wrong), 60 Admin. L. Rev. 593, 636-37 (2008) (finding more than 400 bills from 101st to 110th Congress); Marlo Lewis, EPA Permitting of Greenhouse Gases: What Does Legislative History Reveal about Congressional Intent?, *available at* http://www.globalwarming.org/2013/12/03/epa-permitting-of-greenhouse-gases-what-does-legislative-history-reveal-about-congressional-intent/#more-18134 (finding 692 bills from 101st through 111th Congresses) (last visited Dec. 6, 2013).

These proposals have involved a wide variety of approaches to reducing GHG emissions from stationary sources, including emission caps through permits, industry-wide emission caps, so-called "cap and trade" programs, and tax and other incentives for achieving reductions. *See, e.g.*, Climate Stewardship and Innovation Act of 2007, S. 280, 110th Cong. (2007) and Climate Stewardship Act of 2007, H.R.

620, 110th Cong. (2007) (bill to establish market-driven system of tradable GHG allowances to be administered by EPA; passed by House but died in Senate); Greenhouse Gas Registry Act, H.R. 232, 111th Cong. (2009) (bill to authorize EPA to create federal GHG registry; failed in House); Clean Energy Jobs and American Power Act, S. 1733, 111th Cong. (2009) and American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009) (bill to create "Pollution Reduction and Investment" program to be administered by EPA to establish economy-wide, market-based program for reducing GHG emissions; passed House but not Senate). But none of these subsequent legislative proposals indicates that Congress ever intended to extend the PSD and Title V programs beyond their limited scope.

In addition, nearly all of these bills would have involved a significant role for EPA in administering programs for reducing GHG emissions from stationary sources. Congress's repeated consideration of such legislative proposals, as it continues to grapple with the immense and divisive economic and policy implications of GHG regulation, only reinforces the plain meaning of the statute. These proposals obviously assume that EPA currently lacks the broad authority it now claims to restrict GHG emissions through PSD and Title V permits.

In sum. Just as with FDA's effort to regulate tobacco products, EPA's interpretation of the Clean Air Act that PSD and Title V stationary source permitting for GHG emissions are automatically triggered by mobile source regulation is foreclosed by the text, structure, and legislative background of the Act. EPA has created a permitting regime for GHGs that bears no resemblance to the limited PSD and Title V programs established by Congress. This new regime cannot plausibly be squared with the statutory scheme Congress intended the Agency to administer.

II. EPA's action depended on a gross misuse of canons of statutory interpretation.

In contravention of the plain meaning of the statute and Congress's manifest intent not to authorize PSD and Title V regulation for GHG emissions under the Clean Air Act, EPA nevertheless devised a new program to do exactly that. EPA did so through the gross misapplication of two doctrines of statutory interpretation – the doctrine of "absurd results" and the doctrine of "administrative necessity." As will be discussed in Section III, below, this action by EPA raises an intolerable separation of powers issue.

A. The "absurd results" doctrine does not authorize an administrative override of congressional intent.

Resort to the "absurd results" doctrine has been approved by this Court only in the most limited circumstances. The Court has sanctioned its use to give a narrowing or specialized construction to a statutory term where applying the literal meaning or most natural reading of the term would produce an absurdly broad reach for the statutory regime or an absurd application of a statutory requirement that could not have been intended by Congress. *See*, *e.g.*, *Nixon v. Mo. Mun. League*, 541 U.S. 125, 132-33 (2004) ("any entity" construed to mean only private entity); *Green v. Bock Laundry Mach. Co.*, 490 U.S. 504 (1989) ("defendant" construed to mean only criminal defendant); *Train v. Colo. Pub. Interest Res. Group*, 426 U.S. 1, 23-24 (1976) ("pollutants," defined in the Federal Water Pollution Control Act to include any "radioactive materials," construed not to include three specific types of radioactive materials); *United States v. Am. Trucking Ass'ns*, 310 U.S. 534, 538-42 (1940) ("employees" construed to be limited to employees whose activities affect safety); *Holy Trinity Church v. United States*, 143 U.S. 457, 516-17 (1892) ("any alien" construed not to apply to foreign pastor).

Because of the dangers inherent in a license to stray from the natural meaning of statutory language, any invocation of the doctrine must remain true to congressional intent. *See Horn v. Comm'r of Internal Rev.*, 968 F.2d 1229, 1239 (D.C. Cir. 1992) ("The [absurd results] canon is sensible, so far as it goes, but it can only be used to further Congress' intent, not to circumvent it. . . . A canon of interpretation cannot nullify part of a statute."); *see also Pub. Citizen v. U.S. Dep't of Justice*, 491 U.S. 440, 470 (1989) (Kennedy, J., concurring in judgment) ("When used in a proper manner, this narrow exception to our normal rule of statutory construction does not intrude upon the lawmaking powers of Congress, but rather demonstrates a respect for the coequal Legislative

Branch, which we assume would not act in an absurd way."); *United States v. Brown*, 333 U.S. 18, 27 (1948) (absurd results doctrine is only justified where necessary to avoid "blind nullification of the congressional intent" behind a statute); *Holy Trinity Church*, 143 U.S. at 459 (approving invocation of the absurd results doctrine to exclude a subject from the literal scope of a statute's reach where it would be "unreasonable to believe that the legislator intended to include the particular act").

As is apparent, the "absurd results" doctrine is used only where Congress inadvertently used a term and the absurdity of a literal application requires a non-literal reading to avoid an unreasonable outcome. Here, by contrast, EPA has relied on "absurd results" as justification for *ignoring* Congress's carefully crafted, deliberate, express intent that the precisely specified numerical permitting thresholds, and only those thresholds, would define the scope of the PSD and Title V programs. Properly understood and applied, this doctrine could readily support a narrowed construction of "any air pollutant" for purposes of PSD permitting to include only pollutants having a localized effect on ambient air quality, even if the term may be given a broader meaning in the mobile source provisions of the statute. Such a narrowed construction for stationary source purposes is necessary to avoid the absurd application of the statute that EPA itself recognized would be contrary to anything Congress ever contemplated. *See Griffin*, 458 U.S. at 575. But to invoke "absurd results," as

EPA did, to alter radically the statute's strict numerical stationary source permitting requirements – by changing 250 tons-per-year to 100,000 tons-per-year and 100 tons-per-year to 75,000 tons-per-year – is an obvious misuse of the doctrine.

B. EPA cannot rely on the concept of "administrative necessity" to establish a new regulatory program that Congress has not authorized.

EPA also misused the "administrative necessity" doctrine as authority for rewriting the statute's permitting thresholds so as to enable an extension of the PSD and Title V programs to GHGs. EPA rationalized this maneuver on the ground that complying with the literal terms of the Act was impossible. Of course: It was only EPA's own deviation from the clear limits that Congress placed on the scope of these programs that rendered compliance impossible.

In approving the doctrine of administrative necessity, the D.C. Circuit has circumscribed its use to three types of regulatory accommodations: adopting limited categorical exemptions where the statute permits flexibility; crafting case-by-case determinations within the discretion of the agency; and postponing statutory deadlines to avoid administrative hardship or harsh or unintended consequences. *See Ala. Power Co. v. Costle*, 636 F.2d 323, 357-60 (D.C. Cir. 1980); *see also Sierra Club v. EPA*, 719 F.2d 436, 463 (D.C. Cir. 1983); *Envtl. Def. Fund, Inc. v. EPA*, 636 F.2d 1267 (D.C. Cir. 1980). Here, EPA ventured well beyond any such measured precedents to fashion its own novel standard that would sanction use of "administrative necessity" whenever the Agency can (1) demonstrate the unavailability of alternatives, (2) quantify the impossible administrative burdens, and (3) achieve a favored result by claiming to deviate from the plain text of the statute as little as possible. *See* Tailoring Rule, JA 401-02. Quite apart from EPA's own culpability in creating the asserted "administrative necessity," EPA did not even hew to its own newly minted three-factor test in that there were readily available alternatives and it radically deviated from the plain text of the statute. EPA effectively converted this carefully circumscribed doctrine into an unconstrained tool of "administrative convenience."

Indeed, the authority claimed by EPA is so unconstrained that it imperils more than just one provision of the statutory scheme of PSD and Title V regulation. As shown above at pp. 11-13, EPA's reasoning eventually compels it to repudiate a panoply of other requirements of the PSD provisions that are made ridiculous or superfluous if applied to GHGs. The ensuing legal chaos shows why the use of "administrative necessity" to abrogate congressional intent should never be permitted.

III. EPA's actions create a grave threat to the constitutional separation of executive and legislative powers.

By its misconstruction and abuse of these interpretive doctrines, EPA arrogated to itself a degree of unadulterated legislative power that, if accepted, would represent a far-reaching incursion of the Executive Branch into the constitutionally assigned province of Congress. *See* JA 170-90, JA 175 (Kavanaugh, J., dissenting from denial of rehearing *en banc*) ("Allowing agencies to exercise [this] kind of statutory re-writing authority could significantly enhance the Executive Branch's power at the expense of Congress's and thereby alter the relative balance of powers in the administrative process.").

Actions, such as EPA's, by which one Branch of our Government would presume to expropriate or invade the constitutionally assigned functions of another Branch present one of the greatest threats to liberty. "In a government, where the liberties of the people are to be preserved . . . , the executive, legislative and judicial, should ever be separate and distinct, and consist of parts, mutually forming a check upon each other." Charles Pinckney, Observations on the Plan of Government Submitted to the Federal Convention of May 28, 1787, *reprinted in* 3 M. Farrand, Records of the Federal Convention of 1787, p. 108 (rev. ed. 1966); *see* The Federalist Nos. 47-51 (James Madison) (explaining and defending the Constitution's structural design of separated powers); *see also Clinton v. City of New York*, 524 U.S. 417, 447

(1998) (striking down the line-item veto as unconstitutional because it "gives the President the unilateral power to change the text of duly enacted statutes"); *see also id.* at 450 (Kennedy, J., concurring) ("Liberty is always at stake when one or more of the branches seek to transgress the separation of powers.").

A. Separation of powers is essential to the constitutional design.

In addressing EPA's action, it is appropriate to recall this Court's clarion repudiation of executive overreach in the *Youngstown* case. There, Members of the Court warned that the "accretion of dangerous power" is spawned by "unchecked disregard of the restrictions that fence in even the most disinterested assertion of authority." *Youngstown*, 343 U.S. at 594 (Frankfurter, J., concurring). In voting to strike down the President's Executive Order directing the Secretary of Commerce to take possession of major steel mills to head off the grave consequences of a labor shutdown of the mills during time of war, Justice Douglas returned to first principles: "In the framework of our Constitution, the president's power to see that the laws are faithfully executed refutes the idea that he is to be a lawmaker." *Id.* at 587 (Douglas, J., concurring). The purpose of the separation of powers is "not to avoid friction, but, by means of the inevitable friction incident to the distribution of the governmental powers among three departments, to save the people from autocracy." *Id.* at 629; *see id.* at 638

(Jackson, J., concurring) ("Presidential claim to a power at once so conclusive and preclusive must be scrutinized with caution, for what is at stake is the equilibrium established by our constitution.").

The EPA Administrator and the President of the United States apparently believe that GHGs contribute to global climate change and that global climate change poses a serious long-term risk to the Earth that demands a national policy response. They may also be frustrated by Congress's failure to enact a legislative program to respond to their concerns. But while the failure to enact a regulatory response may create challenges in some ways, "a judiciary that licensed extra-constitutional government with each issue of comparable gravity would, in the long run, be far worse." *Free Enter. Fund v. Pub. Co. Accounting Oversight Bd.*, 130 S. Ct. 3138, 3157 (2010) (internal quotation marks, alterations, and citations omitted). "Legislative action may indeed often be cumbersome, time-consuming, and apparently inefficient," *Youngstown*, 343 U.S. at 629 (Douglas, J.), but the Framers of the Constitution "designed it that way," and "[t]he time and difficulty of enacting new legislation has never justified an agency's contravention of statutory limits." JA 189 (Kavanaugh, J., dissenting). *See Clinton*, 524 U.S. at 449 (Kennedy, J., concurring) ("The Constitution's structure requires a stability which transcends the convenience of the moment.").

If existing statutory authority is insufficient to meet a national challenge, the President has the duty and power under the Recommendations Clause to "recommend" for Congress's "Consideration such Measures as he shall judge necessary and expedient." U.S. Const. art. II, § 3, cl. 1. The President is expected to advocate forcefully until Congress grants the necessary regulatory authority, but in the meantime, he is obligated to ensure that the laws Congress actually has enacted are "faithfully executed." *Id.* art. II, § 3, cl. 4.

B. The Act can and must be interpreted to avoid EPA's separation of powers violation.

Ultimately, the Court in this case need not pronounce a definitive judgment on the constitutional violation effected by EPA's interpretive strategem. The separation of powers Kraken that would be unleashed if EPA's action were upheld is sufficient to trigger a superior principle: constitutional avoidance. EPA's misuse of the "absurd results" and "administrative necessity" doctrines to invade the legislative domain is put to the sword by this greater canon of construction. *See Edward J. DeBartolo Corp. v. Fla. Gulf Coast Bldg. & Constr. Trades Council*, 485 U.S. 568, 575 (1988) (recognizing that the avoidance of serious constitutional issues wherever possible is a "cardinal principle" of statutory interpretation that "has for so long been applied by [this Court] that it is beyond debate"). To preserve the Constitution free from unnecessary judicial involvement, the avoidance canon demands that a statute be interpreted to avoid giving rise to any serious constitutional issue unless the saving construction is unreasonable and plainly contrary to Congress's intent. "[E]very reasonable construction must be resorted to, in order to save a statute from unconstitutionality." *Id.* "If an otherwise acceptable construction of a statute would raise serious constitutional problems, and where an alternative interpretation of the statute is 'fairly possible,' the Court is obligated to construe the statute to avoid such problems." *INS v. St. Cyr*, 533 U.S. 289, 300 (2001).

This Court applied the avoidance canon in *Solid Waste Agency of No. Cook County v. Army Corps of Eng'rs*, 531 U.S. 159 (2001), to reject the Army Corps of Engineers' interpretation of "navigable waters" under the Clean Water Act to extend federal authority to reach isolated patches of wholly intrastate wetlands. *See id.* at 172-73. Similarly, this Court has held that where an interpretation of a statute would result in a "sweeping delegation of legislative power" to an agency, "[a] construction of the statute that avoids this kind of open-ended grant should certainly be favored." *Indus. Union Dep't, AFL-CIO v. API*, 448 U.S. 607, 646 (1980). These cases call for a similar affirmation of constitutional boundaries: EPA's interpretation of the Clean Air Act to trigger stationary source permitting for GHGs under the PSD and Title V programs exceeded the Agency's authority in a manner that threatens an undue aggrandizement of executive power at the expense of the Legislative Branch.

As shown in Point I above, and as argued in greater detail in the briefs of other petitioners, the alternative readings of the Act that would deny EPA authority to trigger PSD and Title V permitting for stationary source emissions of GHGs avoid this unconstitutional power grab. Those alternative interpretations fully align with the statute's text and structure and honor and preserve the intent of Congress. Under the rule of constitutional avoidance, EPA's faulty interpretation, which satisfies none of these requirements, must be rejected.

◆

CONCLUSION

For the reasons set forth above, and those discussed in the briefs of other petitioners, the judgment of the Court of Appeals should be reversed.

Respectfully submitted,

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42 U.S.C. § 7471

§ 7471. Plan requirements

In accordance with the policy of section 7401(b)(1) of this title, each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 7407 of this title as attainment or unclassifiable.

42 U.S.C. § 7472

§ 7472. Initial classifications

(a) Areas designated as class I

Upon the enactment of this part, all –

(1) international parks,

(2) national wilderness areas which exceed 5,000 acres in size,

(3) national memorial parks which exceed 5,000 acres in size, and

(4) national parks which exceed six thousand acres in size,

and which are in existence on August 7, 1977, shall be class I areas and may not be redesignated. All areas which were redesignated as class I under regulations promulgated before August 7, 1977, shall be class I areas which may be redesignated as provided in this part. The extent of the areas designated as Class I under this section shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990.

(b) Areas designated as class II

All areas in such State designated pursuant to section 7407(d) of this title as attainment or unclassifiable which are not established as class I under subsection (a) of this section shall be class II areas unless redesignated under section 7474 of this title.

42 U.S.C. § 7473

§ 7473. Increments and ceilings

(a) Sulfur oxide and particulate matter; requirement that maximum allowable increases and maximum allowable concentrations not be exceeded

In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of any maximum allowable increase (except an allowable increase specified under section 7475(d)(2)(C)(iv) of this title) for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.

(b) Maximum allowable increases in concentrations over baseline concentrations

(1) For any class I area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	**Maximum allowable increase (in micrograms per cubic meter)**
Particulate matter:	
Annual geometric mean	5
Twenty-four-hour maximum	10
Sulfur dioxide:	
Annual arithmetic mean	2
Twenty-four-hour maximum	5
Three-hour maximum	25

(2) For any class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	**Maximum allowable increase (in micrograms per cubic meter)**
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	512

(3) For any class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	**Maximum allowable increase (in micrograms per cubic meter)**
Particulate matter:	
Annual geometric mean	37
Twenty-four-hour maximum	75
Sulfur dioxide:	
Annual arithmetic mean	40
Twenty-four-hour maximum	182
Three-hour maximum	700

(4) The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to –

> **(A)** the concentration permitted under the national secondary ambient air quality standard, or
>
> **(B)** the concentration permitted under the national primary ambient air quality standard,

whichever concentration is lowest for such pollutant for such period of exposure.

(c) Orders or rules for determining compliance with maximum allowable increases in ambient concentrations of air pollutants

(1) In the case of any State which has a plan approved by the Administrator for purposes of carrying out this part, the Governor of such State may, after notice and opportunity for public hearing, issue orders or promulgate rules providing that for purposes of determining compliance with the maximum allowable increases in ambient concentrations of an air pollutant, the following concentrations of such pollutant shall not be taken into account:

(A) concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of sections 792(a) and (b) of Title 15 (or any subsequent legislation which supersedes such provisions) over the emissions from such sources before the effective date of such order.

(B) the concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from using natural gas by reason of a natural gas curtailment pursuant to a natural gas curtailment plan in effect pursuant to the Federal Power Act [16 U.S.C. § 791a et seq.] over the emissions from such sources before the effective date of such plan,

(C) concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities, and

(D) the increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration determined in accordance with section 7479(4) of this title.

(2) No action taken with respect to a source under paragraph (1)(A) or (1)(B) shall apply more than five years after the effective date of the order referred to in paragraph (1)(A) or the plan referred to in paragraph (1)(B), whichever is applicable. If both such order and plan are applicable, no such action shall apply more than five years after the later of such effective dates.

(3) No action under this subsection shall take effect unless the Governor submits the order or rule providing for such exclusion to the Administrator and the Administrator determines that such order or rule is in compliance with the provisions of this subsection.

42 U.S.C. § 7474

§ 7474. Area redesignation

(a) Authority of States to redesignate areas

Except as otherwise provided under subsection (c) of this section, a State may redesignate such areas as it deems appropriate as class I areas. The following areas may be redesignated only as class I or II:

> **(1)** an area which exceeds ten thousand acres in size and is a national monument, a national primitive area, a national preserve, a national recreation area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore, and
>
> **(2)** a national park or national wilderness area established after August 7, 1977, which exceeds ten thousand acres in size.

The extent of the areas referred to in paragraph (1) and (2) shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990. Any area (other than an area referred to in paragraph (1) or (2) or an area established as class I under the first sentence of section 7472(a) of this title) may be redesignated by the State as class III if –

> **(A)** such redesignation has been specifically approved by the Governor of the State, after consultation with the appropriate Committees of the legislature if it is in session or with the leadership of the legislature if it is not in session

(unless State law provides that such redesignation must be specifically approved by State legislation) and if general purpose units of local government representing a majority of the residents of the area so redesignated enact legislation (including for such units of local government resolutions where appropriate) concurring in the State's redesignation;

(B) such redesignation will not cause, or contribute to, concentrations of any air pollutant which exceed any maximum allowable increase or maximum allowable concentration permitted under the classification of any other area; and

(C) such redesignation otherwise meets the requirements of this part.

Subparagraph (A) of this paragraph shall not apply to area redesignations by Indian tribes.

(b) Notice and hearing; notice to Federal land manager; written comments and recommendations; regulations; disapproval of redesignation

(1)(A) Prior to redesignation of any area under this part, notice shall be afforded and public hearings shall be conducted in areas proposed to be redesignated and in areas which may be affected by the proposed redesignation. Prior to any such public hearing a satisfactory description and analysis of the health, environmental, economic, social, and energy effects of the proposed redesignation shall be prepared and made available for public inspection and prior to any such redesignation, the description and analysis of such effects shall be reviewed and examined by the redesignating authorities.

(B) Prior to the issuance of notice under subparagraph (A) respecting the redesignation of any area under this subsection, if such area includes any Federal lands, the State shall provide written notice to the appropriate Federal land manager and afford adequate opportunity (but not in excess of 60 days) to confer with the State respecting the intended notice of redesignation and to submit written comments and recommendations with respect to such intended notice of redesignation. In redesignating any area under this section with respect to which any Federal land manager has submitted written comments and recommendations, the State shall publish a list of any inconsistency between such redesignation and such recommendations and an explanation of such inconsistency (together with the reasons for making such redesignation against the recommendation of the Federal land manager).

(C) The Administrator shall promulgate regulations not later than six months after August 7, 1977, to assure, insofar as practicable, that prior to any public hearing on redesignation of any area, there shall be available for public inspection any specific plans for any new or modified major emitting facility which may be permitted to be constructed and operated only if the area in question is designated or redesignated as class III.

(2) The Administrator may disapprove the redesignation of any area only if he finds, after notice and opportunity for public hearing, that such redesignation does not meet the procedural requirements of this section or is inconsistent with the requirements of section 7472(a) of this title or of subsection (a) of this section. If any such disapproval occurs, the classification of the area shall be that which was in effect prior to the redesignation which was disapproved.

(c) Indian reservations

Lands within the exterior boundaries of reservations of federally recognized Indian tribes may be redesignated only by the appropriate Indian governing body. Such Indian governing body shall be subject in all respect to the provisions of subsection (e) of this section.

(d) Review of national monuments, primitive areas, and national preserves

The Federal Land Manager shall review all national monuments, primitive areas, and national preserves, and shall recommend any appropriate areas for redesignation as class I where air quality related values are important attributes of the area. The Federal Land Manager shall report such recommendations, within[2] supporting analysis, to the Congress and the affected States within one year after August 7, 1977. The Federal Land Manager shall consult with the appropriate States before making such recommendations.

(e) Resolution of disputes between State and Indian tribes

If any State affected by the redesignation of an area by an Indian tribe or any Indian tribe affected by the redesignation of an area by a State disagrees with such redesignation of any area, or if a permit is proposed to be issued for any new major emitting facility proposed for construction in any State which the Governor of an affected State or governing body of an affected Indian tribe determines will cause or contribute to a cumulative change in air quality in excess of that allowed in this part within the affected State or tribal reservation, the Governor or Indian ruling body may request the Administrator to enter into negotiations with the parties involved to resolve such dispute. If requested by any State or Indian tribe involved, the Administrator shall make a recommendation to resolve the dispute and protect the air quality related values of the lands involved. If the parties involved do not reach agreement, the Administrator shall resolve the dispute and his determination, or the results of agreements reached through other means, shall become part of the applicable plan and shall be enforceable as part of such plan. In resolving such disputes relating to area redesignation, the Administrator shall consider the extent to which the lands involved are of sufficient size to allow effective air quality management or have air quality related values of such an area.

42 U.S.C. § 7475

§ 7475. Preconstruction requirements

(a) Major emitting facilities on which construction is commenced

No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless –

> **(1)** a permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;
>
> **(2)** the proposed permit has been subject to a review in accordance with this section, the required analysis has been conducted in accordance with regulations promulgated by the Administrator, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;
>
> **(3)** the owner or operator of such facility demonstrates, as required pursuant to section 7410(j) of this title, that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in

any air quality control region, or (C) any other applicable emission standard or standard of performance under this chapter;

(4) the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility;

(5) the provisions of subsection (d) of this section with respect to protection of class I areas have been complied with for such facility;

(6) there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility;

(7) the person who owns or operates, or proposes to own or operate, a major emitting facility for which a permit is required under this part agrees to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such source; and

(8) in the case of a source which proposes to construct in a class III area, emissions from which would cause or contribute to exceeding the maximum allowable increments applicable in a class II area and where no standard under section 7411 of this title has been promulgated subsequent to August 7, 1977, for such source category, the Administrator has approved the determination of best available technology as set forth in the permit.

(b) Exception

The demonstration pertaining to maximum allowable increases required under subsection (a)(3) of this section shall not apply to maximum allowable increases for class II areas in the case of an expansion or modification of a major emitting facility which is in existence on August 7, 1977, whose allowable emissions of air pollutants, after compliance with subsection (a)(4) of this section, will be less than fifty tons per year and for which the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur oxides will not cause or contribute to ambient air quality levels in excess of the national secondary ambient air quality standard for either of such pollutants.

(c) Permit applications

Any completed permit application under section 7410 of this title for a major emitting facility in any area to which this part applies shall be granted or denied not later than one year after the date of filing of such completed application.

(d) Action taken on permit applications; notice; adverse impact on air quality related values; variance; emission limitations

(1) Each State shall transmit to the Administrator a copy of each permit application relating to a major emitting facility received by such State and provide notice to the Administrator of every action related to the consideration of such permit.

(2)(A) The Administrator shall provide notice of the permit application to the Federal Land Manager and the Federal official charged with direct responsibility for management of any lands within a class I area which may be affected by emissions from the proposed facility.

(B) The Federal Land Manager and the Federal official charged with direct responsibility for management of such lands shall have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands within a class I area and to consider, in consultation with the Administrator, whether a proposed major emitting facility will have an adverse impact on such values.

(C)(i) In any case where the Federal official charged with direct responsibility for management of any lands within a class I area or the Federal Land Manager of such lands, or the Administrator, or the Governor of an adjacent State containing such a class I area files a notice alleging that emissions from a proposed major emitting facility may cause or contribute to a change in the air quality in such area and identifying the potential adverse impact of such change, a permit shall not be issued unless the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur dioxide will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area.

(ii) In any case where the Federal Land Manager demonstrates to the satisfaction of the State that the emissions from such facility will have an adverse impact on the air quality-related values (including visibility) of such lands, notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area, a permit shall not be issued.

(iii) In any case where the owner or operator of such facility demonstrates to the satisfaction of the Federal Land Manager, and the Federal Land Manager so certifies, that the emissions from such facility will have no adverse impact on the air quality-related values of such lands (including visibility), notwithstanding the fact that the change in air quality resulting from emissions from such facility will cause or contribute to concentrations which exceed the maximum allowable increases for class I areas, the State may issue a permit.

(iv) In the case of a permit issued pursuant to clause (iii), such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides and particulates from such facility will not cause or contribute to concentrations of such pollutant which exceed the following maximum allowable increases over the baseline concentration for such pollutants:

	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	325

(D)(i) In any case where the owner or operator of a proposed major emitting facility who has been denied a certification under subparagraph (C)(iii) demonstrates to the satisfaction of the Governor, after notice and public hearing, and the Governor finds, that the facility cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any class I area and, in the case of Federal mandatory class I areas, that a variance under this clause will not adversely affect the air quality related values of the area (including visibility), the Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant a variance from such maximum allowable increase. If such variance is granted, a permit may be issued to such source pursuant to the requirements of this subparagraph.

(ii) In any case in which the Governor recommends a variance under this subparagraph in which the Federal Land Manager does not concur, the recommendations of the Governor and the Federal Land Manager shall be transmitted to the President. The President may approve the Governor's recommendation if he finds that such variance is in the national interest. No Presidential finding shall be reviewable in any court. The variance shall take effect if the President approves the Governor's recommendations. The President shall approve or disapprove such recommendation within ninety days after his receipt of the recommendations of the Governor and the Federal Land Manager.

(iii) In the case of a permit issued pursuant to this subparagraph, such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides from such facility will not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which exceed the following maximum allowable increases for such areas over the baseline concentration for such pollutant and to assure that such emissions will not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less on more than 18 days during any annual period:

MAXIMUM ALLOWABLE INCREASE

[In micrograms per cubic meter]

Period of exposure	**Low terrain areas**	**High terrain areas**
24-hr maximum	36	62
3-hr maximum	130	221

(iv) For purposes of clause (iii), the term "high terrain area" means with respect to any facility, any area having an elevation of 900 feet or more above the base of the stack of such facility, and the term "low terrain area" means any area other than a high terrain area.

(e) Analysis; continuous air quality monitoring data; regulations; model adjustments

(1) The review provided for in subsection (a) of this section shall be preceded by an analysis in accordance with regulations of the Administrator, promulgated under this subsection, which may be conducted by the State (or any general purpose unit of local government) or by the major emitting facility applying for such permit, of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regulation under this chapter which will be emitted from such facility.

(2) Effective one year after August 7, 1977, the analysis required by this subsection shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part. Such data shall be gathered over a period of one calendar year preceding the date of application for a permit under this part unless the State, in accordance with regulations promulgated by the Administrator, determines that a complete and adequate analysis for such purposes may be accomplished in a shorter period. The results of such analysis shall be available at the time of the public hearing on the application for such permit.

(3) The Administrator shall within six months after August 7, 1977, promulgate regulations respecting the analysis required under this subsection which regulations –

> **(A)** shall not require the use of any automatic or uniform buffer zone or zones,
>
> **(B)** shall require an analysis of the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility at the site of the proposed major emitting facility and in the area potentially affected by the emissions from such facility for each pollutant regulated under this chapter which will be emitted from, or which results from the construction or operation of, such facility, the size and nature of the proposed facility, the degree of continuous emission reduction which could be achieved by such facility, and such other factors as may be relevant in determining the effect of emissions from a proposed facility on any air quality control region,

(C) shall require the results of such analysis shall be available at the time of the public hearing on the application for such permit, and

(D) shall specify with reasonable particularity each air quality model or models to be used under specified sets of conditions for purposes of this part.

Any model or models designated under such regulations may be adjusted upon a determination, after notice and opportunity for public hearing, by the Administrator that such adjustment is necessary to take into account unique terrain or meteorological characteristics of an area potentially affected by emissions from a source applying for a permit required under this part.

42 U.S.C. § 7476

§ 7476. Other pollutants

(a) Hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides

In the case of the pollutants hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides, the Administrator shall conduct a study and not later than two years after August 7, 1977, promulgate regulations to prevent the significant deterioration of air quality which would result from the emissions of such pollutants. In the case of pollutants for which national ambient air quality standards are promulgated after August 7, 1977, he shall promulgate such regulations not more than 2 years after the date of promulgation of such standards.

(b) Effective date of regulations

Regulations referred to in subsection (a) of this section shall become effective one year after the date of promulgation. Within 21 months after such date of promulgation such plan revision shall be submitted to the Administrator who shall approve or disapprove the plan within 25 months after such date or promulgation in the same manner as required under section 7410 of this title.

(c) Contents of regulations

Such regulations shall provide specific numerical measures against which permit applications may be evaluated, a framework for stimulating improved control technology, protection of air quality values, and fulfill the goals and purposes set forth in section 7401 and section 7470 of this title.

(d) Specific measures to fulfill goals and purposes

The regulations of the Administrator under subsection (a) of this section shall provide specific measures at least as effective as the increments established in section 7473 of this title to fulfill such goals and purposes, and may contain air quality increments, emission density requirements, or other measures.

(e) Area classification plan not required

With respect to any air pollutant for which a national ambient air quality standard is established other than sulfur oxides or particulate matter, an area classification plan shall not be required under this section if the implementation plan adopted by the State and submitted for the Administrator's approval or promulgated by the Administrator under section 7410(c) of this title contains other provisions which when considered as a whole, the Administrator finds will carry out the purposes in section 7470 of this title at least as effectively as an area classification plan for such pollutant. Such other provisions referred to in the preceding sentence need not require the establishment of maximum allowable increases with respect to such pollutant for any area to which this section applies.

(f) PM-10 increments

The Administrator is authorized to substitute, for the maximum allowable increases in particulate matter specified in section 7473(b) of this title and section 7475(d)(2)(C)(iv) of this title, maximum allowable increases in particulate matter with an aerodynamic diameter smaller than or equal to 10 micrometers. Such substituted maximum allowable increases shall be of equal stringency in effect as those specified in the provisions for which they are substituted. Until the Administrator promulgates regulations under the authority of this subsection, the current maximum allowable increases in concentrations of particulate matter shall remain in effect.

42 U.S.C. § 7479

§ 7479. Definitions

For purposes of this part –

> **(1)** The term "major emitting facility" means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include

new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

(2)(A) The term "commenced" as applied to construction of a major emitting facility means that the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, State, or local air pollution emissions and air quality laws or regulations and either has (i) begun, or caused to begin, a continuous program of physical on-site construction of the facility or (ii) entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed within a reasonable time.

(B) The term "necessary preconstruction approvals or permits" means those permits or approvals, required by the permitting authority as a precondition to undertaking any activity under clauses (i) or (ii) of subparagraph (A) of this paragraph.

(C) The term "construction" when used in connection with any source or facility, includes the modification (as defined in section 7411(a) of this title) of any source or facility.

(3) The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 7411 or 7412 of this title. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to November 15, 1990.

(4) The term "baseline concentration" means, with respect to a pollutant, the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part, based on air quality data available in the Environmental Protection Agency or a State air pollution control agency and on such monitoring data as the permit applicant is required to submit. Such ambient concentration levels shall take into account all projected emissions in, or which may affect, such area from any major emitting facility on which construction commenced prior to January 6, 1975, but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction

commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

42 U.S.C. § 7602. Definitions

§ 7602. Definitions

(j) Except as otherwise expressly provided, the terms "major stationary source" and "major emitting facility" mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator).

PETITIONER'S BRIEF

RECORD
AND
BRIEFS

Supreme Court, U.S.
FILED
DEC - 9 2013
OFFICE OF THE CLERK

Nos. 12-1146 and consolidated cases

In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, ET AL., PETITIONERS

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE STATE PETITIONERS

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

PARTIES TO THE PROCEEDING

The Court has consolidated No. 12-1269 with Nos. 12-1146, 12-1248, 12-1254, 12-1268, and 12-1272. Petitioners in No. 12-1269, petitioners below, are the States of Texas, Alabama, Florida, Georgia, Indiana, Louisiana, Michigan, Nebraska, North Dakota, Oklahoma, South Carolina, and South Dakota, and the Louisiana Department of Environmental Quality.

Respondents in this Court, respondents below, are the U.S. Environmental Protection Agency and Lisa P. Jackson, Administrator, U.S. Environmental Protection Agency. Lisa P. Jackson ceased to hold the office of Administrator, U.S. Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy.

The following parties are considered respondents in No. 12-1269 under Supreme Court Rule 12.6, and are grouped according to their respective positions in the court below:

Petitioners

Alliance for Natural Climate Change Science and William Orr; Alpha Natural Resources, Inc.; American Chemistry Council; American Farm Bureau Federation; American Forest & Paper Association, Inc.; American Frozen Food Institute; American Fuel and Petrochemical Manufacturers; American Iron and Steel Institute; American Petroleum Institute; U.S. Representative Michele Bachmann; Haley Barbour, Governor of Mississippi; U.S. Representative Marsha Blackburn; U.S.

Representative Kevin Brady; Brick Industry Association; U.S. Representative Paul Broun; U.S. Representative Dan Burton; Center for Biological Diversity; Chamber of Commerce of the United States of America; Clean Air Implementation Project; Coalition for Responsible Regulation, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Competitive Enterprise Institute; Corn Refiners Association; U.S. Representative Nathan Deal; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; Freedomworks; Georgia Agribusiness Council, Inc.; Georgia Coalition for Sound Environmental Policy, Inc.; Georgia Motor Trucking Association, Inc.; Gerdau Ameristeel Corporation; U.S. Representative Phil Gingrey; Glass Association of North America; Glass Packaging Institute; Great Northern Project Development, L.P.; Independent Petroleum Association of America; Indiana Cast Metals Association; Industrial Minerals Association-North America; J&M Tank Lines, Inc.; Kennesaw Transportation, Inc.; U.S. Representative Steve King; U.S. Representative Jack Kingston; Landmark Legal Foundation; Langboard, Inc.-MDF; Langboard, Inc.-OSB; Langdale Chevrolet-Pontiac, Inc.; Langdale Company; Langdale Farms, LLC; Langdale Ford Company; Langdale Forest Products Company; Langdale Fuel Company; Mark R. Levin; U.S. Representative John Linder; Massey Energy Company; Michigan Manufacturers Association; Mississippi Manufacturers Association; Missouri Joint Municipal Electric Utility Commission; National Association of Home Builders; National

Association of Manufacturers; National Cattlemen's Beef Association; National Environmental Development Association's Clean Air Project; National Federation of Independent Businesses; National Mining Association; National Oilseed Processors Association; National Petrochemical & Refiners Association; North American Die Casting Association; Ohio Coal Association; Pacific Legal Foundation; Peabody Energy Company; Portland Cement Association; U.S. Representative Tom Price; U.S. Representative Dana Rohrabacher; Rosebud Mining Company; Science and Environmental Policy Project; U.S. Representative John Shadegg; U.S. Representative John Shimkus; South Carolina Public Service Authority; Southeast Trailer Mart Inc.; Southeastern Legal Foundation, Inc.; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Texas Agriculture Commission; Texas Attorney General Greg Abbott; Texas Commission on Environmental Quality; Texas Department of Agriculture; Texas General Land Office; Texas Governor Rick Perry; Texas Public Utilities Commission; Texas Public Utility Commission Chairman Barry Smitherman; Texas Railroad Commission; Utility Air Regulatory Group; Commonwealth of Virginia ex rel. Attorney General Kenneth T. Cuccinelli; West Virginia Manufacturers Association; Western States Petroleum Association; U.S. Representative Lynn Westmoreland; Wisconsin Manufacturers and Commerce;

Respondent

National Highway Traffic Safety Administration;

Intervenors for Petitioners

State of Alaska; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Petroleum Institute; Arkansas State Chamber of Commerce; Associated Industries of Arkansas; Haley Barbour, Governor for the State of Mississippi; Chamber of Commerce of the United States of America; Colorado Association of Commerce & Industry; Corn Refiners Association; Glass Association of North America; Glass Packaging Institute; Idaho Association of Commerce and Industry; Independent Petroleum Association of America; Indiana Cast Metals Association; Kansas Chamber of Commerce and Industry; State of Kentucky; Langboard, Inc.-MDF; Langboard, Inc.-OSB; Langdale Chevrolet-Pontiac, Inc.; Langdale Farms, LLC; Langdale Ford Company; Langdale Fuel Company; Louisiana Oil and Gas Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Association of Manufacturers; National Electrical Manufacturers Association; National Oilseed Processors Association; Nebraska Chamber of Commerce and Industry; North American Die Casting Association; Ohio Manufacturers Association; Pennsylvania Manufacturers Association; Portland Cement Association; Steel Manufacturers Association; Tennessee Chamber of Commerce and Industry;

State of Utah; Virginia Manufacturers Association; West Virginia Manufacturers Association; Western States Petroleum Association; Wisconsin Manufacturers and Commerce;

Intervenors for Respondents

Alliance of Automobile Manufacturers; American Farm Bureau Federation; State of Arizona; Brick Industry Association; State of California; Center for Biological Diversity; State of Connecticut; Conservation Law Foundation; State of Delaware; Environmental Defense Fund; Georgia ForestWatch; Global Automakers; State of Illinois; Indiana Wildlife Federation; State of Iowa; State of Maine; State of Maryland; Commonwealth of Massachusetts; Michigan Environmental Council; State of Minnesota; National Environmental Development Association's Clean Air Project; National Mining Association; National Wildlife Federation; Natural Resources Council of Maine; Natural Resources Defense Council; State of New Hampshire; State of New Mexico; State of New York; City of New York; State of North Carolina; Ohio Environmental Council; State of Oregon; Peabody Energy Company; State of Rhode Island; Sierra Club; South Coast Air Quality Management District; Utility Air Regulatory Group; State of Vermont; State of Washington; Wetlands Watch; Wild Virginia.

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Kenneth A. Shepsle, *Congress Is a "They," Not An "It": Legislative Intent as Oxymoron*, 12 INT'L REV. L. & ECON. 239 (1992) 15

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BRIEF FOR THE STATE PETITIONERS

OPINIONS BELOW

The opinion of the D.C. Circuit (J.A. 191-267) is reported at 684 F.3d 102. The D.C. Circuit's orders denying panel rehearing and rehearing en banc (J.A. 139-90) are unreported.

JURISDICTION

The D.C. Circuit entered judgment on June 26, 2012, and denied timely petitions for rehearing en banc on December 20, 2012. On March 8, 2013, the Chief Justice extended the time for filing a certiorari petition to and including April 19, 2013. The petition was filed on April 19, 2013 and granted on October 15, 2013. The jurisdiction of this Court rests on 28 U.S.C. § 1254(1).

STATUTES AND REGULATIONS INVOLVED

Relevant provisions of the Clean Air Act, 42 U.S.C. §§ 7407 *et seq.*, are reproduced at Pet. App. 591a-619a. Relevant EPA rules are reproduced at J.A. 268-682, 1399-418.

STATEMENT

State Petitioners incorporate by reference the statement provided by the American Chemistry Counsel in No. 12-1248.

SUMMARY OF ARGUMENT

EPA is seeking to improve upon rather than implement the Clean Air Act. After declaring that it would begin regulating greenhouse-gas emissions from stationary sources, EPA replaced unambiguous numerical permitting thresholds in the PSD and Title V programs with numbers and metrics of EPA's own creation, and then applied those agency-created criteria *solely* to greenhouse-gas emissions. EPA cannot use the "absurdity doctrine" as an excuse for departing from the Act's rigid, unambiguous permitting requirements, as the entire point of legislating by rule is to tolerate suboptimal policies in exchange for constraining an agency's discretion and forcing it to seek legislation (and therefore congressional input) before embarking on novel regulatory regimes.

EPA is correct to acknowledge the absurdity of applying the Act's 100/250 tons-per-year permitting requirements to CO_2 and other greenhouse gases, but the absurdity is caused entirely by EPA's questionable conclusion that greenhouse gases qualify as air pollutants subject to regulation under the PSD and Title V programs. An agency cannot construe *ambiguous* statutory language to *create* an absurdity, and then construe *unambiguous* statutory language to *avoid* that absurdity. The far-reaching and near-ridiculous regulatory burdens required by EPA's decision to regulate greenhouse-gas emissions under the PSD and Title V programs prove that the Act never delegated to EPA the authority to regulate greenhouse-gas emissions as "air pollutants" under those programs.

ARGUMENT

I. THE CLEAN AIR ACT CANNOT BE CONSTRUED TO AUTHORIZE EPA TO REGULATE GREENHOUSE-GAS EMISSIONS UNDER THE PSD AND TITLE V PROGRAMS.

The statutory permitting thresholds established in the PSD and Title V programs require facilities to obtain permits if they emit more than 100 tons per year (or in some cases, more than 250 tons per year) of "any air pollutant." 42 U.S.C. §§ 7475(a), 7479(1), 7602(j), 7661(2), 7661a(a). These numerical thresholds are set far too low to accommodate rational regulation of greenhouse-gas emissions. As EPA has acknowledged, applying the 100/250 tons-per-year (tpy) thresholds to CO_2 and other greenhouse gases "would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program." 75 Fed. Reg. 31,514, 31,533 (June 3, 2010) ("Tailoring Rule") (J.A. 355). This not only would expand the number of "major" sources subject to permitting requirements from 15,000 to more than 6,000,000, but it would also increase annual permitting costs from $12,000,000 to $1,500,000,000, and boost the number of man-hours required to administer these programs from 151,000 to 19,700,000. *See id.*, J.A. 381-88. Countless numbers of buildings, including churches and schools, would be subjected to EPA permitting requirements based on the CO_2 emissions from their water heaters.

The Clean Air Act cannot be interpreted to allow EPA to regulate greenhouse-gas emissions under either the PSD or Title V programs when the unambiguous statutory requirements would compel such preposterous consequences. The low, mass-based permitting thresholds established by the PSD and Title V provisions simply do not fit with a world in which EPA treats greenhouse-gas emissions as air pollutants for purposes of those programs. EPA must therefore obtain more specific authorization from Congress before asserting a prerogative to regulate greenhouse-gas emissions under either the PSD or Title V programs.

EPA cannot salvage its efforts to regulate greenhouse-gas emissions under these programs by pointing to ambiguities in the Act's definition of "air pollutant" or other provisions and insisting on *Chevron* deference. *See, e.g.*, 75 Fed. Reg. 17,004, 17,007 (Apr. 2, 2010) ("Timing Rule") (J.A. 721-22) ("Because the term 'regulation' is susceptible to more than one meaning, there is ambiguity in the phrase 'each pollutant subject to regulation under the Act' that is used in both sections 165(a)(4) and 169(3) of the CAA."). In *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), the Court refused to extend *Chevron* deference to FDA's decision to assert jurisdiction over tobacco products—even though those products fell squarely within the statutory definitions of "drugs" and "devices"—because the statutes governing FDA would have required the agency to ban cigarettes from interstate commerce.

Given that this outcome was incompatible with any semblance of rational regulation, the Court concluded that Congress could not have delegated to FDA the power to decide whether to regulate tobacco products. *Brown & Williamson* controls here and should lead the Court to disapprove EPA's attempt to regulate stationary-source greenhouse-gas emissions.

The facts of *Brown & Williamson* are remarkably similar to this case. The Food, Drug, and Cosmetic Act (FDCA) established FDA and authorized it to regulate drugs, among other items. The FDCA defined "drug" to include "articles (other than food) intended to affect the structure or any function of the body." 21 U.S.C. § 321(g)(1)(C). For many years, FDA declined to regulate tobacco products, even though the nicotine in those products is "intended to affect the structure or any function of the body." But in 1996 FDA changed tracks, declaring that nicotine qualified as a "drug" and asserting jurisdiction over tobacco products.

But once FDA asserted jurisdiction over tobacco products, the FDCA required the agency to remove all tobacco products from the market. The statute required preapproval of any new drug, with limited exceptions, and required FDA to disapprove any new drug not safe and effective for its intended purpose. *Id.* § 355(d)(1)-(2), (4)-(5). The statute also prohibited "[t]he introduction or delivery for introduction into interstate commerce of any food, drug, device, tobacco product, or cosmetic that is adulterated or misbranded," *id.* § 331(a), and defined "misbranded" to include drugs or devices "dangerous to health when used in the dosage or manner, or with the frequency or duration prescribed, recommended, or suggested in the labeling thereof," *id.* § 352(j).

FDA was understandably reluctant to take this drastic step. Following these unambiguous statutory requirements would have produced, in EPA parlance, an "absurd result," a regulatory regime so heavy-handed as to fall outside the bounds of reasonable policymaking. So rather than enforcing a nationwide ban on tobacco products, FDA crafted an intermediate regulatory regime, one that merely restricted the marketing of tobacco products to children. *Brown & Williamson*, 529 U.S. at 127-29. Much like the Tailoring Rule that EPA promulgated to avoid the drastic consequences of its decision to regulate greenhouse gases, FDA's tobacco-advertising rule similarly spurned an unambiguous statutory command in an effort to soften the impact of its decision to regulate tobacco as a drug.

The Court, however, vacated FDA's rule in its entirety, refusing to allow the agency to chart its own regulatory course when an unambiguous statutory provision required the agency to ban all "dangerous" drugs or devices within its jurisdiction. And because the statute would produce this absurdity of banning all cigarettes from the market, the Court concluded that FDA could not assert jurisdiction over tobacco products in the first place—*even though nicotine fell squarely within the FDCA's definition of "drug."* The

Court explained: "[W]e are confident that Congress could not have intended to delegate a decision of such economic and political significance to an agency in so cryptic a fashion." *Id.* at 160.

Brown & Williamson should lead the Court to similarly disapprove EPA's attempts to regulate greenhouse-gas emissions under the PSD and Title V programs. EPA's decision to regulate stationary-source greenhouse-gas emissions, like FDA's attempt to assert jurisdiction over tobacco, would produce irrationally onerous regulatory burdens that can be avoided only by rewriting unambiguous statutory language. And EPA's actions, like FDA's failed tobacco effort, involve a novel assertion of agency power that does not fit with the regulatory regime envisioned by the decades-old governing statute. Finally, it is unlikely that Congress would have "intended to delegate" to EPA the power to regulate stationary-source greenhouse-gas emissions unilaterally, and render decisions of such "economic and political significance," especially when the numerical thresholds in the PSD and Title V provisions would render such a project unworkable. *Id.* at 160. Just as the Court required FDA to obtain legislation from Congress extending its regulatory authority to tobacco, so too should it require EPA to seek legislation from Congress authorizing it to regulate greenhouse-gas emissions under the PSD and Title V programs.

The unambiguous (and low) mass-based numerical thresholds in sections 7479(1) and 7602(j) foreclose any inference that the Act implicitly delegates to EPA the power to decide whether to treat greenhouse-gas emissions as air pollutants under the PSD and Title V programs. The inability to regulate these emissions rationally while simultaneously remaining faithful to the rigid, agency-constraining numerical thresholds in the Act demonstrates that greenhouse-gas regulation does not fit with the PSD and Title V provisions.

II. IF THIS COURT CONCLUDES THAT THE CLEAN AIR ACT AUTHORIZES EPA TO REGULATE STATIONARY-SOURCE GREENHOUSE-GAS EMISSIONS, THEN EPA MUST ENFORCE THE STATUTORY PERMITTING THRESHOLDS AND SEEK CORRECTIVE LEGISLATION FROM CONGRESS.

If the Court nevertheless concludes that the Act authorizes or requires EPA to regulate greenhouse-gas emissions from stationary sources, then it should vacate the Tailoring Rule and require EPA to enforce the statute's unambiguous permitting requirements. If EPA thinks the statutory permitting thresholds in the PSD and Title V programs are set too low to allow for rational regulation, then EPA must seek corrective legislation from Congress, rather than replace the statute's numerical, mass-based permitting thresholds with numbers and metrics of EPA's own choosing. Neither the unwillingness of Congress to enact this legislation, nor the unwillingness of the Executive Branch to spend its political capital to obtain this legislation, can justify an agency's flagrant disregard of unambiguous statutory language.*

EPA's Tailoring Rule is one of the most brazen power grabs ever attempted by an administrative agency. Rather than apply the unambiguous permitting requirements that the Act establishes for *all* air pollutants regulated under the PSD and Title V programs, EPA's Tailoring Rule invents its own permitting thresholds for CO_2 and other greenhouse-gas emissions, and sets them at approximately *750 to 1000 times* the threshold levels specified in the statute. J.A. 310-19. If that were not enough, EPA's Tailoring Rule also departs from the mass-based approach to significance levels established in the text of the Act, as it measures the threshold quantities of greenhouse-gas emissions according to their heat-trapping potential. J.A. 305-10, 340-49. This flouts the rule-based thresholds that the Act established to constrain EPA's discretion.

EPA concedes the incontestable, admitting that its Tailoring Rule "do[es] not accord with a literal reading of the statutory provisions for PSD applicability." J.A. 448. Yet EPA tries to defend its Tailoring Rule by noting that obeying the statutory language "would create undue costs for sources and impossible administrative burdens for permitting authorities," J.A. 418, and attempts to create a legal veneer for its unilateral rewriting of the Act by invoking "congressional intent," the "absurdity doctrine," and *Chevron* deference. None of this can justify an agency's decision to countermand unambiguous statutory language and expand its discretion by converting statutory rules into standards.

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* The court of appeals refused to address the legality of the Tailoring Rule by holding that the petitioners lacked standing to challenge it, but this conclusion is mistaken for the reasons explained in State Petitioners' certiorari petition. Pet. 22-28, *Texas v. EPA*, No. 12-1269 (U.S. Apr. 19, 2013).

A. EPA Cannot Subordinate The Clean Air Act's Unambiguous, Rule-Bound Numerical Thresholds To Actual Or Imagined "Congressional Intent."

In defending its insouciance toward the enacted text of the Act, EPA makes an audacious claim: that "clear" congressional intent can trump unambiguous statutory language and liberate agencies to convert statutory rules into agency-empowering standards. EPA writes: "[I]f congressional intent for how the requirements apply to the question at hand is clear, the agency should implement the statutory requirements not in accordance with their literal meaning, but rather in a manner that most closely effectuates congressional intent." J.A. 285.

That is nonsense. Even the clearest expressions of "congressional intent" cannot license an agency to convert the Act's rule-bound numerical thresholds into standards that empower EPA administrators to weigh costs against benefits. This much is clear from *INS v. Chadha*, 462 U.S. 919 (1983). Once Congress confers discretionary powers on an agency administrator, it cannot revoke that discretion by deploying a one- or two-house "legislative veto" over the agency's decisions. *Id.* at 954-55. A two-house legislative veto is as clear a manifestation of "congressional intent" as one can imagine, yet even these "clear" congressional intentions cannot control an agency's decisionmaking—unless they are codified in a statute that successfully runs the bicameralism-and-presentment process.

In like manner, once agency discretion is *restricted* by statute, it cannot be loosened by unenacted congressional wishes. Suppose that each house of Congress approved a nonbinding resolution urging EPA to ignore the Act's statutory thresholds for all air pollutants and replace them with thresholds chosen by the EPA Administrator. One would think this should qualify as a "clear" manifestation of congressional intent—and it is far more clear than anything that EPA has offered in its Tailoring Rule. Yet no one would maintain that these unenacted aspirations could liberate EPA from an unambiguous statutory constraint. Surely less reliable indicators of congressional intent—such as opinion polls of current or former legislators, or facile and unsupported assertions of "congressional intent"—cannot be invoked to displace unambiguous, agency-controlling statutory language either.

EPA's Tailoring Rule treats enacted statutory language not as law, but as mere evidence of what the law might be. The "real" law, according to EPA, is "congressional intent," and statutory text serves as little more than a guide to agencies as they attempt to discover or construct how "Congress" would want them to deal with problems. *See, e.g.*, J.A. 285 ("*To determine congressional intent*, the agency must first consider the words of the statutory requirements, and if their literal meaning answers the question at hand, then, *in most cases*, the agency must implement those requirements by their terms.") (emphases added); J.A. 409 ("If the literal meaning of the statutory requirements is clear then, absent indications to the contrary, the agency must take it to indicate congressional intent and must implement it.").

EPA's efforts to equate the law with "congressional intent" rather than enacted text of federal statutes is irreconcilable with the jurisprudence of this Court. *See, e.g.*, *Exxon Mobil Corp. v. Allapattah Servs., Inc.*, 545 U.S. 546, 567 (2005) (holding that arguments based on legislative "intent" have no relevance when interpreting unambiguous statutes); *Penn. Dep't of Corrs. v. Yeskey*, 524 U.S. 206, 212 (1998) (assuming that "Congress did not 'envisio[n] that the [statute] would be applied to state prisoners,'" but holding that "in the context of an unambiguous statutory text that is irrelevant" (citation omitted)); *Lamie v. U.S. Trustee*, 540 U.S. 526, 542 (2004) ("If Congress enacted into law something different from what it intended, then it should amend the statute to conform it to its intent.").

EPA's intentionalism is also irreconcilable with modern understandings of how the legislative process functions. First, this Court has recognized that legislation embodies compromises between competing interests, and that abstract speculations about congressional "intent" and "purpose" can unravel bargains memorialized in the enacted language. *See Ragsdale v. Wolverine World Wide, Inc.*, 535 U.S. 81, 93-94 (2002); *Barnhart v. Sigmon Coal Co.*, 534 U.S. 438, 461 (2002); *Bd. of Governors v. Dimension Fin. Corp.*, 474 U.S. 361, 374 (1986); *Mohasco Corp. v. Silver*, 447 U.S. 807, 818-19 (1980). The Act's provisions reflect compromises along many different dimensions. Most obviously, its provisions trade off the goals of providing clean air against the need to avoid excessive regulatory burdens. Congress "intended" to pursue each of these competing goals, yet *how much* an agency should pursue clean air and *how much* it should seek to avoid onerous regulation can be determined only by following the enacted statutory language. *See W. Va. Univ. Hosps., Inc. v. Casey*, 499 U.S. 83, 98 (1991) ("The best evidence of that purpose is the statutory text adopted by both Houses of Congress and submitted to the President.").

Second, the Act, like all statutes, must decide whether to pursue these goals by establishing statutory rules ("drive no faster than 55 miles per hour") or standards ("drive at a speed reasonable under the circumstances"). Legislating by rule has many virtues but also drawbacks. On the plus side, statutory rules can promote predictability and planning, avoid arbitrary treatment of regulated entities, and reduce decision costs for those who implement the law. *See, e.g.*, Antonin Scalia, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175 (1989). But statutory rules can be crude; they are sometimes insensitive to context, or over- or under-inclusive in relation to their underlying goals. Standards, by contrast, confer discretion on future decisionmakers to avoid suboptimal outcomes in particular cases, but this type of regime comes at the price of increased decision costs, the potential for arbitrary or unpredictable decisions, and (perhaps) increased error costs if future decisionmakers are untrustworthy. Rules and standards also allocate power between the legislature and the agencies and courts that implement the law. Standards delegate power to future decisionmakers such as agencies and courts, while statutory rules withhold discretion from these institutions and force them to seek legislative approval before deviating from the codified regime. *See, e.g.*, Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 559-60 (1992). How to calibrate these tradeoffs between rules and standards is an essential component of the legislative compromise necessary to produce statutes such as the Clean Air Act. But allowing agencies or courts to invoke abstract notions of "congressional intent" empowers those institutions to convert statutory rules into standards and withhold from Congress the prerogative of legislating by rule. *See MCI Telecomms. Corp. v. AT&T Co.*, 512 U.S. 218, 231 n.4 (1994) (declaring that courts and agencies are "bound, not only by the ultimate purposes Congress has selected, but by the means it has deemed appropriate, and prescribed, for the pursuit of those purposes").

Third, this Court has recognized that Congress, as a multi-member body, is incapable of having "intentions" or "purposes." *See Barnhart*, 534 U.S. at 461; *Dimension Fin.*, 474 U.S. at 374; *Mohasco*, 447 U.S. at 818-19; *see also Church of the Lukumi Babalu Aye, Inc. v. City of Hialeah*, 508 U.S. 520, 558 (1993) (Scalia, J., concurring) ("[I]t is virtually impossible to determine the singular 'motive' of a collective legislative body . . . ."); KENNETH ARROW, SOCIAL CHOICE AND INDIVIDUAL VALUES (2d ed. 1963); Kenneth A. Shepsle, *Congress Is a "They," Not An "It": Legislative Intent as Oxymoron*, 12 INT'L REV. L. & ECON. 239 (1992); *United States v. Mitra*, 405 F.3d 492, 495 (7th Cir. 2005) ("Congress is a 'they' and not an 'it'; a committee lacks a brain (or, rather, has so many brains with so many different objectives that it is almost facetious to impute a joint goal or purpose to the collectivity)."). Legislative outcomes can be manipulated by agenda control and logrolling, clouding any efforts to discover congressional "intentions" from the voting records of its members. *See, e.g.*, Frank H. Easterbrook, *Statutes' Domains*, 50 U. CHI. L. REV. 533, 548 (1983) ("[J]udicial predictions of how the legislature would have decided issues it did not in fact decide are bound to be little more than wild guesses."). Legislatures simply produce outcomes, which must be enforced by courts and agencies.

In all events, even if one accepts "congressional intent" as a coherent concept, EPA's empirical claims regarding "congressional intent" are demonstrably false. There is no "clear" congressional intent from the legislators who enacted the Act or the 1977 amendments because the issues of global warming and greenhouse-gas emissions were not salient at the time of enactment. That means we not only do not know, but we cannot even reconstruct, how the Congresses of 1970 or 1977 would have wanted EPA to deal with this problem. As for the Congress that enacted the 1990 Clean Air Act Amendments, that Congress *rejected* several legislative proposals to regulate greenhouse-gas emissions, a fact that EPA conveniently ignores throughout its Timing and Tailoring Rules. *See, e.g.*, H.R. 5966, 101st Cong. (1990); S. 1224, 101st Cong. (1989). The statute's rigidity demonstrates that the legislatures that enacted the Clean Air Act's provisions expected EPA to come to Congress to seek statutory amendments and authorization to regulate newfound hazards such as global warming. And if the present-day Congress "intends" for EPA to disregard the numerical thresholds in the Act, as EPA suggests, then EPA should have no trouble securing corrective legislation from Congress.

B. EPA Cannot Disregard The Clean Air Act's Unambiguous, Agency-Constraining Numerical Thresholds By Invoking The "Absurdity Doctrine."

EPA's efforts to defend the Tailoring Rule by invoking the "absurdity doctrine" fail for several reasons.

First, agencies cannot rely on "absurd results" as an excuse to convert unambiguous statutory rules into standards. *Every* rule will produce suboptimal or even absurd results at the margins. Yet the entire point of legislating by rule is to tolerate these less-than-ideal outcomes in exchange for the benefits of cabining agency discretion, minimizing decision costs, and preserving the legislature's power vis-à-vis the agency. EPA's theory of "absurd results" would empower agencies to smuggle cost-benefit analysis into *any* statutory mandate, even when the statute expressly rejects this type of utilitarian calculus. *See* J.A. 356 ("For both programs, the addition of enormous numbers of additional sources would provide relatively little benefit compared to the costs to sources and the burdens to permitting authorities."). And it would disable Congress from using statutory rules as a means of forcing agencies to obtain congressional authorization and input before regulating novel and unforeseen environmental problems.

Second, EPA's Tailoring Rule wrongly conflates the canon of constitutional avoidance with a generalized prerogative of agencies to avoid "absurd results" by converting statutory rules into standards. Many of the authorities that EPA cites involve cases in which the Court bent enacted statutory language to avoid an actual or potential *constitutional violation*. *See* J.A. 393-95 (citing *Nixon v. Mo. Mun. League*, 541 U.S. 125, 132-33 (2004); *Raygor v. Regents of Univ. of Minn.*, 534 U.S. 533, 542-45 (2002); *United States v. X-Citement Video, Inc.*, 513 U.S. 64, 69 (1994); *Green v. Bock Laundry Mach. Co.*, 490 U.S. 504 (1989); *Pub. Citizen v. DOJ*, 491 U.S. 440, 453-54 (1989)). Yet there is a great distance between the constitutional-avoidance canon and the absurdity doctrine applied by EPA. The avoidance doctrine is narrow; it applies only when the enacted statutory language would violate the Constitution or present a serious constitutional question. It is rooted in principles of constitutional supremacy and promotes judicial restraint by enabling courts to avoid unnecessary constitutional pronouncements. *See Nw. Austin Mun. Util. Dist. No. One v. Holder*, 129 S. Ct. 2504, 2513 (2009); *Lyng v. Nw. Indian Cemetery Protective Ass'n*, 485 U.S. 439, 445-46 (1988); *see also Ashwander v. TVA*, 297 U.S. 288, 345-46 (1936) (Brandeis, J., concurring). EPA's notions of "absurdity" extend far beyond these situations, allowing agencies or courts to depart from unambiguous statutory language merely to avoid a suboptimal policy outcome, even when a straightforward textual interpretation would comply with all constitutional requirements. No matter how undesirable as a matter of policy, there is nothing unconstitutional, or even constitutionally questionable, about imposing onerous regulatory burdens on buildings that emit greenhouse gases when the text of the Act establishes unambiguous numerical permitting thresholds.

Indeed, in this case the canon of constitutional avoidance *compels* EPA to adhere to the Act's specific numerical thresholds. As explained in Part II.C, EPA's decision to depart from these statutory rules empowers EPA to choose its own numerical thresholds without an "intelligible principle" provided by Congress. And even if one thinks that EPA's actions can be salvaged under the Constitution, it cannot be denied that EPA's unilateral revision of these numerical guidelines at least presents serious constitutional questions under the Court's nondelegation precedents. EPA's atextual interpretation aggravates rather than alleviates constitutional problems, by seizing discretionary powers without an "intelligible principle" provided by Congress. The Tailoring Rule's attempt to rely on the Court's constitutional-avoidance cases boomerangs.

Finally, even if one accepted the legitimacy of EPA's generalized "absurdity doctrine," it *still* would not justify EPA's unilateral departure from the Act's numerical thresholds. It would indeed be absurd to apply the Act's numerical thresholds to greenhouse-gas emissions, but it hardly follows that EPA may "cure" the absurdity by disregarding unambiguous statutory text. The proper means of avoiding this absurdity is not by replacing the unambiguous numerical thresholds in the Act with arbitrary targets of EPA's own choosing, but by concluding that stationary-source greenhouse-gas emissions cannot qualify as "air pollutants" subject to regulation under the PSD and Title V programs. Nothing in the Act *compels* EPA to include greenhouse gases within the ambit of air pollutants regulated by the PSD and Title V programs; the relevant statutory provisions can be construed to exclude greenhouse-gas emissions from stationary sources, as the other petitioners explain in their briefs. When an agency can avoid an "absurd" result by adopting a plausible construction of statutory language, it cannot decline to follow that course and insist on curing the absurdity by disregarding *unambiguous* statutory language.

C. EPA's Permitting Requirements For Stationary Sources That Emit Greenhouse Gases Violate The Constitution By Seizing Discretionary Powers Where No "Intelligible Principle" Has Been Provided By Statute.

EPA's agency-created permitting requirements violate not only the Act, but also the Constitution. Agencies are allowed only to administer the laws; they may not exercise legislative powers that Article I vests exclusively in Congress. It is of course inevitable that agencies will exercise discretion when they implement federal statutes. Congress is not omniscient and cannot establish mechanical rules for every conceivable scenario that may arise. But the

Constitution requires federal statutes to authorize agency discretion *and* provide an "intelligible principle" to guide that discretion. *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 472 (2001); *J.W. Hampton, Jr. & Co. v. United States*, 276 U.S. 394, 409 (1928). Any agency that exercises discretionary powers absent an "intelligible principle" from Congress has crossed the line into constitutionally forbidden lawmaking.

EPA's decision to replace the Act's numerical thresholds with targets of its own creation is not and cannot be based on any intelligible principle provided by Congress. The Act envisions that EPA will either comply with the numerical thresholds or seek corrective legislation from Congress; as a result, it does not supply any intelligible principle for the improvisation project that EPA has undertaken in the Tailoring Rule. So even if EPA could conjure up a non-arbitrary justification for choosing 75,000 tpy CO_2e and 100,000 tpy CO_2e as the "new" threshold levels for greenhouse-gas emissions, it cannot link these decisions to any guideline provided in a federal statute, and it therefore cannot characterize its regulatory regime as anything but agency legislation.

EPA declares in its Tailoring Rule that future phase-ins will apply PSD and Title V "at threshold levels that are as close to the statutory levels as possible, and do so as quickly as possible, at least to a certain point." J.A. 310. Putting aside whether this can qualify as "intelligible," this reflects at most an effort *by EPA* to supply itself with a guiding principle for the new threshold levels that it will choose. But *Whitman* squelches the notion that agency-supplied guidelines can satisfy the constitutional demand that *Congress* provide an intelligible principle to guide agency discretion. *See* 531 U.S. at 473. EPA's decision to establish new threshold levels for greenhouse-gas emissions is not governed by a congressionally supplied intelligible principle, and should be vacated as an unconstitutional exercise of legislative power.

D. EPA's Tailoring Rule Arrogates Powers That Congress Reserved To Itself In The Clean Air Act.

When Congress enacted and amended the Act, it chose to establish and retain specific numerical thresholds in the statute rather than instruct EPA to promulgate "reasonable" or "sensible" threshold levels for individual air pollutants. By doing this, Congress established that the threshold levels of pollutants would be governed by a rule rather than a standard. One reason legislatures establish rules is to reduce decision costs for those who implement the law, even though this may incur error costs by binding agency administrators to a crude statutory regime. But statutory rules serve another important function: They allocate power between the legislature and the agency that implements the legislative command.

When a federal statute delegates broad discretionary powers to an agency, it becomes more difficult for Congress to influence the agency's future decisionmaking. Had the Act simply instructed EPA to "regulate air pollution in the public interest," then EPA would have free rein to regulate greenhouse-gas emissions (or any future air pollution) without seeking permission or input from Congress. But by establishing rigid numerical thresholds in the text of the Act, Congress sought to hamstring EPA from *unilaterally* attacking some new and unforeseen problem of air pollution while relegating Congress to the sidelines. The decision to allocate power in this manner is an essential component of the bargaining that produced the Act and its amendments; for EPA to disregard this choice reflects nothing more than a raw power grab and a denigration of congressional prerogatives.

EPA apparently does not fancy the prospect of waiting for Congress to amend these numerical thresholds through legislation. Any efforts to obtain corrective legislation will require bargaining and concessions from both Congress and the Administration. EPA might not get everything that it wants, and the President will have to spend political capital that he might wish to preserve for other matters. How much easier to rewrite unilaterally the Act's numerical thresholds and avoid the bother of negotiating with the people's elected representatives. Yet the temptation to stray from the allocations of power memorialized in statutes is precisely why the Act provides for judicial review of agency action. If this Court decides that EPA has the statutory authority to regulate greenhouse-gas emissions from stationary sources, it should disapprove the Tailoring Rule and force EPA to bargain with Congress over these matters.

III. *MASSACHUSETTS V. EPA* SHOULD BE RECONSIDERED OR OVERRULED IF IT COMPELS EPA TO REGULATE STATIONARY-SOURCE GREENHOUSE-GAS EMISSIONS.

Before 2007, EPA held that greenhouse gases did not qualify as "air pollutants" under the Act, which defines "air pollutant" as

> any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air.

42 U.S.C. § 7602(g). EPA explained that it had traditionally construed the term "air pollution agent" as limited to pollutants "that occur primarily at ground level or near the surface of the earth . . . not higher in the atmosphere." 68 Fed. Reg. 52,922, 52,926-27 (Sept. 8, 2003) (J.A. 1350); *see also id.* at J.A. 1350 (noting that greenhouse gases such as CO_2 are "fairly consistent in concentration throughout the world's atmosphere up to approximately the lower stratosphere"). This view led EPA to refrain from regulating greenhouse-gas emissions under *any* of the Act's provisions—not only the stationary-source regulations in the PSD and Title V programs, but also the motor-vehicle regulations in Title II.

Massachusetts v. EPA, 549 U.S. 497 (2007), held that EPA could no longer refuse to regulate *motor-vehicle* greenhouse-gas emissions simply by insisting that greenhouse gases fail to qualify as "air pollutants." *Id.* at 528-32. This holding rested on two propositions. First, this Court observed that the four greenhouse gases emitted by motor vehicles—"[c]arbon dioxide, methane, nitrous oxide, and hydrofluorocarbons"—qualify as "physical [and] chemical . . . substances[s] which [are] emitted into . . . the ambient air" within the meaning of section 7602(g). *Id.* at 529. Second, this Court distinguished *Brown & Williamson* by noting that EPA regulation of motor-vehicle greenhouse-gas emissions "would lead to no . . . extreme measures." *Id.* at 531. *Massachusetts* never considered whether EPA could or should regulate *stationary-source* greenhouse gases as air pollutants under the PSD and Title V programs, where the Act's rigid permitting thresholds would produce burdens that exceed any semblance of rational regulation.

Massachusetts's holding need not and should not be extended to stationary-source greenhouse-gas emissions. *Massachusetts*'s decision to regard motor-vehicle greenhouse-gas emissions as "air pollutants" under section 7602(g) rested in part on the absence of preposterous consequences. *Id.* Here, by contrast, EPA itself recognizes that including stationary-source greenhouse-gas emissions within the meaning of "air pollutant" will produce ridiculous outcomes, and for this reason the agency refuses to obey the unambiguous permitting thresholds specified in the PSD and Title V provisions. *See* Part II, *supra*. And the *Massachusetts* Court never had the opportunity to consider the implications of defining the term "air pollutant" to include greenhouse-gas emissions from stationary sources, as not one of the twenty-nine briefs submitted by the parties and their amici informed the Court of the absurdities that would arise from extending the PSD and Title V permitting requirements to every building that emits more than 100 (or 250) tpy of CO_2. *See United States v. L.A. Tucker Truck Lines, Inc.*, 344 U.S. 33, 38 (1952) (holding that when an issue "was not . . . raised in briefs or argument nor discussed in the opinion of the Court[,] . . . the case is not a binding precedent on this point").

None of this would matter if the statutory definition of "air pollutant" were clear enough to *compel* EPA to regulate stationary-source greenhouse gases. But it isn't; the phrase "air pollution agent" leaves wiggle room, *see Massachusetts*, 549 U.S. at 555-60 (Scalia, J., dissenting), and there is nothing paradoxical about interpreting section 7602(g)'s definition of "air pollutant" to include greenhouse-gas emissions from motor vehicles but not stationary sources, given the implausibility of regulating greenhouse-gas emissions in a manner consistent with PSD and Title V permitting regimes. The briefs submitted by the Industry Petitioners offer several ways for the Court to interpret the Act in a manner that excludes greenhouse-gas emissions from the PSD and Title V programs, or that prevents greenhouse-gas emissions from triggering the permitting requirements of those programs.

EPA claims that it can interpret the Act to require the regulation of stationary-source greenhouse-gas emissions, and then avoid the absurd consequences of extending the PSD and Title V permitting requirements to greenhouse gases by replacing the unambiguous numerical thresholds specified in the Act with numbers and metrics of its own choosing. EPA's analysis is backward. Agencies can rewrite unambiguous statutory language in the name of avoiding "absurdity," if at all, only when no other permissible construction of the statute is available to avoid that absurdity. Indeed, EPA's analysis reflects a perverse brand of agency self-aggrandizement: The more mischief an agency causes by its interpretations of a statute, the more power it will have to rewrite the unambiguous provisions of a statute. To find *any* possible construction of the Act that avoids extending the PSD and Title V permitting regimes to greenhouse gases is to *require* a ruling that disapproves EPA's interpretation of the statute.

If this Court concludes that *Massachusetts* compels EPA to regulate greenhouse-gas emissions under the PSD and Title V programs, then the State Petitioners respectfully request that this Court reconsider *Massachusetts*'s holding that CO_2 and other greenhouse gases unambiguously qualify as "air pollutant[s]" within the meaning of the Act. Even EPA recognizes that the term "air pollutant" cannot possibly extend to "all airborne compounds of whatever stripe," nor can it extend to all "physical [and] chemical . . . substance[s] which [are] emitted into . . . the ambient air." *Massachusetts*, 549 U.S. at 529 (majority opinion) (internal quotation marks omitted). EPA insists that the term "air pollutant" extends only to "physical, chemical [or] biological" substances *subject to regulation under the Clean Air Act*—even though this limiting construction finds no support from *Massachusetts*, which equated the term "air pollutant" with "all airborne compounds of whatever stripe," and further insisted that this construction of "air pollutant" was *compelled* and could not be narrowed by EPA. *See id.* at 529; *see also id.* at 558 n.2 (Scalia, J., dissenting).

The problems with *Massachusetts*'s interpretation of "air pollutant" are made painfully apparent by this case. With CO_2 as an "air pollutant," every building that emits more than 100 or 250 tpy of CO_2 becomes subject to permitting requirements, a result that imposes extreme and unacceptable regulatory burdens on EPA and the more than 6,000,000 buildings that would suddenly become required to obtain permits. *See* Part I, *supra*. EPA deems these results so absurd that it refuses to apply the Act as written. *See* J.A. 280-88, 459-68. EPA also does not agree with *Massachusetts's* all-encompassing definition of "air pollutant" because it refused to deem stationary-source greenhouse-gas emissions "air pollutant[s]" under the statute until after it had promulgated its Endangerment Finding and the Tailpipe Rule. *See* J.A. 709.

Stare decisis is "not an inexorable command," *see Payne v. Tennessee*, 501 U.S. 808, 827-28 (1991), and this Court has not hesitated to reconsider or overrule cases that have proven "unworkable" or "legitimately vulnerable to serious reconsideration," *Vasquez v. Hillery*, 474 U.S. 254, 266 (1986). *Massachusetts*'s holding that CO_2 and other greenhouse gases "unambiguous[ly]" qualify as "air pollutant[s]" under the Act should be reconsidered in light of the preposterous results that are produced under the PSD and Title V programs.

* * *

Fusing the law-making power with the law-execution power contradicts the Constitution's most fundamental principles of limited government and separation of powers. *See, e.g.*, *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 633 (1952) (Douglas, J., concurring); THE FEDERALIST NO. 47 (Madison). Yet EPA believes it can disregard unambiguous, agency-constraining statutory rules and unilaterally establish a new regulatory regime to deal with novel environmental challenges. Few propositions could be more subversive of the rule of law, or the notion that agency power must be authorized rather than assumed. A ruling that approves this agency-created regulatory regime will allow EPA to become a law unto itself.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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PETITIONER'S
BRIEF

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IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP,
Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,
Respondent.

**On Writs of Certiorari to the
United States Court of Appeals for the
District of Columbia Circuit**

BRIEF OF PETITIONER UTILITY AIR REGULATORY GROUP

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QUESTION PRESENTED

After this Court decided *Massachusetts* v. *EPA*, 549 U.S. 497 (2007), the United States Environmental Protection Agency (EPA) determined that its promulgation of motor vehicle greenhouse gas (GHG) emission standards under Title II of the Clean Air Act (CAA), 42 U.S.C. § 7521(a)(1), compelled regulation of carbon dioxide and other GHGs under the CAA's Title I Prevention of Significant Deterioration (PSD) and Title V stationary-source permitting programs. EPA adopted the Timing Rule and the Tailoring Rule, which added GHGs to the pollutants covered by the PSD and Title V programs even though (i) including GHGs would vastly expand the PSD and Title V programs in a way that contradicts Congress's intent, and (ii) GHGs such as carbon dioxide do not deteriorate ambient air quality (*i.e.*, the outside air that people breathe). The court of appeals held that the CAA and *Massachusetts* compelled inclusion of GHGs in these programs and, based on that holding, dismissed on standing grounds all petitions to review EPA's GHG permitting rules. The question presented is:

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

PARTIES TO THE PROCEEDING

The following were parties to the proceedings in the U.S. Court of Appeals for the District of Columbia Circuit:

Challenges to 75 Fed. Reg. 17,004 (Apr. 2, 2010) (the "Timing Rule"):

1. The Utility Air Regulatory Group, petitioner on review, was a petitioner below.

2. The United States Environmental Protection Agency, respondent on review, was a respondent below.

3. Additional petitioners below, who are nominal respondents on review, were Coalition for Responsible Regulation, Inc.; Industrial Minerals Association – North America; National Cattlemen's Beef Association; Great Northern Project Development, L.P.; Rosebud Mining Co.; Alpha Natural Resources, Inc.; Southeastern Legal Foundation, Inc.; The Langdale Company; Langdale Forest Products Company; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc.; Langdale Ford Company; Langboard, Inc. – MDF; Langboard, Inc. – OSB; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw Transportation, Inc.; J&M Tank Lines, Inc.; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc.; John Linder, U.S. Representative, Georgia 7th District; Dana Rohrabacher, U.S. Representative, California 46th District; John Shimkus, U.S. Representative, Illinois 19th District; Phil Gingrey, U.S. Representative, Georgia 11th District; Lynn Westmoreland, U.S. Representative, Georgia

3rd District; Tom Price, U.S. Representative, Georgia 6th District; Paul Broun, U.S. Representative, Georgia 10th District; Steve King, U.S. Representative, Iowa 5th District; Nathan Deal, U.S. Representative, Georgia 9th District; Jack Kingston, U.S. Representative, Georgia 1st District; Michele Bachmann, U.S. Representative, Minnesota 6th District; Kevin Brady, U.S. Representative, Texas 8th District; John Shadegg, U.S. Representative, Arizona 3rd District; Marsha Blackburn, U.S. Representative, Tennessee 7th District; Dan Burton, U.S. Representative, Indiana 5th District; Clean Air Implementation Project; American Iron and Steel Institute; Gerdau Ameristeel US Inc.; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; Peabody Energy Company; American Farm Bureau Federation; National Mining Association; Chamber of Commerce of the United States of America; Missouri Joint Municipal Electric Utility Commission; National Environmental Development Association's Clean Air Project; Ohio Coal Association; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Packaging Institute; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Federation of Independent Business; National Oilseed Processors Association; National Petrochemical & Refiners Association; North American Die Casting Association; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum

Association; West Virginia Manufacturers Association; Wisconsin Manufacturers and Commerce; State of Texas; State of Alabama; State of South Carolina; State of South Dakota; State of Nebraska; State of North Dakota; Commonwealth of Virginia; Rick Perry, Governor of Texas; Greg Abbott; Attorney General of Texas; Texas Commission on Environmental Quality; Texas Agriculture Commission; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; Haley Barbour, Governor of the State of Mississippi; and Portland Cement Association.

4. Petitioner-intervenors below (with respect to certain petitions for review), who are nominal respondents on review, were American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Petroleum Institute; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Louisiana Department of Environmental Quality; Michigan Manufacturers Association; National Association Manufacturers; National Association of Home Builders; National Oilseed Processors Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers & Commerce.

5. Respondent-intervenors below (with respect to certain petitions for review), who are respondents (or, in some cases, nominal respondents) on review, were American Farm Bureau Federation; Brick Industry Association; Center for Biological Diversity; Commonwealth of Massachusetts; Conservation Law

Foundation; Environmental Defense Fund; Georgia ForestWatch; Indiana Wildlife Federation; Michigan Environmental Council; National Environmental Development Association's Clean Air Project; National Mining Association; Peabody Energy Company; Natural Resources Council of Maine; Natural Resources Defense Council; Ohio Environmental Council; Sierra Club; South Coast Air Quality Management District; State of California; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State of Rhode Island; Utility Air Regulatory Group; Wild Virginia.

6. A respondent below, who is a nominal respondent on review, was Lisa Perez Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy.

Challenges to 75 Fed. Reg. 31,514 (June 3, 2010) (the "Tailoring Rule"):

1. The Utility Air Regulatory Group, petitioner on review, was a petitioner below.

2. The United States Environmental Protection Agency, respondent on review, was a respondent below.

3. Additional petitioners below, who are nominal respondents on review, were Southeastern Legal Foundation, Inc.; John Linder, U.S. Representative, Georgia 7th District; Dana Rohrabacher, U.S. Repre-

sentative, California 46th District; John Shimkus, U.S. Representative, Illinois 19th District; Phil Gingrey, U.S. Representative, Georgia 11th District; Lynn Westmoreland, U.S. Representative, Georgia 3rd District; Tom Price, U.S. Representative, Georgia 6th District; Paul Broun, U.S. Representative, Georgia 10th District; Steve King, U.S. Representative, Iowa 5th District; Jack Kingston, U.S. Representative, Georgia 1st District; Michele Bachmann, U.S. Representative, Minnesota 6th District; Kevin Brady, U.S. Representative, Texas 8th District; John Shadegg, U.S. Representative, Arizona 3rd District; Marsha Blackburn, U.S. Representative, Tennessee 7th District; Dan Burton, U.S. Representative, Indiana 5th District; The Langdale Company; Langdale Forest Products Company; Langdale Farms, LLC; Langdale Fuel Company; Langdale Chevrolet-Pontiac, Inc.; Langdale Ford Company; Langboard, Inc. – MDF; Langboard, Inc. – OSB; Georgia Motor Trucking Association, Inc.; Collins Industries, Inc.; Collins Trucking Company, Inc.; Kennesaw Transportation, Inc.; J&M Tank Lines, Inc.; Southeast Trailer Mart, Inc.; Georgia Agribusiness Council, Inc.; Coalition for Responsible Regulation, Inc.; Industrial Minerals Association – North America; National Cattlemen's Beef Association; Great Northern Project Development, L.P.; Rosebud Mining Co.; Alpha Natural Resources, Inc.; The Ohio Coal Association; American Iron and Steel Institute; Gerdau Ameristeel US Inc.; Chamber of Commerce of the United States of America; Georgia Coalition for Sound Environmental Policy; National Mining Association; American Farm Bureau Federation; Peabody Energy Company; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; South Carolina Public Service Authority; Mark R. Levin; Landmark Legal Foundation; National Environmental Development Association's Clean Air Project; State of Alabama; State of North Dakota; State of South Dakota; Haley Barbour, Governor of Mississippi; State of South Carolina; State of Nebraska; Missouri Joint Municipal Electric Utility Commission; Clean Air Implementation Project; National Association of Manufacturers; American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Association of North America; Glass Packaging Institute; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Oilseed Processors Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers & Commerce; National Association of Home Builders; National Federation of Independent Business; Portland Cement Association; Louisiana Department of Environmental Quality; Rick Perry, Governor of Texas; Greg Abbott; Attorney General of Texas; Texas Commission on Environmental Quality; Texas Department of Agriculture; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; and State of Texas.

4. Petitioner-intervenors below (with respect to certain petitions for review), who are nominal respondents on review, were American Frozen Food Institute; American Fuel & Petrochemical Manufacturers; American Petroleum Institute; Corn Refiners As-

sociation; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; National Association of Home Builders; National Association of Manufacturers; National Oilseed Processors Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers & Commerce.

5. Respondent-intervenors below (with respect to certain petitions for review), who are respondents (or, in some cases, nominal respondents) on review, were American Farm Bureau Federation; Brick Industry Association; Center for Biological Diversity; Clean Air Implementation Project; Commonwealth of Massachusetts; Conservation Law Foundation; Environmental Defense Fund; Georgia ForestWatch; National Environmental Development Association's Clean Air Project; National Mining Association; Natural Resources Council of Maine, Inc.; Natural Resources Defense Council; Peabody Energy Company; Sierra Club; South Coast Air Quality Management District; State of California; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State of Rhode Island; Utility Air Regulatory Group; and Wild Virginia.

6. A respondent below, who is a nominal respondent on review, was Lisa Perez Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection

Agency, on February 15, 2013; that office is currently held by Gina McCarthy.

CORPORATE DISCLOSURE STATEMENT

The Utility Air Regulatory Group (UARG) is a not-for-profit association of individual electric utilities and electric generating companies and national trade associations that participates on behalf of its members collectively in administrative proceedings under the Clean Air Act, and in litigation arising from those proceedings, that affect electric generators. UARG has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in UARG.

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OPINIONS BELOW

The court of appeals' opinion is reported at 684 F.3d 102 and reproduced in the Joint Appendix (JA) at 191-267. Its orders denying panel and en banc rehearing are at JA 139-90. The Timing Rule is reproduced at JA 705-92, and the Tailoring Rule is at JA 268-682.

JURISDICTION

The court of appeals entered judgment dismissing the Timing and Tailoring Rule cases on June 26, 2012. Pet. App. (No. 12-1146) 5a. Timely petitions for panel or en banc rehearing were denied on December 20, 2012. JA 141. This Court has jurisdiction under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Relevant provisions of the Clean Air Act (CAA or Act), 42 U.S.C. §§ 7401 *et seq.*, are reproduced at Pet. App. (No. 12-1146) 664a-680a. Relevant regulations implementing the CAA are reproduced at Pet. App. (No. 12-1146) 681a-692a.

STATEMENT OF THE CASE

This case concerns the decision of a panel of the lower court that, upon promulgation by the United States Environmental Protection Agency (EPA) of motor vehicle emission standards for greenhouse gases (GHGs) under Title II of the CAA, EPA was compelled by (1) this Court's decision in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007), applying the CAA's general definition of "air pollutant" to Title II of the CAA, and (2) the use of the term "air pollutant" in the

CAA's Prevention of Significant (PSD) and Title V provisions, to regulate stationary sources' GHG emissions under the Title I and Title V permitting programs.[1] At issue is whether this determination by EPA that stationary source regulation is statutorily compelled is a permissible reading of the CAA.

Pollutants like sulfuric acid, benzene, sulfur dioxide, and nitrogen dioxide are regulated under the Act because they contribute to local or regional concentrations in the ambient air that pose risks to public health or welfare. By contrast, as EPA explained, GHG concentrations "tend to be relatively uniform around the world," JA 1091, causing climate change effects that cannot be related to specific sources' emissions. Although EPA identified health and welfare effects from global GHG concentrations, EPA also recognized that "[c]urrent and projected levels of ambient concentrations" of GHGs themselves are not responsible for direct adverse effects locally and regionally. *Id.* at 1145.

The "basket" of substances constituting GHGs is dominated by one – carbon dioxide.[2] Carbon dioxide is a colorless gas that, like nitrogen and oxygen, is a natural component of the outside air people breathe.

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[1] Although this brief focuses on Title I PSD requirements, defining Title V "air pollutants" to include GHGs is also problematic; the arguments presented here regarding "major source" coverage generally also apply to Title V.

[2] EPA defines "GHGs" as consisting of six pollutants. Each is assigned a numerical value based on its "Global Warming Potential," measured relative to carbon dioxide, which is called "carbon dioxide equivalent." JA 290.

Ground-level ambient concentrations of carbon dioxide are uniform over large geographic areas and do not change measurably due to new carbon dioxide emissions from industrial and other sources. Exposure to carbon dioxide in ambient air is necessary to sustain life and is harmless to humans, animals, and property. See IPCC Special Report, Carbon Dioxide Capture and Storage, Annex 1, at 385 (2005), *available at* http://www.ipcc.ch/pdf/special-reports/srccs/srccs_wholereport.pdf.

Congress limited coverage of the Title I PSD and Title V permit programs to "major" sources, which Congress defined in reference to annual emissions of "any air pollutant" – 100 tons per year (tpy) for Title V, 42 U.S.C. §§ 7602(j), 7661(2)(B), and 100 or 250 tpy for PSD depending upon the type of source, *id.* § 7479(1). If these tpy thresholds are applied to carbon dioxide emissions, the coverage of these programs will no longer be limited to "major" sources. Carbon dioxide emissions result from combustion and are emitted from stationary sources in amounts that are orders of magnitude greater than other CAA-regulated combustion byproducts. A source that, for example, emits 250 tpy of sulfur dioxide or particulate matter is, invariably, a large industrial facility. On the other hand, sources emitting 250 tpy of carbon dioxide include hospitals, schools, apartment buildings, shopping centers, and innumerable other small non-industrial sources. JA 283-84.

1. The modern CAA was enacted in 1970 and significantly amended in 1977 and 1990, as Congress turned its attention to new problems and devised different approaches to existing problems. The Act con-

tains six distinct titles (Subchapters I through VI of 42 U.S.C. Chapter 85); each establishes different programs to address different pollution problems in different geographic areas for different types of sources.

Title II addresses emission standards for mobile sources, including motor vehicles. Title I establishes a variety of programs governing stationary source emissions, including programs addressing national ambient air quality standards (NAAQS), control technology standards, air toxics regulation, and visibility protection. Congress revised Title I in 1977, adding, *inter alia*, a PSD preconstruction permit program for large industrial sources. In 1990, Congress added Title V to create an operating permit program for large stationary sources. Title III contains the CAA's "general provisions," including the Act's general definition of "air pollutant" addressed in *Massachusetts*. 42 U.S.C. § 7602(g).

2. The starting point for Title I stationary source regulation is the NAAQS program. *Id.* §§ 7408, 7409; *Union Elec. Co.* v. *EPA*, 427 U.S. 246, 249 (1976) (NAAQS program is the "heart" of the CAA). As specified by § 7409(b), EPA establishes NAAQS by defining maximum health- and welfare-protective concentrations of specific pollutants (so-called "criteria pollutants") in the "ambient air" – ground-level outdoor air to which people are exposed and which they breathe. *Train* v. *Natural Res. Def. Council*, 421 U.S. 60, 65 (1975) ("'ambient air[]' ... is the statute's term for the outdoor air used by the general public"); 40 C.F.R. § 50.1(e) ("Ambient air means that portion of the atmosphere, external to buildings, to which the general public has access.").

After EPA promulgates a NAAQS, States have primary responsibility to ensure the ambient air within their borders attains and maintains the NAAQS. A State does this by adopting emission limitations and other measures in a state implementation plan (SIP) that it submits to EPA for review and approval. 42 U.S.C. §§ 7407, 7410. The CAA assigns responsibility for achieving NAAQS on a geographic basis. *Id.* § 7407(a). For each NAAQS, each state is divided into defined geographic areas that are designated, based on measured ambient air quality concentrations, as (1) "attainment" (meaning ambient air quality in the area is as good as or better than the NAAQS), (2) "nonattainment" (the area's ambient air quality is worse than the NAAQS), or (3) "unclassifiable." A geographic area may be in attainment with one NAAQS but nonattainment (or unclassifiable) for another.

3. The PSD program arose from litigation after EPA's approval in 1972 of the first SIPs. In *Sierra Club* v. *Ruckelshaus*, 344 F. Supp. 253, 257 (D.D.C.), *aff'd per curiam*, 4 Env't Rep. Cas. (BNA) 1815 (D.C. Cir. 1972), *aff'd per curiam by an equally divided Court sub nom. Fri* v. *Sierra Club*, 412 U.S. 541 (1973), the court ordered EPA to disapprove any SIP that allowed "attainment" ambient air quality in an area to "deteriorate" to the level of a NAAQS.

In 1974, EPA implemented that decision by promulgating the initial PSD rules. 39 Fed. Reg. 42,510, 42,514-17 (Dec. 5, 1974). Those rules sought to "prevent significant deterioration" of local ambient air quality in attainment areas by requiring permits before construction of named types of large industrial sources (or modifications of such sources) could occur.[3] Deterioration of local air quality would be avoided by requiring that these large industrial facilities (i) not cause ambient air quality impacts above specified numerical "increments" for sulfur dioxide and particulate matter, and (ii) use "best available control technology" (BACT) for these pollutants.

4. In 1977, Congress enacted a PSD program based largely on EPA's 1974 rules. See *Alaska Dep't of Envtl. Conservation* v. *EPA*, 540 U.S. 461, 470-74 (2004). Like the 1974 rules, the statutory PSD program required preconstruction permits for construction or modification of major sources. The new statutory program covered only "major emitting facilit[ies]." 42 U.S.C. § 7479(1). For 28 listed categories of industrial facilities, sources were "major emitting facilit[ies]" if they "emit, or have the potential to emit, [100 tpy] or more of any air pollutant." *Id.* Recognizing that other large industrial facilities, outside the 28 categories, could have emissions that deteriorate local ambient air quality, Congress provided such a facility would be a "major emitting facility" if it had "the potential to emit [250 tpy] or more of any air pollutant." *Id.*

In 1978, EPA promulgated regulations to implement the statutory PSD program. JA 1496-536. Resolving challenges to those regulations, the D.C. Circuit in *Alabama Power Co.* v. *Costle*, 636 F.2d 323

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[3] Eighteen specifically identified categories of large industrial sources were subject to review under EPA's 1974 rules. 39 Fed. Reg. at 42,516.

(D.C. Cir. 1979), addressed Congress's intent for the PSD program.

Regarding "major emitting facility," the court explained the statutory definition was "not pollutant-specific, but rather identifies sources that emit more than a threshold quantity of *any* air pollutant." *Id.* at 352. The court observed that:

> Once a source has been so identified, it may become subject to [the] substantial administrative burdens and stringent technological control requirements [imposed by § 7475 (discussed further below)] for each pollutant regulated under the Act, even though the air pollutant, emissions of which caused the source to be classified as a "major emitting facility," may not be a pollutant for which NAAQS have been promulgated or even one that is otherwise regulated under the Act. As [is] apparent from consideration of the ramifications of this definition, Congress's intention was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emission of the deleterious pollutants that befoul our nation's air.

Id. at 352-53.

The "100 ton-per-annum threshold" applicable to the "28 categories of facilities" listed in § 7479(1), the court said, indicates "Congress was concerned with large industrial enterprises – major actual emitters of air pollution" and intended to exclude from the statute's major emitting facility definition "small industrial facilities within these categories [that] might actually and potentially emit less than the threshold amount." *Id.* at 354. Emphasizing this point, the court said it had "no reason to believe that Congress intended [the term "major emitting facility"] to define such obviously minor sources" as "the heating plant operating in a large high school or in a small community college," as "'major' for the purposes of the PSD provision."[4] *Id.*

5. The PSD program's exclusive focus on pollutants that can deteriorate ambient air quality in geographically-defined areas is evident in the 1977 statutory text. For example, Congress directed that "each applicable implementation plan shall contain emission limitations and such other measures *as may be necessary*, as determined under regulations promulgated under this part, to prevent *significant deterioration of air quality* in each [area] ... designated

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[4] Although the text of § 7479(1) plainly defines "major emitting facility" in reference to a source that emits the applicable threshold amount of "any air pollutant," EPA's 1978 regulations defined the equivalent regulatory term "Major stationary source" to mean sources within the 28 statutorily-identified industrial categories that "emit, or have the potential to emit, 100 [tpy] or more of any air pollutant *regulated under the Clean Air Act*." JA 1508 (emphasis added). EPA added the same limiting language to the 250-tpy threshold. Because no one objected to the limiting words "regulated under the Clean Air Act" added in EPA's definition, the *Alabama Power* court had no occasion to consider whether this EPA addition conformed to congressional intent.

pursuant to section 7407 ... as attainment or unclassifiable." 42 U.S.C. § 7471 (emphases added).

For "major emitting facilities" beginning construction after the 1977 CAA Amendments' enactment, Congress established in § 7475 requirements for preconstruction permitting. To receive a permit, a proposed facility's owner or operator must demonstrate

> that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant *in any area* to which this part applies ..., (B) [NAAQS] *in any air quality control region*, or (C) any other applicable emission standard or standard of performance under [the Act].

Id. § 7475(a)(3) (emphases added).

To evaluate the significance of air quality deterioration, the owner or operator must "conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or [are] having, on *air quality in any area which may be affected* by emissions from such source." *Id.* § 7475(a)(7) (emphasis added). Each proposed "major emitting facility" is subject to "an analysis ... of *the ambient air quality at the proposed site* and *in areas which may be affected* by emissions from such facility for *each pollutant subject to regulation under this [Act]* which will be emitted from such facility." *Id.* § 7475(e)(1) (emphases added). This analysis must address

> the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility at the site of the proposed major emitting facility and *in the area potentially affected* by the emissions from such facility for *each pollutant regulated under this [Act]* which will be emitted from, or which results from the construction or operation of, such facility, ... and such other factors as may be relevant in determining *the effect of emissions from a proposed facility on any air quality control region.*

Id. § 7475(e)(3)(B) (emphases added).

In parallel to the air quality monitoring and analysis of "each pollutant subject to regulation" that the facility would emit, *id.* § 7475(e)(1), a PSD permit must contain emission limitations based on BACT for each such pollutant, *id.* § 7475(a)(4). Although the CAA does not define "each pollutant subject to regulation," *Alabama Power* rejected an argument, based on language in § 7476, that Congress intended that only sulfur dioxide and particulate matter be deemed "subject to regulation." 636 F.2d at 405-06. The D.C. Circuit found that "[t]hough Congress could have decided to delay the applicability of PSD for [other] pollutants until all studies and regulations required by [§ 7476] have been completed, Congress apparently chose not to do so...." *Id.* at 406. The court noted that "[w]hat legislative history there is on this point" indicated the BACT requirement "'should be applicable to all pollutants emitted from any new major emitting facility so that the maximum degree of emission reduction would be achieved *in order to* *minimize potential deterioration.*" *Id.* at 406-07 & n.81 (emphasis added) (quoting 123 Cong. Rec. S9162, S9170 (daily ed. June 8, 1977) (statement of Sen. Muskie)).

6. In 1999, several groups petitioned EPA to regulate motor vehicles' GHG emissions under Title II of the Act, 42 U.S.C. § 7521(a)(1). See 66 Fed. Reg. 7486 (Jan. 23, 2001). EPA denied the petition on the ground that GHGs are not an "air pollutant" under the general definitional provision in Title III of the Act (42 U.S.C. § 7602(g)). JA 1332-378.

On review, this Court rejected EPA's argument that the Act's broad general definition of "air pollutant" excluded GHGs, stating that "[o]n its face, the [§ 7602(g)] definition embraces all airborne compounds of whatever stripe." *Massachusetts*, 549 U.S. at 529. The Court concluded Title II embraced this capacious definition: "The broad language of [§ 7521(a)(1)] reflects an intentional effort to confer the flexibility necessary," *id.* at 532, to authorize regulation of all vehicle emissions that "contribute to[] air pollution which may ... endanger public health or welfare," 42 U.S.C. § 7521(a)(1), including vehicles' GHG emissions if those emissions contribute to an "endangerment."

7. After this Court decided *Massachusetts*, EPA determined that motor vehicles' GHG emissions throughout the nation "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare," pursuant to § 7521(a)(1). JA 793, 821. EPA did not find, could not find, and was not called on to find that those emissions deteriorate ambient air quality; rather, it

found GHGs disperse throughout the global atmosphere and affect climate globally. *Id.* at 861-69. Following its Endangerment Finding, EPA promulgated the Motor Vehicle Rule, regulating vehicles' GHG emissions under § 7521(a). *Id.* at 683-704.

8. In 2009, EPA explained that "[c]urrently, EPA does not consider GHG emissions to be 'regulated ... pollutants' under the [Title I] PSD program.... EPA is in the process of reviewing its approach to PSD applicability...." 74 Fed. Reg. 55,292, 55,299 (Oct. 27, 2009) (proposed Tailoring Rule). Subsequently, EPA's Timing Rule addressed when GHGs would become "subject to regulation" for PSD purposes, JA 771, and "conclude[d] only that ... GHGs would not be considered 'subject to regulation' ... earlier than January 2, 2011," the Motor Vehicle Rule's effective date, *id.* at 772.

In its companion Tailoring Rule, EPA determined that, under *Massachusetts*'s holding that GHGs are within § 7602(g)'s "air pollutant" definition, once the Motor Vehicle Rule took effect and resulted in GHGs becoming "subject to regulation" under Title II, regulation of *stationary* sources' GHG emissions was compelled by operation of law under the Title I PSD and Title V programs. *Id.* at 283-84. According to EPA, "[o]ur legal basis for this rule is our interpretation of the PSD and title V applicability provisions," *id.* at 280, *i.e.*, "that GHG sources would become subject to the PSD and title V permitting programs upon finalization" of the Motor Vehicle Rule, EPA, Prevention of Significant Deterioration and Title V GHG Tailoring Rule: EPA's Response to Public Comments at 34 (May 2010), *available at* http://

www.regulations.gov/#!searchResults;rpp=25;po=0;s=EPA-HQ-OAR-2009-0517-19181;fp=true;ns=true (Response to Comments).

At the same time, EPA acknowledged that treating GHGs covered by the PSD and Title V programs the same as previously regulated pollutants would expand those programs to myriad sources Congress *never* intended to regulate. See, *e.g.*, JA 355-56, 486-87; 74 Fed. Reg. at 55,304 ("Congress, focused as it was [in 1977] on sources of conventional pollutants and not global warming pollutants, expected that the 100/250 tpy applicability thresholds would limit PSD to larger sources."). According to EPA, expanding the programs to cover smaller sources emitting GHGs over these thresholds would not be "consistent with other provisions of the PSD and title V requirements, and [would be] inconsistent with – and, indeed, undermine – congressional purposes for the PSD and title V provisions." JA 418-19. EPA concluded that "applying PSD requirements literally to GHG sources ... would result in a program that would have been unrecognizable to the Congress that designed PSD." *Id.* at 454-55; see also *id.* at 485 (same conclusion for Title V).

The Tailoring Rule was EPA's response to what it viewed as a conflict between (i) the unambiguous 100- and 250-tpy applicability thresholds that Congress used to define "major emitting facility" and (ii) clear congressional intent *not* to apply PSD to tens of thousands, and Title V to millions, of small sources. EPA resolved this perceived conflict by amending 40 C.F.R. § 51.166 to limit PSD coverage by initially defining the GHGs regulated under PSD as those GHGs emitted in amounts at or above 100,000 tpy of carbon dioxide equivalent for new construction (and at or above 75,000 tpy of carbon dioxide equivalent for modifications). *Id.* at 674. Similarly, GHGs regulated under Title V were defined as those emitted in amounts at or above 100,000 tpy of carbon dioxide equivalent.[5] *Id.* at 677-78. Because EPA construed the Act to require that GHGs be regulated the same as other § 7602(g) air pollutants, notwithstanding that such regulation would contradict Congress's intent in defining "major" sources under PSD and Title V, EPA decided it would, on a step-by-step basis, "consider in future rulemaking how closely to the statutory thresholds [it] will be able to implement the PSD and title V programs." *Id.* at 289.

9. In promulgating the Tailoring Rule, EPA rejected rulemaking comments arguing that (i) *Massachusetts* did not require EPA to interpret "air pollutant," as used in the Act's PSD provisions, to include GHGs where their inclusion would be inconsistent with Congress's understanding of "major emitting facility," and (ii) EPA was prohibited from undertaking, step-by-step, a program that contradicts this congressional intent. See Response to Comments at 34-43. A panel of the lower court agreed with EPA that inclusion of GHGs was dictated by "binding Supreme Court precedent." JA 145.

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[5] The Tailoring Rule defines GHGs emitted below its 75,000-tpy and 100,000-tpy PSD thresholds and 100,000-tpy Title V threshold as not constituting air pollutants "subject to regulation" under the PSD and Title V programs, respectively. JA 673.

The D.C. Circuit denied petitions for rehearing en banc. Judges Brown and Kavanaugh dissented in separate opinions. Concurring in denial of rehearing, the panel judges reiterated their conclusion that, based on its reading of *Massachusetts*, "the panel's interpretation of the statute is the only plausible one." *Id.* at 144.

SUMMARY OF ARGUMENT

This Court in *Massachusetts* held that the CAA's general definition of "air pollutant" is sufficiently "sweeping" to encompass GHGs and that, under the language of § 7521(a) in Title II of the Act, EPA would have to prescribe standards for motor vehicles' GHG emissions if it found those emissions "endanger public health or welfare." *Massachusetts*, 549 U.S. at 528, 532-33. Nothing in *Massachusetts* supports the conclusion, however, that EPA's Title II endangerment finding and Title II motor-vehicle regulation compelled regulation of stationary sources' GHG emissions under very different Title I PSD and Title V programs.

Although GHGs fit within § 7602(g)'s general definition, they are not an air pollutant Congress intended to be regulated under PSD and Title V. In the PSD and Title V provisions, Congress defined "major emitting facility" so that only a certain type of source – large industrial facilities, relatively few in number – would be subject to those programs. The PSD definition covers stationary sources within 28 specific categories of industrial facilities that emit, or could emit, 100 tpy or more of "any air pollutant" and other stationary sources that emit 250 tpy or more of "any air pollutant." The Title V definition covers stationary sources that emit 100 tpy or more of "any air pollutant." Thousands of small, non-industrial sources, such as apartment buildings and schools, emit carbon dioxide in amounts well above 250 tpy, and millions of small sources emit carbon dioxide in amounts above the 100 tpy Title V threshold. To give effect to Congress's intent, therefore, carbon dioxide and other GHGs cannot be pollutants regulated under PSD and Title V.

Further, whatever "endangerment" carbon dioxide may present due to effects of global climate change, carbon dioxide *does not deteriorate ambient air quality* – the quality of the air people breathe. The CAA's PSD provisions address exclusively the review, analysis, monitoring, and control of "air pollutants" that deteriorate ambient air quality in specifically defined geographic areas. Carbon dioxide does not fit within those provisions.

ARGUMENT

The CAA is an expansive statute that addresses different pollution problems using different regulatory responses. In a statute with distinct titles and numerous specialized programs, the general definition of "air pollutant" must be broad enough to reflect the entire range of substances that might be regulated under any of those diverse programs. Accordingly, the definition of "air pollutant" in § 7602(g) establishes, as *Massachusetts* holds, the outer bounds of what airborne substances are *potentially* eligible for regulation under any given CAA program.

Regarding regulation of motor vehicle emissions under Title II, the Act directs EPA to "prescribe ...

standards applicable to the emission of any air pollutant from ... new motor vehicles" where EPA determines those "air pollutant" emissions "cause, or contribute to, air pollution which may reasonably be anticipated *to endanger* public health or welfare." 42 U.S.C. § 7521(a) (emphasis added). Thus, any "air pollutant" the motor-vehicle emissions of which EPA concludes present an "endangerment" must be regulated under Title II standards for vehicles throughout the nation.

Regarding regulation of stationary source emissions under Title I, Congress provided different criteria for determining what pollutants to regulate under different programs. For example, "[f]or the purpose of establishing" NAAQS, EPA must develop "a list which includes each air pollutant ... [the] emissions of which ... cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." *Id.* § 7408(a)(1). But, unlike Title II endangerment findings, this Title I endangerment finding is not the end of the process of identifying pollutants that can be regulated. Rather, under the NAAQS provisions, EPA's regulatory attention focuses on a specific type of endangerment: Only those listed pollutants that have "effects on public health or welfare ... *from the presence of such pollutant in the ambient air, in varying quantities*," may become air quality "criteria" pollutants for which NAAQS are established. *Id.* § 7408(a)(2) (emphasis added). NAAQS, in turn, must be based on EPA-defined "air quality criteria." *Id.* §§ 7408(a)(2), 7409(b).

For hazardous air pollutants, under § 7412, EPA must regulate "air pollutants" that Congress listed in

§ 7412(b)(1). EPA must "periodically review" this list and, "where appropriate," revise it to add those air pollutants EPA determines "present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects ... or adverse environmental effects." *Id.* § 7412(b)(2).

In Title I, Part C, *i.e.*, the Act's PSD provisions, Congress directed that PSD requirements apply to "major emitting facilit[ies]," defined to include listed industrial facilities and "any other [stationary] source[s]" that emit above a specified numerical amount of "any air pollutant." *Id.* § 7479(1). Such facilities' emissions are to be regulated "as may be necessary ... to prevent significant deterioration of air quality" in geographically-defined air quality control regions. *Id.* § 7471. Part C is directed at protecting ambient air, the air people breathe, from the type of "deleterious pollutants that befoul our nation's air." *Alabama Power*, 636 F.2d at 353.

Massachusetts addressed whether § 7521(a)(1) "authorizes EPA to regulate [GHG] emissions from new motor vehicles in the event that it forms a 'judgment' that such emissions contribute to climate change" that "'endanger[s] public health or welfare.'" 549 U.S. at 528. No party in *Massachusetts* argued, or had reason to argue, that, if the "air pollutant" definition in § 7602(g) covered GHGs, those substances could not – in conformance with congressional intent – be considered air pollutants under § 7521(a)(1). Thus, after finding the § 7602(g) definition "embraces all airborne compounds of whatever stripe," *id.* at 529, the Court had no reason to consider a less expansive interpretation in the Title II context, see, *e.g.*, *id.* at 531 ("EPA has not identified any congressional action that conflicts in any way with the regulation of greenhouse gases from new motor vehicles" or any "extreme" or "counterintuitive" results that would flow from such regulation).

The Court acknowledged that the "Congresses that drafted § [7521(a)(1) in Title II] might not have appreciated the possibility that burning fossil fuels could lead to global warming." *Id.* at 532. But by authorizing regulation of vehicles' air pollutant emissions that "endanger," those Congresses "underst[oo]d that without regulatory flexibility, changing circumstances and scientific developments would soon render the [CAA] obsolete." *Id.* "The broad language of § [7521(a)(1)]," the Court found, "reflects an intentional effort to confer the flexibility necessary to forestall such obsolescence." *Id.*

Is the language of the CAA's PSD and Title V provisions equally "broad," "reflect[ing]" comparable congressional intent that GHGs be regulated under those programs? No. As explained below, it is clear on the face of the CAA that substances such as GHGs – while they may be air pollutants within the meaning of § 7602(g) – were never intended by Congress to be regulated as air pollutants under the PSD and Title V programs.

I. GHGs Cannot Be a Pollutant Under the CAA's PSD and Title V Programs Because Innumerable Small, Non-Industrial Sources Would Be "Major Emitting Facilities" Contrary to Congressional Intent.

The "broad language" engaged in *Massachusetts* provides that EPA "shall ... prescribe" by regulation "standards applicable to the emission of any air pollutant from *any class or classes of new motor vehicles or new motor vehicle engines*, which ... cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1) (emphasis added). This language finds no corollary in the corresponding provisions of Title I and Title V that identify the emission sources that are subject to PSD and Title V requirements.

The Title II standards apply without qualification where the endangerment criterion is met for "any air pollutant" emitted from "any ... new motor vehicles." In contrast, Congress provided that the Part C PSD requirements apply not to "any" stationary source but only to those that are "major emitting facilities" – a relatively small number of large industrial sources defined as facilities with actual or potential emissions of "any air pollutant" that equal or exceed 100 tpy (in specifically listed industrial categories) and 250 tpy (for sources in other, unlisted industrial categories).[6] *Id.* § 7479(1).

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[6] Congress similarly limited Title V major sources to large industrial sources, 42 U.S.C. §§ 7602(j), 7661(2)(B), and the argu-

(Continued . . . .)

In using the term "major emitting facility," Congress intended "to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emission[s]" that deteriorate ambient air. *Alabama Power*, 636 F.2d at 353. Only such large industrial facilities were to be subject to the Act's PSD provisions. See JA 453 ("Congress ... designed the thresholds *deliberately* to limit the program's scope." (emphasis added)).

If the 250-tpy threshold for "any air pollutant" identified, in Congress's contemplation, the "large industrial enterprises," not otherwise listed, to which PSD is to apply, *Alabama Power*, 636 F.2d at 354, it necessarily follows that Congress *never* intended that GHGs be regulated under the PSD program. Myriad small sources, *not* "industrial" in nature, emit GHGs in amounts well above 250 tpy. Regulating GHGs as an "air pollutant" under Part C would drag such sources into the PSD program as "major emitting facilities," contradicting Congress's expectation and intent. *Id.* (Congress did not "intend[] to define such obviously minor sources [as a high school heating plant] as 'major' for the purposes of the PSD provision.").

EPA understood this when it promulgated the Tailoring Rule. JA 453 ("Congress intended to limit the PSD program to large industrial sources because

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ments presented in this section regarding PSD also apply to Title V. See *supra* note 1.

it was those sources that were the primary cause of the pollution problems in question and because those sources would have the resources to comply with the PSD requirements."); *id.* at 454 (describing PSD provisions' legislative history and noting "[t]he DC Circuit had occasion, in *Alabama Power*, to acknowledge this legislative history").

As EPA observed, "*Congress intended* that PSD be limited to a *relatively small number of large industrial sources*[,]" and it was "not too much to say that applying PSD requirements literally to GHG sources ... would result in a program that *would have been unrecognizable to the Congress that designed PSD.*" *Id.* at 454-55 (emphases added); *id.* at 449 ("the great majority of these new sources [that would be regulated by applying PSD to GHGs] will be small commercial or residential sources," a result "contrary to congressional intent for the PSD program"); *id.* at 485 (Title V).

Yet, in contravention of congressional intent, EPA promulgated a rule that does "apply[] PSD requirements literally to GHG sources," *id.* at 454, with a twist – a rule that establishes a 100,000-tpy carbon dioxide equivalent "major source" threshold for GHGs as compared to the 100- and 250-tpy statutory thresholds. And, *curious and curiouser*, EPA "expect[s] to ... lower[] thresholds, as appropriate, in the future," expanding GHG regulation "one-step-at-a-time," *id.* at 555, 556-57, by bringing into the PSD program sources EPA concedes Congress never intended be regulated under that program.

EPA contended it was compelled to do this because *Massachusetts* held GHGs were an "air pollutant" under § 7602(g) and because GHGs were "subject to regulation" under Title II as an "endangering" pollutant. The court below agreed. Given "both the statute's plain language and ... *Massachusetts*," the D.C. Circuit said, it had "little trouble concluding that the phrase 'any air pollutant' includes *all* regulated air pollutants, including [GHGs]," for purposes of PSD and Title V. *Id.* at 237. *Massachusetts*, which did not consider GHG regulation under PSD or Title V, does not support the D.C. Circuit's conclusion that it had "little trouble" reaching.

In an expansive statute like the CAA, a general definition of a term such as "air pollutant" must be sufficiently capacious to reflect the entire range of substances that might be regulated under any one or more of several diverse programs established by the statute. Thus, § 7602(g) sets the outer bounds of the air pollutants that are potentially eligible for regulation under the various CAA programs; it does not define the precise meaning or delineate the exact scope of that term for each CAA individual program.

Throughout the CAA's history, EPA has carefully limited Title I programs only to those substances within the § 7602(g) "air pollutant" definition that Congress intended be regulated under each individual program. For example, although § 7411 provides that new source performance standards (NSPS) apply whenever a source undertakes a "physical change ... which increases the amount of *any* air pollutant emitted," 42 U.S.C. § 7411(a)(4) (emphasis added), EPA by regulation narrowed the universe of air pollutants that trigger NSPS to those "[air] pollutant[s] to which a standard applies" under 40 C.F.R. part 60.

40 C.F.R. § 60.14(a). And although § 7491 defines "major stationary source[s]" to which the CAA visibility protection program applies as sources "with the potential to emit 250 tons or more of *any* pollutant," 42 U.S.C. § 7491(g)(7) (emphasis added), EPA by regulation limited the pollutants in this program to "visibility impair[ing]" pollutants, see, *e.g.*, 40 C.F.R. pt. 51, app. Y, § III.A.2. And in the rulemaking at issue here, although EPA read *Massachusetts* to compel PSD and Title V regulation of *all* GHGs, EPA limited regulation only to GHGs emitted at or above the 100,000- or 75,000-tpy carbon dioxide equivalent levels. JA 674, 677-78.

EPA's historic approach of identifying which of the § 7602(g) air pollutants are subject to individual CAA programs not only makes sense, it comports with fundamental principles of statutory construction. "Of necessity, Congress selects different regulatory regimes to address different problems." *Am. Elec. Power Co.* v. *Connecticut*, 131 S. Ct. 2527, 2538 (2011). The same term appearing in different statutory programs can (indeed, must) be given different regulatory meanings where congressional intent differs. See *Abbott Labs.* v. *Young*, 920 F.2d 984, 987 (D.C. Cir. 1990). "A given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies." *Envtl. Def.* v. *Duke Energy Corp.*, 549 U.S. 561, 574 (2007).

Here, it is evident in the statutory definition of "major emitting facility" that Congress did not intend that GHGs be an "air pollutant" under the PSD program. Accordingly, it is of no moment that GHGs are regulated under the Title II motor vehicle program. That regulatory action, under that program, could not trigger PSD permitting requirements for tens of thousands (and Title V requirements for millions) of small, non-industrial stationary sources under programs that cover only a very limited number of large industrial facilities. EPA acted unlawfully in promulgating rules that are predicated on that misunderstanding of the Act.

II. Congress Intended that Only "Air Pollutants" that Deteriorate Ambient Air Quality Be Regulated Under the PSD Program.

The broad language of § 7521(a)(1) that the Court in *Massachusetts* read as "reflect[ing] an intentional effort" by Congress to bestow "flexibility" on EPA to regulate GHGs, 549 U.S. at 532, was language calling for standards that limit emissions that "endanger public health or welfare." The Act's PSD provisions, in contrast, contain no directive to, or authorization for, EPA to regulate emissions that "endanger public health or welfare." Rather, the PSD provisions require EPA to adopt regulations to implement a program focused exclusively on "air pollutants" that deteriorate ambient air quality – *i.e.*, the air people breathe – in specific, geographic air quality control areas or "region[s]." 42 U.S.C. § 7471; see *id.* §§ 7407(a), (d), 7475, 7479(1).

As discussed above, the global effects of carbon dioxide are not effects caused by carbon dioxide deteriorating ambient air quality in the geographic areas PSD is directed at protecting. To the contrary, from the perspective of the quality of the ambient air, carbon dioxide is effectively indistinguishable from nitrogen and oxygen. See *supra* pp. 2-3. Regulation of carbon dioxide as an "air pollutant" under the PSD program, therefore, is contrary to congressional intent and thus unlawful. Cf. 73 Fed. Reg. 44,354, 44,408 (July 30, 2008) ("The global nature and effect of GHG emissions raise questions regarding the suitability of CAA provisions [like PSD] that are designed to protect local and regional air quality....").

Under § 7471, "each applicable [SIP] shall contain emission limitations and such other measures as may be necessary ... to prevent significant deterioration of *air quality* in each" of the areas within a state designated pursuant to § 7407. 42 U.S.C. § 7471 (emphasis added). Further, § 7475(e) directs EPA to promulgate regulations governing an analysis, based on air quality monitoring information, of the impacts on "ambient air quality at the *proposed site* and in *areas which may be affected* by emissions from" a proposed new facility with respect to "*each pollutant subject to regulation* under [the Act] which will be emitted from such facility." *Id.* § 7475(e)(1) (emphases added).

In § 7475(e), Congress expressly directs that the PSD preconstruction analysis be based on "continuous air quality monitoring" to ascertain expected effects, both at the proposed facility site and "in areas which may be affected by emissions ... [of] each pollutant subject to regulation under [the Act]" that the facility will emit. *Id.* § 7475(e)(1), (2). The "continuous ... monitoring" of ambient concentrations of carbon dioxide in the vicinity of a proposed source will reveal concentrations indistinguishable from ambient levels elsewhere, thus providing no meaningful information on ambient air quality that might be deteriorated by that source's emissions. Exclusion of carbon dioxide from the "pollutants" covered by the PSD program follows, therefore, from the very nature of the air quality analysis Congress required under that program for "pollutant[s] subject to regulation."

Any other conclusion would mean the statute demands an absurd result. If "each pollutant subject to regulation" includes GHGs, then the global nature of GHG emissions would require, under § 7475(e), a permit applicant to evaluate every area in the United States – Hawaii and Alaska included.[7] In other words, § 7475(e) would have to be construed to require each proposed major emitting facility first to collect meaningless "continuous [GHG] air quality monitoring data" for every designated area because every area "may be affected by emissions from such facility." *Id.* § 7475(e)(1), (2). Then, this meaningless data would go into the analysis required for each designated area in the nation. The results of this exercise would be wholly useless. As EPA has acknowledged, "because GHG emissions from single sources are small relative to aggregate emissions, and GHGs, once emitted from a given source, become well mixed in the global atmosphere," there are no "tools ... for evaluating or quantifying end-point impacts attributable to the emissions of GHGs from a single source."[8]

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[7] The entire land mass of the United States has been divided into areas that have been designated under § 7407. 40 C.F.R. §§ 81.11-81.356.

[8] Letter from R.J. Meyers, EPA, to H.D. Hall, U.S. Fish and Wildlife Service, & J. Lecky, National Marine Fisheries Service, at 4 (Oct. 3, 2008), *available at* http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2009-0472-11543.

Yet, the entire *point* of PSD preconstruction analysis is to "evaluat[e] ... end-point impacts attributable to the emissions ... from a single source."

Furthermore, under § 7475(a)(4), a proposed "major emitting facility" must be "subject to [BACT] for each pollutant subject to regulation under [the CAA which is] emitted from, or which results from, such facility." As with the § 7475(e) use of "each pollutant subject to regulation," that term in § 7475(a)(4) must be read to refer *only* to those pollutants that deteriorate ambient air quality. See, *e.g.*, *Erlenbaugh* v. *United States,* 409 U.S. 239, 243 (1972) ("a legislative body generally uses a particular word with a consistent meaning in a given context"). Giving the same term in the same section of the statute a reading that would include only pollutants that deteriorate ambient air quality comports with congressional intent, as the *Alabama Power* court found. 636 F.2d at 406-07 n.81 (The BACT requirement in § 7475(a)(4) covers more than criteria pollutants "'in order to minimize potential deterioration.'") (quoting legislative history).

In short, Congress made clear on the face of the PSD program's provisions that that program is directed *not* to regulation of emissions of air pollutants that may endanger public health or welfare due to their uniform presence throughout the global atmosphere. Rather, that program is to provide for such regulation "as may be necessary ... to prevent significant deterioration" of the quality of the air that people breathe (*i.e.*, ambient air) in defined geographic areas affected by new emissions. 42 U.S.C. § 7471.

The court below, addressing none of this, instead relied heavily on the "'Congressional declaration of purpose'" for the PSD sections that "provides, in relevant part, that '[t]he purposes of this part are ... to protect public health and welfare from any actual or potential adverse effect which in the [EPA] Administrator's judgment may reasonably be anticipated to occur from air pollution.'" JA 240 (ellipsis in original) (quoting 42 U.S.C. § 7470(1)). Because the CAA "provides that '[a]ll language referring to effects on welfare includes ... effects on ... weather ... and climate,'" it must follow, according to the court, that "one express purpose of the [PSD] program is to protect against the harms caused by greenhouse gases." *Id.* (first ellipsis added) (quoting 42 U.S.C. § 7602(h)).

But this does not follow at all. Much as the Act provides an expansive general definition of "air pollutant" to embrace, but not to define the scope of, a range of programs, the Act defines "effects on welfare" broadly to be able to serve various programs within the Act addressing different kinds of pollution problems. That "effects on welfare" includes "weather" and "climate" effects does not mean *the PSD program* can be viewed as one that must address pollutants contributing to global "climate" impacts. As the PSD provisions show, welfare effects in the PSD program must be construed to refer to effects caused by air pollutants that deteriorate the quality of the air people breathe. Accordingly, the PSD programmatic provisions may, consistent with the PSD purposes section, address effects on "weather" and "climate" such as smog – a local or regional fog-like meteorological condition produced through photochemical transformation of pollutants in the ambient air.[9] See Christa McAuliffe Planetarium, The Straight Line on Bad Ozone, at 1 (undated), *available at* www.starhop.com/library/pdf/studyguide/high/Ozone-21.pdf. The PSD purposes section cannot be used to stretch those programmatic provisions to cover global climate effects when it is a program established to address local and regional pollution.[10]

* * *

As discussed above, the statutory definition of "major emitting facility," by its terms, identifies a source that emits above certain specified amounts of "any air pollutant." The court below, after observing that "the literal statutory definition" of "major emitting facility" "nowhere requires that 'any air pollutant' be a *regulated* pollutant," opined that "'any regulated air pollutant' is the only logical reading of the statute." JA 237. According to the court:

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[9] Only in the past two decades or so did references to "climate" and "weather" come to suggest anything more than regional meteorological conditions. Those terms were included in the definition of "effects on welfare" when the Act was amended in 1970 and first appeared in 1967 in a provision addressing sustained weather patterns in particular regions of the United States. Pub. L. No. 90-148, § 2, 81 Stat. 485, 490 (1967) (directing Secretary of Health, Education, and Welfare to "define," for the Act's purposes, "atmospheric areas of the Nation on the basis of those conditions, including ... climate, meteorology, and topography, which affect the interchange and diffusion of pollutants in the atmosphere"); Pub. L. No. 91-604, § 15(a)(1), 84 Stat. 1676, 1710 (1970).

[10] A reference to "climate," like a reference to "endangerment," does not resolve whether the reference is to local, regional, or global effects. For example, in § 7603 ("Emergency powers"), the term "endangerment" refers to acute, local threats, while in § 7521 ("Emission standards for new motor vehicles or new motor vehicle engines"), "endangerment" may cover everything from local to global effects.

> [I]f "any air pollutant" ... was read to encompass ... nonregulated air pollutants, sources could ... be subjected to PSD permitting requirements – if they emitted 100/250 tpy of a "physical, chemical, [or] biological" substance EPA had determined was harmless. It is absurd to think that Congress intended to subject stationary sources to the PSD permitting requirements due to emissions of substances that do not *"endanger public health or welfare."*

Id. at 238 (quoting 42 U.S.C. § 7521(a)(1)) (emphasis added).

So much confusion encapsulated in so few words: This tortured statutory analysis reflects the critical flaw in the reasoning of the court below. Congress indeed did not intend that the stationary source thresholds be used to subject to PSD emissions determined to be "harmless." It intended those thresholds to define a limited population of large industrial facilities. Congress also did not intend that pollutants regulated under the PSD program would include every "air pollutant" that "endanger[s] public health or welfare" but would not *deteriorate ambient air quality* – the sole focus and congressionally sanctioned purpose of regulation under Title I, Part C.

GHGs such as carbon dioxide are, as this Court concluded, air pollutants under § 7602(g)'s general definition. They may be "air pollutants" that EPA found to "endanger public health or welfare" under Title II. But they are not – and EPA does not dispute that they are not – "air pollutants" that deteriorate ambient air quality, and it is the "deterioration" of ambient air quality – not "endangerment" – that is the criterion for regulating a substance under PSD. Consequently, EPA's interpretation that, under the CAA's terms, regulation of motor vehicle GHG emissions under Title II compelled the application of Title I PSD permitting requirements to stationary sources' GHG emissions is an impermissible construction of the Act.

CONCLUSION

The judgment should be reversed and the case remanded for the court of appeals to grant the Utility Air Regulatory Group's petitions for review and to set aside EPA's determination that GHG emissions are regulated under the PSD and Title V programs.

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RESPONDENT'S BRIEF

JAN 2 1 [illegible]

Nos. 12-1146, 12-1248, 12-1254,
12-1268, 12-1269 and 12-1272

In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, PETITIONER
v.
ENVIRONMENTAL PROTECTION AGENCY

*ON WRITS OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT*

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v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ENERGY-INTENSIVE MANUFACTURERS WORKING GROUP ON GREENHOUSE GAS REGULATION, ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

SOUTHEASTERN LEGAL FOUNDATION, INC., ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

STATE OF TEXAS, ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

CHAMBER OF COMMERCE OF THE UNITED STATES, ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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In the Supreme Court of the United States

No. 12-1146

UTILITY AIR REGULATORY GROUP, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY

No. 12-1248

AMERICAN CHEMISTRY COUNCIL, ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

No. 12-1254

ENERGY-INTENSIVE MANUFACTURERS WORKING GROUP ON GREENHOUSE GAS REGULATION, ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

No. 12-1268

SOUTHEASTERN LEGAL FOUNDATION, INC., ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

No. 12-1269

STATE OF TEXAS, ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

No. 12-1272

CHAMBER OF COMMERCE OF THE UNITED STATES,
ET AL., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON WRITS OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENTS

OPINIONS BELOW

The opinion of the court of appeals (J.A. 191-267) is reported at 684 F.3d 102. Final actions of the Environmental Protection Agency (EPA) are published at 75 Fed. Reg. 31,514 (June 3, 2010) (J.A. 268-682); 75 Fed. Reg. 25,324 (May 7, 2010) (J.A. 683-704 (excerpts)); 75 Fed. Reg. 17,004 (Apr. 2, 2010) (J.A. 705-792); 74 Fed. Reg. 66,496 (Dec. 15, 2009) (J.A. 793-794 (excerpts)); 67 Fed. Reg. 80,186 (Dec. 31, 2002) (J.A. 1379-1398 (excerpts)); 45 Fed. Reg. 52,676 (Aug. 7, 1980) (J.A. 1399-1412 (excerpts)); 43 Fed. Reg. 26,388 (June 19, 1978) (J.A. 1417-1495 (excerpts)); and 43 Fed. Reg. 26,380 (June 19, 1978) (J.A. 1496-1536).

JURISDICTION

The judgment of the court of appeals was entered on June 26, 2012. Petitions for rehearing were denied on December 20, 2012 (J.A. 139-190). The petition for a writ of certiorari in No. 12-1146 was filed on March 20, 2013. On March 7, 8, 11, and 12, 2013, the Chief Justice extended the time within which to file petitions for writs of certiorari in Nos. 12-1272, 12-1248, 12-1254, 12-1268, and 12-1269 to and including April 19, 2013. The petition in No. 12-1254 was filed on April 17, 2013. The petition in No. 12-1248 was filed on April 18, 2013. The petitions in Nos. 12-1268, 12-1269, and 12-1272 were filed on April 19, 2013. The petitions for writs of certiorari were granted on October 15, 2013, limited to the following question: "Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases." The jurisdiction of this Court rests on 28 U.S.C. 1254(1).

STATUTES AND REGULATIONS INVOLVED

Pertinent provisions of the Clean Air Act, 42 U.S.C. 7401 *et seq.*, and regulations of the Environmental Protection Agency thereunder are reprinted in an appendix to this brief. App., *infra*, 1a-99a.

STATEMENT

In *Massachusetts* v. *EPA*, 549 U.S. 497 (2007), this Court held that the "sweeping definition of 'air pollutant'" in the Clean Air Act (CAA or Act), 42 U.S.C. 7401 *et seq.*, unambiguously covers "greenhouse gases," so named because "when * * * released into the atmosphere," they "act[] like the ceiling of a greenhouse, trapping solar energy and retarding the escape of reflected heat." 549 U.S. at 505, 528-529 (citing 42 U.S.C. 7602(g)). More recently, this Court held that the CAA's programs governing emissions from stationary sources of air pollutants supply a regulatory framework for greenhouse gases so comprehensive as to displace any claim that such emissions are an actionable public nuisance under federal common law. *American Elec. Power Co.* v. *Connecticut*, 131 S. Ct. 2527, 2533, 2537-2538 (2011) (*AEP*).

On remand from this Court's decision in *Massachusetts*, respondent EPA comprehensively assessed the effects of greenhouse-gas pollution. It concluded that greenhouse gases in the atmosphere "may reasonably be anticipated both to endanger public health and to endanger public welfare." J.A. 802. In light of that endangerment finding, and the agency's separate finding that motor-vehicle emissions contribute to that endangerment, Title II of the CAA required the EPA to promulgate regulations governing greenhouse-gas emissions from new motor vehicles. 42 U.S.C. 7521(a)(1). The EPA issued such regulations in a joint rulemaking with the National Highway Traffic Safety Administration. J.A. 683-704. In its decision below, the D.C. Circuit denied petitions for review of those findings and regulations. J.A. 191-267.

Although some petitioners sought further review of those findings and regulations (see U.S. Br. in Opp. 19-31), this Court limited its grant of certiorari to a single question (see p. 3, *supra*) that did not encompass those challenges. For purposes of deciding the question on which this Court granted review, the propriety of the EPA's regulation of motor-vehicle emissions of greenhouse gases therefore should be taken as given. The question before the Court concerns that regulation's effect on the regulation of greenhouse-gas emissions from stationary sources under other CAA programs, particularly the Prevention of Significant Deterioration (PSD) program, 42 U.S.C. 7470-7479, which mandates pre-construction permitting for certain stationary sources of air pollutants.

Since the earliest days of the PSD program, the EPA has concluded that, once a pollutant becomes regulated under the Act (as greenhouse gases now are under Title II), two related but distinct consequences follow automatically under the PSD program. First, going forward, the PSD program will apply to (*i.e.*, require a pre-construction permit for) any stationary source that emits large quantities of that newly regulated pollutant, regardless of what other pollutants it does or does not emit. See 42 U.S.C. 7475(a), 7479(1). Second, all proposed facilities to which the PSD program applies must take certain steps with respect to that newly regulated pollutant (such as limiting their emissions based on the best available control technology for that pollutant). See 42 U.S.C. 7475(a)(4).

Applying those principles, the EPA concluded that, when the controls of its Title II greenhouse-gas regulations took effect, the PSD program would (a) require pre-construction permits for stationary sources that would emit large amounts of greenhouse gases, and (b) impose pre-construction requirements regarding emissions of those pollutants. J.A. 705-706, 771-777. The EPA concluded that the regulation of greenhouse gases under Title II likewise automatically triggered the operating-permit requirement of Title V of the Act, whose scope is defined in relevant part by terms that parallel a definitional provision that sets the scope of the PSD program. See J.A. 787-791. Various petitioners here contest the EPA's understanding of the set of facilities to which the PSD and Title V programs apply, the EPA's understanding of what substantive requirements the PSD program imposes on covered sources, or both. Fairly read, the question on which this Court granted certiorari subsumes both issues.

1. a. In overhauling the CAA in 1970, Congress sought to address "the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles," which "has resulted in mounting dangers to the public health and welfare." 42 U.S.C. 7401(a)(2). Congress's focus on dangers to public "welfare" broadly encompasses "effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to * * * property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being." 42 U.S.C. 7602(h). To those ends, the Act seeks to achieve, *inter alia*, the "reduction or elimination, through any measures, of the amount of pollutants produced or created at the source." 42 U.S.C. 7401(a)(3).

b. Many of the Act's provisions, including those of central relevance here, refer to the emission of an "air pollutant." The Act defines that term to mean "any air pollution agent or combination of such agents, including any physical, chemical, biological, [or] radioactive * * * substance or matter which is emitted into or otherwise enters the ambient air," including any precursors to the formation of such air pollutant. 42 U.S.C. 7602(g).

The Act regulates "air pollutants" emitted by both mobile and stationary sources. Title II establishes a framework for federal control of pollution from motor vehicles and other mobile sources. 42 U.S.C. 7521-7590. Under Title II, if the EPA determines that a particular form of air pollution "may reasonably be anticipated to endanger public health or welfare," the agency must "prescribe * * * standards applicable to the emission of [the] air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in [the EPA's] judgment cause, or contribute to," that form of air pollution. 42 U.S.C. 7521(a)(1).

The Act also includes several regulatory programs that address stationary sources of air pollution, such as power plants and other industrial facilities. The program primarily at issue here is the PSD program, which establishes a pre-construction permitting process for the prevention of significant deterioration of air quality that may occur as a result of "construction" (a term of art that in the Act and in this brief includes both new construction and major modification) of certain stationary sources. 42 U.S.C. 7470-7479.

Four other CAA programs are particularly relevant in setting the context in which the PSD program operates. One program establishes New Source Performance Standards (NSPS) for specific categories of stationary sources that, "in [the EPA's] judgment * * * cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7411(b)(1)(A); see 42 U.S.C. 7411. Another program establishes National Emission Standards for Hazardous Air Pollutants (NESHAP) for nearly 200 designated especially hazardous pollutants. 42 U.S.C. 7412. A third program establishes a Nonattainment New Source Review (NNSR) permit process with respect to certain stationary sources that would emit certain pollutants and are proposed to be built in areas where the air does not meet national standards as to those pollutants. 42 U.S.C. 7501-7515. And a fourth program regulates specific atmospherically well-mixed gases that deplete the stratospheric ozone layer. 42 U.S.C. 7671-7671q.

c. Congress enacted the PSD program in 1977. Pub. L. No. 95-95, § 127(a), 91 Stat. 731; see *Alabama Power* v. *Costle*, 636 F.2d 323, 349 (D.C. Cir. 1979) (per curiam). The program's pre-construction permitting process entails scientific analysis, commitments to monitoring, emissions limitations, and use of emissions-control technologies. See 42 U.S.C. 7475(a) and (e). As with many CAA programs, the requirements of the PSD program are often applied in the first instance by state permitting authorities acting pursuant to a state implementation plan. See 42 U.S.C. 7471; *Alaska Dep't of Envtl. Conservation* v. *EPA*, 540 U.S. 461 (2004) (*Alaska*).

In contrast to some CAA programs (such as Title II for motor vehicles), the PSD program does not direct the EPA to make endangerment findings as to particular pollutants. Instead, pollutants are addressed in the PSD program when (and because) they have been identified and regulated under *other* CAA provisions. For example, one aspect of the PSD program requires a covered facility to limit its emissions to a level that corresponds to application of "the best available control technology [BACT] for each pollutant subject to regulation under [the CAA]." 42 U.S.C. 7475(a)(4).[1] Another aspect of the

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[1] BACT is "an emission limitation based on the maximum degree of reduction of [a] pollutant * * * emitted from or which results from [a] facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility." 42 U.S.C. 7479(3). Identification of BACT thus entails a facility-

PSD program (42 U.S.C. 7473, 7475(a)(3)(A)) limits emissions of the six "criteria" pollutants for which the EPA has established National Ambient Air Quality Standards (NAAQS) under a different part of the CAA, 42 U.S.C. 7407-7410.[2] A third aspect of the program requires the facility to comply with "any other applicable emission standard or standard of performance under [the CAA]," 42 U.S.C. 7475(a)(3)(C), such as standards issued under the NSPS and stratospheric ozone programs. Congress has exempted the hazardous air pollutants regulated under the NESHAP program from regulation under the PSD program. See 42 U.S.C. 7412(b)(6).

Although the requirements of the PSD program are broad, they apply to a limited class of sources. First, unlike some other programs that govern emissions from all sources of a given type, the PSD program is triggered only by the proposed *construction* of a stationary source. See 42 U.S.C. 7475(a), 7479(2)(C), 7411(a)(4). Second, the PSD program requires a pre-construction permit only for a "major emitting facility," defined as a "station-

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specific analysis that requires emissions controls that are not cost-prohibitive. See, *e.g.*, *Alaska*, 540 U.S. at 475-476.

[2] The criteria pollutants are carbon monoxide, lead, oxides of nitrogen, ozone, particulate matter, and sulfur oxides. 40 C.F.R. Pt. 50. None is defined by the EPA as a greenhouse gas, J.A. 232, with the immaterial exception of nitrous oxide (an oxide of nitrogen). In "nonattainment" areas for a particular criteria pollutant—those areas that do not meet national standards for that pollutant—emissions of that pollutant are regulated under the NNSR program. 42 U.S.C. 7501-7515. The PSD program regulates, *inter alia*, emissions of a particular criteria pollutant in areas that do meet a national standard for that pollutant (known as "attainment" areas) and in areas that, due to lack of information, are "unclassifiable," 42 U.S.C. 7407(d)(1)(A)(iii). Because attainment and unclassifiable areas are generally treated alike, this brief simply refers to them together as "attainment" areas.

ary source[] of air pollutants which emit[s], or ha[s] the potential to emit, [depending on the type of source, a statutory threshold of either 100 or 250 tons per year] or more of any air pollutant." 42 U.S.C. 7479(1). Third, pre-construction permitting is required only for facilities to be "constructed in any area to which this part [42 U.S.C. 7470-7492] applies." 42 U.S.C. 7475(a).

d. Title V of the CAA establishes an operating-permit program for certain stationary sources of air pollutants. 42 U.S.C. 7661-7661f. Title V imposes no additional emissions-control requirements on sources. Rather, it requires the operator of each covered source to hold a comprehensive operating permit, as a way to identify sources and assure compliance with substantive requirements imposed by other CAA provisions. 42 U.S.C. 7661c(a)-(c). Of relevance here, the Title V operating-permit requirement applies to a "major source," which 42 U.S.C. 7661(2)(B) defines to include any "major stationary source." Section 7602(j) of Title 42 in turn defines that term as a "stationary facility * * * which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant."

2. The oldest relevant EPA rulemakings implementing the PSD program (referred to as the "historic regulations") date to 1978, 1980, and 2002.

In issuing the 1978 regulation, the EPA noted that "questions ha[d] been raised" regarding the statutory requirement that sources subject to the PSD program must satisfy the BACT requirement for each pollutant that is "subject to regulation under [the CAA]." J.A. 1460 (quoting 42 U.S.C. 7475(a)(4)). The EPA confirmed its view (previously expressed in the proposed rule, 42 Fed. Reg. 57,479, 57,480 (Nov. 3, 1977)) that the phrase referred to "any pollutant regulated [by the EPA] for any source type." J.A. 1460. Thus, the EPA explained, the BACT requirement applies to emissions of (1) "criteria pollutants," (2) "all pollutant[s] regulated under Title II of the Act regarding emission standards for mobile sources," and (3) several other categories of regulated pollutants. *Ibid.*

The 1980 regulation amended the EPA's PSD rules in response to the D.C. Circuit's decision in *Alabama Power*, *supra*, which had invalidated the agency's interpretations of several aspects of the PSD program not directly at issue here. J.A. 1402-1403. The 1980 regulation stated that, "[w]ith respect to new major stationary sources" that are subject to PSD requirements, "BACT will be required for each regulated pollutant emitted in excess of specified *de minimis* amounts." 45 Fed. Reg. at 52,722.

The 1980 regulation also discussed the analysis used to determine whether a particular source is subject to PSD program requirements. The EPA explained that "[S]ection [7475(a)] applies PSD preconstruction review to all sources that [1] are major for any pollutant subject to regulation under the Act and [2] locate in an area designated attainment or unclassified for any pollutant." J.A. 1405. The EPA observed that the first condition derives from the definition of "major emitting facility," 42 U.S.C. 7479(1), which refers to emissions exceeding specified threshold amounts "of 'any' pollutant," a term that the EPA explained "cover[s] both criteria pollutants * * * and non-criteria pollutants subject to regulation under the Act." J.A. 1404-1405. The EPA explained that the second condition derives from 42 U.S.C. 7475(a)'s "refer[ence] to [construction in] an 'area to which this part * * * applies,' which * * * Alabama Power interpreted to mean * * * areas designated [under 42

U.S.C. 7407] as attainment or unclassifiable for a particular air pollutant." J.A. 1405. The EPA further explained that, "in order for PSD review to apply to a source, the source need not be major for a pollutant for which an area is designated attainment or unclassifiable; the source need only emit *any* pollutant in major amounts (i.e., the amounts specified in [42 U.S.C. 7479(1)]) and be located in an area designated attainment or unclassifiable for that or any other pollutant." J.A. 1403 (emphasis in original, 45 Fed. Reg. 52,711).

The 2002 regulation did not break new interpretive ground on the matters at issue here, but it applied the EPA's interpretations of the PSD program provisions to generate a roster of pollutants that were then "subject to Federal PSD review and permitting requirements." J.A. 1388. That roster included the six criteria pollutants, eight types of non-criteria pollutants regulated under various CAA provisions, and the observation that the PSD program would "appl[y] automatically" to pollutants regulated in the future. J.A. 1388-1389. The resulting regulations defined the term "[r]egulated NSR [new source review] pollutant" to include pollutants regulated under various specified parts of the Act and, as a catch-all, "[a]ny pollutant that otherwise is subject to regulation under the Act." 40 C.F.R. 51.166(b)(49)(iv), 52.21(b)(50)(iv) (2003). Under the EPA's regulations, the PSD program applies to sources based on their emissions of a regulated NSR pollutant (see 40 C.F.R. 51.166(a)(7) and (b)(1)(i)(*a*)-(*b*)), and sources must satisfy the BACT requirement for emissions of regulated NSR pollutants (see 40 C.F.R. 51.166(j)(2)).

3. This Court's decision in *Massachusetts* triggered a series of EPA actions that culminated in the regulation of greenhouse-gas emissions from stationary sources.

a. In 2003, the EPA denied a petition for rulemaking that had asked the agency to regulate greenhouse-gas emissions from new motor vehicles. *Massachusetts*, 549 U.S. at 510-511. That denial was based in part on the agency's determination that greenhouse gases are not "air pollutant[s]" under the Act. *Id.* at 511-513. This Court overturned that decision, concluding that greenhouse gases fall within the "Act's sweeping definition of 'air pollutant.'" *Id.* at 528 (quoting 42 U.S.C. 7602(g)).

On remand, the EPA determined "that elevated concentrations of greenhouse gases in the atmosphere may reasonably be anticipated to endanger the public health and to endanger the public welfare of current and future generations." J.A. 869.[3] The EPA further found "that emissions of the well-mixed greenhouse gases from new motor vehicles contribute to" greenhouse-gas air pollution. J.A. 960. Once the EPA made those endangerment and contribution findings, the CAA required the agency to regulate emissions of greenhouse gases from new motor vehicles. 42 U.S.C. 7521(a); *Massachusetts*, 549 U.S at 533. Accordingly, the EPA promulgated greenhouse-gas emission standards to take effect

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[3] The EPA found the relevant "air pollution" to be the atmospheric mix of six categories of "directly-emitted, long-lived and well-mixed greenhouse gases," *viz.*, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. J.A. 869-870. The EPA explained that climate change caused by greenhouse gas emissions is reasonably anticipated to, *inter alia*, increase the risk of human injury, disease, and death in many ways; adversely affect domestic food production; increase the risk of harms from extreme flooding and drought; increase the risk of storm surge and coastal flooding; and harm infrastructure, energy production, and distribution capacity. See J.A. 904-911, 931-951; *AEP*, 131 S. Ct. at 2533 (discussing the EPA's endangerment finding).

January 2, 2011, for new light-duty vehicles. J.A. 683; see 75 Fed. Reg. at 25,445.

b. Under the EPA's interpretation of the CAA set forth in the historic regulations, the agency's regulation of greenhouse-gas emissions under Title II automatically triggered corresponding changes to the requirements of the PSD program and to the range of sources to which that program applied. See J.A. 778 ("[O]nce EPA has determined to regulate a pollutant in some form under the Act and such regulation is operative on the regulated activity, the terms of the Act make clear that the PSD program is automatically applicable."); J.A. 784 ("It has been EPA's consistent position since 1978 that regulation of a pollutant under Title II triggers PSD requirements for such a pollutant."). The EPA clarified that, for purposes of the Title II regulation of greenhouse gases, the relevant date was January 2, 2011, the day the substantive emissions controls took effect. J.A. 720-753.

Accordingly, under the agency's construction of the CAA, three distinct changes would occur automatically on the above date. First, a stationary source to which the PSD program applied because of its emissions of a regulated non-greenhouse-gas pollutant (*e.g.*, a criteria pollutant) would be required to address greenhouse gases (and, in particular, to satisfy the BACT requirement for greenhouse gases) in complying with the PSD program's substantive requirements. Second, a stationary source that previously would not have been subject to the PSD program as a "major emitting facility" under 42 U.S.C. 7479(1) (because it would emit no regulated pollutant in excess of the statutory threshold) would, as of January 2, 2011, satisfy that definition—and thus its construction would be subject to the PSD program—if the source emitted greenhouse gases in excess of the applicable threshold. Third, a stationary source that previously was not subject to the Title V program would, as of January 2, 2011, become subject to that program if it emitted greenhouse gases in excess of the applicable threshold. See J.A. 771-791.

c. As a general matter, the statutory thresholds referred to above are 100 or 250 tons per year of a particular pollutant, depending on the type of facility and program involved. See J.A. 196-197. But some greenhouse gases—most prominently, carbon dioxide from fossil-fuel combustion—"are emitted in far greater volumes than other pollutants." J.A. 198. Consequently, thousands of industrial, residential, and commercial sources would exceed the PSD program's statutory emissions threshold for greenhouse gases, and millions would do so for Title V. J.A. 461, 490-492. The EPA observed, however, that "the addition of enormous numbers of additional sources would provide relatively little benefit compared to the costs to sources and the burdens to permitting authorities." J.A. 356. For example, the agency explained that, under the PSD program, "the large number of small sources that would be subject to control constitute a relatively small part of the environmental problem." *Ibid.*

The EPA further determined that the administrative burdens resulting from the immediate expansion of the number of sources required to obtain permits pursuant to the statutory thresholds alone would, under the circumstances at that time, "overwhelm[] the resources of permitting authorities" and "severely impair[] the functioning of the programs." J.A. 268; see, *e.g.*, 42 U.S.C. 7661b(c) (requiring permitting authorities to issue or deny applications under Title V within 18 months of application); J.A. 490 (observing that "[i]t would be impossible for permitting authorities to meet this statutory [deadline]"). The agency recognized that Congress had deliberately employed "broad language" in the permitting provisions in "an intentional effort to confer the flexibility necessary to forestall * * * obsolescence." J.A. 468 n.41 (quoting *Massachusetts*, 549 U.S. at 532). The EPA concluded, however, that applying the statutory threshold alone at that time would frustrate rather than further congressional intent and would lead to "absurd results." J.A. 392-393.

In fashioning a regulatory regime that would avoid those untoward consequences, the EPA declined to flatly exempt sources from the coverage of the statutory requirements or to permanently alter the statutory thresholds. J.A. 327 ("EPA has decided not to provide exemptions from applicability determinations."); see J.A. 482-483, 601-627; 42 U.S.C. 7661a(a) ("[The EPA] may not exempt any major source from [Title V's] requirements."). Instead, the EPA established a framework to implement the PSD and Title V programs in an administratively feasible way, by "phasing in the applicability" of the permitting requirements, "starting with the largest [greenhouse-gas] emitters." J.A. 268 (Tailoring Rule). Under the current step of that approach, the PSD program applies to a proposed stationary source whose greenhouse-gas emissions would exceed both regulatory thresholds and the statutory thresholds specified in the CAA. See J.A. 313-316. For many sources, the regulatory thresholds are considerably higher than the statutory thresholds.[4]

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[4] The statutory threshold is 0, 100, or 250 tons per year by mass of any air pollutant, depending on the circumstances. 42 U.S.C. 7411(a), 7475(a), 7479(1) and (2)(C), 7602(j), 7661(2)(B), 7661a(a). The regulatory threshold is 75,000 or 100,000 tons per year on a

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carbon-dioxide equivalent basis, depending on the circumstances. J.A. 311-318; see generally Office of Air Quality Planning & Standards, EPA, *PSD and Title V Permitting Guidance for Greenhouse Gases* 6-16 & Apps. A-E (Mar. 2011) (*Greenhouse Gas Guidance*) (explaining applications of the thresholds under different circumstances).

The regulations use a carbon-dioxide-equivalent basis because emissions of similar quantities of different greenhouse gases have widely varying environmental consequences. See 40 C.F.R. Pt. 98, Subpt. A tbl. A-1 (listing 72 compounds, each of which the EPA found to have a different potential to contribute to global warming). For example, one ton of sulfur hexafluoride emissions is treated for purposes of the regulatory thresholds as equivalent to 23,900 tons of carbon dioxide emissions, in recognition of the greater heat-trapping potential and longer life of the former compound relative to the latter. *Ibid.*

The EPA recognized that many greenhouse-gases (such as sulfur hexafluoride in the example just given) could be emitted above the regulatory threshold (on a carbon-dioxide-equivalent basis) but below the statutory threshold (on a pure mass basis). J.A. 344-349. Accordingly, the agency determined that the PSD program would apply to a source by virtue of its greenhouse-gas emissions only if *both* the statutory and regulatory thresholds were satisfied. The EPA implemented that dual-threshold approach by maintaining the statutory thresholds in its pre-existing definition of "major stationary source" (40 C.F.R. 51.166(b)(1)(i), 52.21(b)(1)(i)), while providing that a facility's greenhouse-gas emissions are "subject to regulation" (see p. 12, *supra*) only if the facility will emit them in an amount at or above the regulatory threshold (40 C.F.R. 51.166(b)(48)(i)-(v), 52.21(b)(49)(i)-(v)). The EPA made analogous changes to the Title V program. See J.A. 573-580.

Because the BACT requirement also turns on whether a pollutant is "subject to regulation" (see 40 C.F.R. 51.166(j)(2), 52.21(j)(2)), implementing the regulatory thresholds in the way the agency did had the corresponding effect (recognized by the EPA and supported by commenters) of requiring a facility subject to the PSD program to use BACT for greenhouse gases only if the facility would emit that pollutant in an amount at or above the regulatory threshold. See J.A. 506-509. The EPA anticipated, however, Even as tailored, however, the EPA's implementation of the greenhouse-gas permitting requirements "represents 86 percent of the coverage [of aggregate stationary-source greenhouse-gas emissions on a carbon-dioxide-equivalent basis] at full implementation of the statutory * * * thresholds." J.A. 523. The EPA indicated that it will analyze extending the PSD and Title V programs to other stationary sources, and will evaluate whether that can be done without imposing prohibitive burdens on sources and permitting authorities. J.A. 316-318; see J.A. 422 ("[The] EPA seeks to include as many [greenhouse-gas] sources in the permitting programs at as close to the statutory thresholds as possible, and as quickly as possible.").

4. The court of appeals denied in part, and dismissed in part, petitions by certain States and industry groups challenging the administrative actions described above. J.A. 191-267.

a. As relevant to the question on which this Court granted certiorari, the court of appeals upheld, as "statutorily compelled," J.A. 236, the EPA's longstanding interpretations of the sources to which the PSD and Title V programs apply, and the requirements the PSD program imposes on covered sources. J.A. 232-256.

The court of appeals held that the PSD program's BACT requirement encompasses greenhouse gases. J.A. 241-242. The court explained that the "statutory

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that this BACT threshold would have no independent practical effect because the greenhouse-gas emissions of any source large enough to be subject to the PSD program would exceed that threshold. See Linda M. Chappell, Office of Air Quality Planning & Standards, EPA, *Regulatory Impact Analysis for the Final Prevention of Significant Deterioriation and Title V Greenhouse Gas Tailoring Rule* Attach. C, at 6-7 (May 2010), http://www.epa.gov/ttn/ecas/regdata/RIAs/riatailoring.pdf.

text provides, without qualification, that covered sources must install the 'best available control technology for *each pollutant subject to regulation* under [the CAA].'" J.A. 242 (quoting 42 U.S.C. 7475(a)(4)) (brackets in original). The court concluded that, "[b]ecause greenhouse gases are indisputably a pollutant subject to regulation under the Act, it is crystal clear that PSD permittees must install BACT for greenhouse gases." *Ibid.*

The court of appeals also held that a stationary source's emissions of greenhouse gases can, standing alone, trigger pre-construction review under the PSD program. J.A. 242-256. The court noted, *inter alia*, that this Court in *Massachusetts* had found "plainly unreasonable" an interpretation of the CAA's definition of "air pollutant" that would limit the term to emissions causing only local pollution. J.A. 244 (quoting 549 U.S. at 529 n.26). Some petitioners argued that, because one purpose of the PSD program is to prevent any "major emitting facility" located in an attainment area for a criteria pollutant from contributing to the deterioration of air quality in any region (see 42 U.S.C. 7475(a), (3)(A) and (B)), the term "any air pollutant" in the definition of "major emitting facility" (42 U.S.C. 7479(1)) should be construed to mean "any criteria pollutant." J.A. 246-251. Under that interpretation, the PSD program's BACT requirement would apply to greenhouse gases, but a particular proposed stationary source would be subject to the PSD program only if it would emit a criteria pollutant at a level above the statutory threshold and would be located in an attainment area for that criteria pollutant. J.A. 246-247. The court of appeals acknowledged that the context of some CAA provisions requires that the term "any air pollutant" be construed to refer only to criteria pollutants. See, *e.g.*, J.A. 252-253 (discussing 42

U.S.C. 7473(b)(4)). The court concluded, however, that petitioners had "failed to identify any reasons that the phrase should be read narrowly [in the definition of 'major emitting facility']." J.A. 255.

Because no petitioner had adequately developed any arguments concerning Title V, the court of appeals held that petitioners had forfeited their challenge to the EPA's "greenhouse gas-inclusive interpretation of Title V." J.A. 241.

Finally, the court of appeals held that "no petitioner has standing to challenge" the EPA's establishment of regulatory thresholds that would "phas[e] in the applicability of [the PSD and Title V] programs to [greenhouse-gas] sources, starting with the largest [greenhouse-gas] emitters." J.A. 194, 258 (quoting J.A. 268). The court explained that those actions did not injure petitioners, but rather reduced the costs and administrative burdens to which petitioners otherwise would have been subject "by automatic operation of the statute." J.A. 261. The court accordingly dismissed the petitions insofar as they sought review of those EPA actions. J.A. 194.

b. The court of appeals denied petitions for rehearing en banc. J.A. 139-142. Judges Brown and Kavanaugh dissented separately from the denials of rehearing. J.A. 145-190. The members of the panel (Chief Judge Sentelle and Judges Rogers and Tatel) concurred in the denials of rehearing, stating that "[t]he legal issues presented * * * are straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent." J.A. 145.

SUMMARY OF ARGUMENT

I. The EPA permissibly determined that, when a proposed facility is subject to the PSD program by reason of its non-greenhouse-gas emissions, the program's

BACT requirement applies to the source's greenhouse-gas emissions as well. A facility covered by the PSD program must satisfy the BACT requirement "for each pollutant subject to regulation under [the CAA]" that it emits. 42 U.S.C. 7475(a)(4). Once the EPA's Title II regulation of greenhouse-gas emissions from new motor vehicles took effect, greenhouse gases became "subject to regulation under [the CAA]" for purposes of that provision. The EPA has adhered since 1978 to the understanding that BACT requirements under the PSD program apply to emissions of criteria pollutants and regulated non-criteria pollutants alike, including pollutants regulated under Title II.

To be sure, some PSD program provisions either are limited by their terms to criteria pollutants, or cannot sensibly be applied to other pollutants. That observation, however, provides no basis for inferring that either the PSD program generally, or the BACT requirement in particular, is unconcerned with non-criteria pollutants. Nor is there any basis to limit the program's requirements to pollutants with purely local impact; indeed, the requirements of the PSD program have applied for decades to pollutants that, like greenhouse gases, are well-mixed in the atmosphere. Where a particular source would be subject to the PSD program *anyway* by reason of its non-greenhouse-gas emissions, applying the BACT requirement to that source creates no substantial implementation burdens, and the "absurd results" the EPA identified are not implicated. Moreover, given the substantial harms that large-scale greenhouse-gas emissions can cause, application of BACT requirements to those emissions directly serves the CAA's purposes.

Some petitioners ask this Court to overrule its recent holding in *Massachusetts* v. *EPA*, *supra*, that the CAA term "air pollutant" includes carbon dioxide and other greenhouse gases. But *stare decisis* has particular force in statutory cases; the Court's holding in *Massachusetts* has already generated substantial reliance interests; and reconsideration of *Massachusetts* would be inconsistent with the limited nature of the question on which this Court granted certiorari. *Massachusetts* also compels rejection of petitioners' argument, premised on *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), that Congress has implicitly exempted stationary sources' greenhouse-gas emissions from CAA regulation.

II. The EPA also permissibly concluded that a source's greenhouse-gas emissions standing alone can trigger the application of the PSD program. Since 1980, the agency has interpreted the term "any air pollutant" in the CAA's definition of "major emitting facility" to include non-criteria pollutants regulated under other provisions of the Act. The EPA has also taken the position since 1980 that, so long as a "major emitting facility" is to be located in a geographic area that is in attainment for *some* criteria pollutant, the PSD program applies, whether or not the facility will emit major amounts of that pollutant. Those interpretive principles, developed and long adhered to by the expert agency charged with the Act's implementation, are entitled to substantial judicial deference.

The EPA adopted a phased-in approach to greenhouse-gas regulation because it concluded that "absurd results" would ensue if the PSD program requirements were immediately applied to all stationary sources that emit greenhouse gases in quantities above the statutory thresholds. Some petitioners contend that the agency should have avoided those consequences by instead adopting a new understanding of "major emitting facility" that exempted greenhouse gases or exempted all non-criteria pollutants. But those interpretations have no foundation in the Act's text, and they would have anomalous and untoward impacts on the agency's general administration of the PSD program. The agency's phased-in approach, by contrast, is narrowly targeted at the specific implementation problem the agency identified, *viz.*, the infeasibility of processing, in a timely fashion, the multitudinous permit applications that would have been required had the agency immediately applied only the statutory thresholds to greenhouse gases. Other petitioners argue that the PSD program applies only when a stationary source emits above-threshold amounts of a criteria pollutant in an area that is in attainment for *that* pollutant. That argument too is inconsistent with the statutory text and with the EPA's longstanding interpretation, and it (like the attempt of other petitioners to narrow the definition of "major emitting facility") would have untoward spillover effects outside the greenhouse-gas context.

III. For the same reason that the definition of "major emitting facility" reaches sources that are major by virtue of their greenhouse-gas emissions alone, the parallel term governing the Title V program ("major stationary source") brings such sources under that program too. As in the court of appeals, petitioners do not distinctly address Title V. Although some of their further-reaching arguments would contract the range of facilities to which the PSD and Title V programs alike would apply, many of their arguments depend on statutory features unique to the PSD program and therefore are no basis for limiting Title V.

ARGUMENT

This Court limited its review of the EPA's greenhouse-gas rulemaking to the question "[w]hether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases." That question subsumes three disputed issues: (1) Did the EPA permissibly conclude that, when a particular source is subject to the PSD program based on its emissions of non-greenhouse-gas pollutants, the program's substantive requirements (*e.g.*, the BACT requirement) apply to the source's greenhouse-gas emissions? (2) Did the EPA permissibly conclude that a particular source's greenhouse-gas emissions standing alone can subject that source to the PSD program? (3) Did the EPA permissibly conclude that the Title V program applies to some sources solely because of their greenhouse-gas emissions? The answer to each question is yes.

I. THE EPA PERMISSIBLY DETERMINED THAT THE SUBSTANTIVE REQUIREMENTS OF THE PSD PROGRAM, PARTICULARLY THE BACT REQUIREMENT, APPLY TO THE GREENHOUSE-GAS EMISSIONS OF SOURCES SUBJECT TO THE PROGRAM

When the EPA's regulation of mobile-source greenhouse-gas emissions under Title II took effect in 2011, greenhouse gases became a "pollutant subject to regulation under" the CAA. 42 U.S.C. 7475(a)(4). The PSD program's substantive requirements, and in particular the BACT requirement (see *ibid.*), therefore apply to greenhouse-gas emissions from stationary sources that are covered by the program, including sources that are subject to the program because of their non-greenhouse-gas (*e.g.*, criteria-pollutant) emissions. That conclusion is not put in doubt by petitioners' arguments that focus instead on the EPA's further determination (see Part II, *infra*) that a facility that emits threshold amounts only of greenhouse gases is subject to the PSD program.[5]

A. The Text, Purpose, And History Of The PSD Program Show That It Imposes Requirements With Respect To Greenhouse-Gas Emissions

1. To decide whether the PSD program imposes requirements with respect to greenhouse-gas emissions, this Court should "begin 'where all such inquiries must begin: with the language of the statute itself.'" *Caraco Pharm. Labs., Ltd.* v. *Novo Nordisk A/S*, 132 S. Ct. 1670, 1680 (2012) (quoting *United States* v. *Ron Pair Enters., Inc.*, 489 U.S. 235, 241 (1989)). "If the intent of Congress is clear" from that text, "that is the end of the matter." *Chevron U.S.A. Inc.* v. *NRDC*, 467 U.S. 837, 842 (1984).

The central PSD program requirement at issue here and in the EPA's rulemaking is the requirement that facilities subject to the PSD program limit their emissions based on BACT "for each pollutant subject to regulation under [the CAA] emitted from, or which results from, such facility." 42 U.S.C. 7475(a)(4); accord 42 U.S.C. 7479(3) (defining BACT in terms of "the maximum degree of reduction of each pollutant subject to regulation under [the CAA]"). Greenhouse gases are an "air pollutant" as that term is defined in the CAA. *Massachusetts*, 549 U.S. at 528-529 (citing 42 U.S.C. 7602(g)). And because greenhouse gases are now "subject to regulation under [the CAA]"—under Title II in particular—"it is crystal clear that PSD permittees must install BACT for greenhouse gases." J.A. 242; accord J.A. 177 (Kavanaugh, J., dissenting from the denials of rehearing en banc) ("By its terms, Section 7475(a)(4) * * * applies to greenhouse gases.").[6]

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[5] Of the emissions from stationary sources that emit greenhouse gases in amounts above the regulatory thresholds, the vast majority of greenhouse gases come from sources that would be subject to the PSD program in any event based on their emissions of criteria pollutants. See Am. Chemistry Council (ACC) Br. 29 n.12. Accordingly, with respect to the aggregate control of greenhouse gases, the question whether the BACT requirement applies to those sources' greenhouse-gas emissions has much greater practical significance than the question (discussed in Part II, *infra*) whether a source's greenhouse-gas emissions alone can subject it to the PSD program. The Court's resolution of the latter issue will immediately affect only the limited set of sources that emit greenhouse gases in amounts above the regulatory threshold, but that would not otherwise be subject to the PSD program based on their emission of some other pollutant.

2. The PSD program serves to "protect public health and welfare from any actual or potential adverse effect * * * from air pollution." 42 U.S.C. 7470(1) (footnote omitted). "Air pollution," in turn, is the product of "air pollutants." See 42 U.S.C. 7602(g) (defining "air pollutant" to mean "any air pollution agent or combination of such agents"). The requirement that facilities subject to the PSD program limit their emissions based on BACT for "each pollutant subject to regulation under [the CAA]," 42 U.S.C. 7475(a)(4), effectuates the broad purposes of that program.

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[6] The EPA has treated greenhouse gases emitted from a stationary source as subject to regulation (and thus subject to the BACT requirement) only when emitted at or above the regulatory threshold, rather than requiring the use of BACT when greenhouse gases are emitted at any level. See note 4, *supra*. If that threshold has any effect in practice (but see *ibid.*), its effect is to narrow the requirements of the PSD program. Its existence therefore provides no basis for doubting the EPA's conclusion that the PSD program's requirements apply to greenhouse-gas emissions.

That link between means and ends is well illustrated by the CAA's application to greenhouse gases. The EPA determined that greenhouse-gas emissions endanger public health and welfare in ways that may prove to be more widespread, longer-lasting, and graver than the effects of any other pollutant regulated under the Act. See p. 13 and note 3, *supra*. The EPA's regulation of greenhouse-gas emissions from mobile sources is premised on that endangerment finding. But greenhouse-gas emissions from stationary sources have the same environmental effects as like emissions from mobile sources, especially because greenhouse-gas emissions are well-mixed in the atmosphere, J.A. 957-958. By directing that Title II regulation of a particular pollutant automatically triggers the BACT requirement for stationary sources subject to the PSD program, Congress obviated the need for a (duplicative) EPA finding that greenhouse-gas emissions from stationary sources likewise endanger public health and welfare.

3. The EPA's longstanding interpretation of the Act's structure, and Congress's ratification of that interpretation, confirm the automatic operation of the PSD program's requirements once a pollutant is "subject to regulation under [the CAA]." 42 U.S.C. 7475(a)(4).

The EPA concluded in the 1978 historic regulation that the phrase "subject to regulation under [the CAA]" in 42 U.S.C. 7475(a)(4) referred to "any pollutant regulated [by EPA] for any source type," including "all pollutant[s] regulated under Title II of the Act regarding emission standards for mobile sources." J.A. 1460. The 1980 historic regulation reiterated that, "[w]ith respect to new major stationary sources, BACT will be required for each regulated pollutant emitted in excess of specified *de minimis* amounts." 45 Fed. Reg. at 52,722.

The EPA's interpretation was thus settled by the time Congress amended the CAA in 1990, Pub. L. No. 101-549, 104 Stat. 2399 (1990 Amendments). Before 1990, the NESHAP program, 42 U.S.C. 7412 (1988), regulated some sources of emissions of seven air pollutants that the EPA had designated as "hazardous air pollutant[s]" (HAPs), *i.e.*, pollutants associated with "an increase in mortality or an increase in serious * * * illness," 42 U.S.C. 7412(a)(1) (1988). Because HAPs were "subject to regulation under [the CAA]," 42 U.S.C. 7475(a)(4), the EPA regulated emissions of HAPs from stationary sources under the PSD program. Compare 40 C.F.R. 61.01(a) (1990) (listing HAPs), with 40 C.F.R. 51.166(b)(23)(i) (1990) (establishing *de minimis* significance levels under the PSD program for emissions of several HAPs).

In the 1990 Amendments, Congress unlinked the PSD program from the NESHAP program, while otherwise leaving intact the EPA's understanding of the phrase "subject to regulation under [the CAA]." Section 301 of the 1990 Amendments, 104 Stat. 2531, overhauled the NESHAP program by establishing a much longer statutory list of HAPs and elaborating on the regulatory framework for HAPs. Of particular significance here, the 1990 Amendments exempted HAPs from "the provisions of [the PSD program]." 42 U.S.C. 7412(b)(6). That action reflected Congress's awareness that regulation of HAPs under the NESHAP program would otherwise have triggered the PSD program's requirements as well. By enacting a targeted exemption unique to HAPs, while otherwise leaving intact the CAA provisions that govern the PSD program, Congress effectively ratified the EPA's understanding of those provisions. See, *e.g.*, *Sebelius* v. *Auburn Reg'l Med. Ctr.*, 133 S. Ct. 817, 827-828 (2013).

B. Petitioners' Arguments Regarding The Substantive Requirements Of The PSD Program Lack Merit

Largely renewing arguments rejected below, petitioners contend that no substantive requirements of the PSD program can be applied to a source's greenhouse-gas emissions, even if that source is indisputably subject to the program by reason of its emissions of other (*e.g.*, criteria) pollutants. As the court of appeals recognized, "none of [those arguments] cast[s] doubt on the unambiguous nature of the statute." J.A. 241.

1. The PSD program's inclusion of features specific to criteria pollutants does not defeat application of its more general provisions to non-criteria pollutants

Some parties appear to contend that the PSD program is unconcerned with regulating greenhouse-gas emissions because, in their view, the program addresses only the six NAAQS criteria pollutants (see pp. 8-9 and note 2, *supra*). See, *e.g.*, Coal. for Responsible Regulation (CRR) Br. 16-25. That deeply flawed understanding of the PSD program would exclude not only emissions control for greenhouse gases, but also emissions control for any non-criteria pollutant—such as sulfuric acid mist and hydrogen sulfide—a category comprising the majority of the pollutants that the 2002 historic regulation identified (without objection) as subject to the program's requirements. See p. 12, *supra*.

Some features of the PSD program were drafted with criteria pollutants (and the associated attainment area designations for those pollutants) in mind, and some PSD program provisions regulate only criteria pollutants. See, *e.g.*, 42 U.S.C. 7475(a)(3)(A) and (B). Other

CAA provisions governing the PSD program, however, unambiguously cover criteria and non-criteria pollutants alike. See, *e.g.*, 42 U.S.C. 7475(a)(4) (BACT requirement applies "for each pollutant subject to regulation under [the CAA]"). Some PSD program requirements, moreover, focus specifically on *non*-criteria pollutants. See, *e.g.*, 42 U.S.C. 7475(a)(3)(C) (imposing, in addition to requirements relevant to criteria pollutants, requirements related to "any *other* applicable emission standard * * * under [the CAA]") (emphasis added). Treating the PSD program as categorically inapplicable to non-criteria pollutants cannot be reconciled with those features of the statutory scheme.

Some petitioners point to the existence of *some* PSD requirements specific to criteria pollutants, and appear to infer that *all* PSD requirements are limited to criteria pollutants. The more natural inference, however, is that each requirement should simply be applied to the class of pollutants to which the requirement is relevant. For example, emissions of a non-criteria pollutant would not "cause * * * air pollution in excess of any * * * national ambient air quality standard," 42 U.S.C. 7475(a)(3)(B), because a non-criteria pollutant is (by definition) one for which no such standard exists. By contrast, as other respondents explain, facilities can (and routinely do) use "the best available control technology for [a non-criteria] pollutant." 42 U.S.C. 7575(a)(4).[7]

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[7] Some parties argue that the EPA unlawfully failed to utilize the rulemaking procedures of 42 U.S.C. 7476. CRR Br. 16-25. The court of appeals correctly found that "[t]his argument fails on its face" because Section 7476 "applies only to new 'pollutants *for which national ambient air quality standards*' apply, i.e., NAAQS criteria pollutants." J.A. 256 (quoting 42 U.S.C. 7476(a)) (emphasis added by court of appeals); see *Alabama Power*, 636 F.2d at 406

2. *The PSD program is not limited to "local" pollutants*

Other petitioners contend that the PSD program addresses only "'air pollutants' that deteriorate ambient air quality—*i.e.*, the air people breathe—in specific, geographic air quality control areas," and that the wide dispersion and global effects of greenhouse gases therefore make them unsuited for PSD regulation. Util. Air Regulatory Grp. (UARG) Br. 25-32 (citation omitted); see Chamber of Commerce (Chamber) Br. 15-18; S.E. Legal Found. (SLF) Br. 9-13.

That argument largely relies on an understanding of the Act's terminology that this Court rejected in *Massachusetts*. As used in several statutory provisions that govern the PSD program, the term "ambient air" refers simply to outdoor air that exists throughout the atmosphere. See *Train* v. *NRDC*, 421 U.S. 60, 65 (1975); 40 C.F.R. 50.1(e) (defining "ambient air" as "that portion of the atmosphere, external to buildings, to which the general public has access"). In *Massachusetts*, the Court rejected the dissent's view that the Act is concerned only with pollution "at ground level or near the surface of the earth," 549 U.S. at 560 (Scalia, J., dissenting), explaining that the Act "uses the phrase 'the ambient air' without distinguishing between atmospheric layers," *id.* at 529 n.26.

Petitioners also point out (UARG Br. 26-27; Energy-Intensive Mfrs. (EIM) Br. 20-21) that the PSD program requires certain monitoring and an "analysis * * * of the ambient air quality * * * in areas which may be affected by emissions from such facility for each pollu-

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(rejecting a similar argument regarding Section 7476's effect on the scope of Section 7475).

tant subject to regulation under [the CAA]." 42 U.S.C. 7475(e)(1); see 42 U.S.C. 7475(e)(2) and (3)(B). Because greenhouse gases are well-mixed in the atmosphere and their effects are not traceable to particular sources of emissions, petitioners contend that requiring each permit applicant to perform such an analysis of greenhouse-gas emissions would be of little value. Petitioners further assert that the EPA (in a guidance document) "concedes" that the analysis provisions are "contradicted * * * or nullified" if applied to greenhouse gases. EIM Br. 21.

Petitioners misunderstand both the statute and the EPA's statements. The monitoring requirement in Section 7475(e)(2) is beside the point because it is written in terms that are specific to criteria pollutants. The analysis requirements in Section 7475(e)(1) and (3)(B) do apply to greenhouse gases, but the form and degree of analysis that is feasible and appropriate will necessarily vary among pollutants. That is precisely what the EPA recognized in explaining that certain forms of impact analysis either were not feasible for greenhouse gases (because analytical tools were unavailable) or were unlikely to offer meaningful insights (because the contribution of greenhouse gases to climate change is already well-established). *Greenhouse Gas Guidance* 48. The agency explained that "the most practical way" to conduct the required analysis would be to use a facility's amount of greenhouse-gas emissions as an "appropriate and credible proxy" for its impact, and then to follow the established BACT analysis for limiting that impact. *Ibid.* And even if petitioners were correct that the analysis provisions impliedly exclude greenhouse-gas emissions, that would provide no reason to exclude greenhouse-gas emissions from the coverage of PSD program requirements (like the BACT requirement) that are both literally *and* practically applicable.

In any event, Congress has never embraced the distinction petitioners would draw between local and well-mixed atmospheric pollutants in the context of the PSD program. Before the 1990 Amendments, the EPA regulated certain well-mixed gases that deplete the ozone layer, 53 Fed. Reg. 30,566 (Aug. 12, 1988), and thus these were subject to the PSD program's requirements. In the same 1990 Amendments that exempted HAPs from the PSD program (see pp. 28-29, *supra*), Congress overhauled the restrictions on those ozone-depleting substances (see 1990 Amendments § 602(a), 104 Stat. 2648) without enacting any similar exemption, on the evident understanding that those well-mixed gases were proper subjects of PSD regulation. The same is true of greenhouse gases.

3. *No absurd consequences arise from enforcing the PSD program's requirements for greenhouse gases emitted by sources to which the program indisputably applies*

a. Many petitioners argue that, because the EPA identified "absurd results" that would occur if it immediately implemented the PSD and Title V programs based on greenhouse-gas emissions at the statutory thresholds, greenhouse-gas emissions should never be subject to the requirements of the PSD program, even when emitted by sources indisputably subject to that program. Chamber Br. 19-20, 23-32; SLF Br. 14-15; Tex. Br. 3-8; UARG Br. 20-25. That argument is unsound.

The precise problem the EPA faced with respect to the PSD program was that immediately requiring permits for sources newly subject to that program—*i.e.*, the numerous sources that emit only greenhouse gases (and no other pollutant) in quantities at or above the applicable statutory threshold—would overload the permitting system. See pp. 15-16, *supra*. That problem arises, however, only in deciding whether a source requires a pre-construction permit because of its greenhouse-gas emissions. By contrast, when a particular proposed source is indisputably subject to the PSD program based on its *non*-greenhouse-gas emissions (*e.g.*, if the source would emit more than 250 tons per year of a criteria pollutant for which the relevant area is in attainment), requiring that source to limit its greenhouse-gas emissions based on BACT would create no similar implementation problems because that requirement would not increase the number of PSD permit applications. See J.A. 508. Indeed, although Judge Kavanaugh dissented from other aspects of the decision below, he agreed that a facility subject to the PSD program "because of its emissions of [criteria] pollutants must employ [BACT] for emissions not just of" those pollutants, but for greenhouse-gas emissions as well. J.A. 177; see ACC Br. 18 n.7.

b. Some petitioners ask this Court to overrule *Massachusetts*'s interpretation of the statutory term "air pollutant" as including carbon dioxide and other greenhouse gases. Tex. Br. 24-29. But "*stare decisis* in respect to statutory interpretation has 'special force,' for 'Congress remains free to alter what [the Court has] done.'" *John R. Sand & Gravel Co.* v. *United States*, 552 U.S. 130, 139 (2008) (quoting *Patterson* v. *McLean Credit Union*, 491 U.S. 164, 172-173 (1989)). Petitioners alternatively suggest (Tex. Br. 25-27) that the term "air pollutant" be construed to encompass greenhouse-gas emissions from mobile sources but not greenhouse-gas emissions from stationary sources. That distinction has no grounding in the CAA's text, and it would disserve the Act's purposes, because greenhouse-gas emissions from stationary sources have the same deleterious environmental effects as like emissions from motor vehicles. See pp. 26-27, *supra*.[8]

Principles of *stare decisis* have particular force here because the EPA, this Court, and private parties have relied substantially on *Massachusetts* since that decision was issued. For example, concluding that greenhouse-gas emissions from stationary sources cannot be regulated under the CAA would destroy the premise on which this Court decided *AEP*, *supra*. In holding "that the [CAA] and the EPA actions it authorizes displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants," 131 S. Ct. at 2537, the Court stated that "[t]he critical point is that Congress delegated to EPA the decision whether and how to regulate carbon-dioxide emissions from power plants; the delegation is what displaces federal common law," *id.* at 2538.[9]

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[8] Although the *Massachusetts* Court recognized that its decision could lead to regulation of greenhouse emissions from motor vehicles, it did not allude to the potential effect of its ruling on stationary sources. But "the briefs before the [*Massachusetts*] Court explicitly raised the argument that interpreting 'air pollutant' to include greenhouse gases could have tremendous consequences for stationary-source regulation." J.A. 142 (Sentelle, C.J., Rogers and Tatel, JJ., concurring in the denials of rehearing en banc).

[9] In so holding, this Court accepted the argument of the *AEP* utility defendant-petitioners (some of whom are members of the trade association petitioners in this case) based on the very regulations they now attack:

> [The] EPA has interpreted the Act to provide it with authority to consider restrictions on greenhouse gas emissions from mo-

The contention that greenhouse gases are not "air pollutant[s]" within the meaning of the CAA also ignores the limited nature of the question on which this Court granted certiorari, which takes as given the EPA's antecedent motor-vehicle regulations. The validity of those regulations depends in turn on the *Massachusetts* Court's holding that greenhouse gases are "air pollutant[s]" subject to regulation under the Act.

c. Some petitioners briefly suggest that the Act's requirements for determining BACT, 42 U.S.C. 7479(3), become "hopelessly muddled" when applied to greenhouse-gas emissions. Chamber Br. 18-19; see EIM Br. 23-26. That contention is unfounded. As with any new application of a flexible statutory provision, the application of the BACT requirement to greenhouse-gas emissions has required proposed sources and permitting authorities to adapt established concepts and tools for use in a new context. But the EPA issued extensive guidance on the subject shortly after the requirement went into effect. That guidance was built around the established process and concepts for determining BACT, and it provided key ideas for adapting them to greenhouse-gas emissions. See *Greenhouse Gas Guidance* 17-46 & Apps. F, G, H, J, K. As the respondent States note, issuing permits for facilities subject to the BACT re-

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bile and stationary sources, including those of these defendants. See 75 Fed. Reg. 31514 [the Tailoring Rule, J.A. 268-682].

* * * * *

> [The CAA] delegates regulatory authority over carbon dioxide emissions to EPA, and thus displaces federal common law claims addressing those emissions.

Pet. Br. at 43, 46, *AEP*, *supra* (No. 10-174).

quirement for greenhouse gases has proceeded in the normal course without significant delay.

4. **FDA** *v.* **Brown & Williamson Tobacco Corp.** ***is inapposite***

Relying on *FDA* v. *Brown & Williamson Tobacco Corp.*, *supra*, many petitioners argue that Congress has implicitly exempted stationary sources' greenhouse-gas emissions from CAA regulation. SLF Br. 8-18; EIM Br. 13-26; Tex. Br. 3-8; Chamber Br. 22-23. In *Brown & Williamson*, this Court held that, notwithstanding the textual possibility of regulating tobacco products as drugs or medical devices under the Federal Food, Drug, and Cosmetic Act (FDCA), 21 U.S.C. 301 *et seq.*, "[s]uch [regulation] is inconsistent with the intent that Congress has expressed in the FDCA's overall regulatory scheme and in the tobacco-specific legislation that it has enacted subsequent to the FDCA." 529 U.S. at 126. That conclusion rested on three features of the FDCA and tobacco-specific legislation that have no analogues here. Indeed, because the Court in *Massachusetts* has already *rejected* the proposed analogy between FDCA regulation of tobacco products and CAA regulation of greenhouse-gas emissions, see 549 U.S. at 530-531, petitioners' *Brown & Williamson* argument is in substance a contention that *Massachusetts* should be overruled.

First, this Court explained in *Brown & Williamson* that, if tobacco products were regulated under the FDCA at all, they would necessarily be banned entirely, despite Congress's clear assumption that tobacco products would be sold. 529 U.S. at 133-139, 142-143. By contrast, the Court concluded in *Massachusetts* that subjecting greenhouse gases to the CAA "would lead to no * * * extreme measures" of that sort because the "EPA would only *regulate* emissions." 549 U.S. at 531.

The PSD program's BACT requirement represents just that sort of balanced regulation. See note 1, *supra*.

Second, *Brown & Williamson* identified "six separate pieces" (529 U.S. at 143) of "tobacco-specific legislation * * * enacted subsequent to the FDCA" (*id.* at 126) and "against the backdrop of the [Food and Drug Administration's (FDA)] consistent and repeated statements that it lacked authority under the FDCA to regulate tobacco" (*id.* at 144). By contrast, Congress has never enacted comparable legislation specific to greenhouse-gas emissions, and the EPA had never (until the action overturned in *Massachusetts* itself) disavowed the authority to regulate greenhouse gases under the CAA. 549 U.S. at 531.[10]

Third, the *Brown & Williamson* Court found it counterintuitive that Congress would delegate "in so cryptic a fashion" authority to regulate a product as significant as tobacco. 529 U.S. at 160. But even if the Congress that enacted the CAA had been unaware of the threat from greenhouse-gas emissions, there is nothing cryptic about its definition of "air pollutant," nor anything "counterintuitive to the notion that EPA can curtail the emission of substances that are putting the global climate out of kilter." *Massachusetts*, 549 U.S. at 531; see *id.* at 532 ("[T]he fact that a statute can be applied in situations not expressly anticipated by Congress does not demonstrate ambiguity. It demonstrates breadth.") (brackets in original) (quoting *Pennsylvania Dep't of Corr.* v. *Yeskey*, 524 U.S. 206, 212 (1998)).

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[10] Some petitioners point to unenacted bills that would have applied to greenhouse-gas emissions. SLF Br. 15-17. But the Court in *Brown & Williamson* looked to "legislation that [Congress] has enacted," 529 U.S. at 126, and specifically declined to "rely on Congress' failure to act—its consideration and rejection of bills that would have given the FDA this authority" over tobacco products, *id.* at 155.

II. THE EPA PERMISSIBLY CONCLUDED THAT GREENHOUSE-GAS EMISSIONS STANDING ALONE CAN TRIGGER THE APPLICATION OF THE PSD PROGRAM TO PARTICULAR SOURCES

In the 1980 historic regulation, the EPA explained that "[S]ection [7475(a)] applies PSD preconstruction review to all sources that are major for any pollutant subject to regulation under the Act [*i.e.*, that emit any regulated pollutant in amounts exceeding the statutory thresholds] and locate in an area designated attainment or unclassified for any [criteria] pollutant." J.A. 1405; see pp. 11-12, *supra*. That test rested on two subsidiary determinations. First, the EPA construed the term "any air pollutant" in Section 7479(1)'s definition of "major emitting facility" to mean "any pollutant subject to regulation under the Act," including regulated non-criteria pollutants. Second, the EPA made clear that PSD program requirements can be triggered even though the regulated pollutant emitted in above-threshold amounts is not the *same* pollutant as the one for which the area is in attainment. See J.A. 1403-1405. The agency has adhered to those interpretive principles since 1980.

Petitioners seek to create the impression that, in adopting the rules at issue here, the EPA contrived a newfangled regulatory structure to bring greenhouse gases within the agency's purview. That version of events is baseless. Once the EPA's Title II regulation of greenhouse-gas emissions from motor vehicles took effect on January 2, 2011, the agency could have *declined* to treat greenhouse-gas emissions as a trigger for PSD program requirements only by *abandoning* one or both of the longstanding interpretive principles described in the preceding paragraph. Indeed, petitioners acknowledged this below in pressing the D.C. Circuit to permit them to challenge the historic regulations directly, decades after their promulgation. J.A. 225-231. Except to the extent that some petitioners seek to re-litigate *Massachusetts*, all of petitioners' challenges to the use of greenhouse-gas emissions as a trigger for PSD program requirements involve attacks on those longstanding principles. In any event, petitioners' statutory arguments are flawed on their own terms.

A. In Administering The PSD Program, The EPA Has Permissibly Interpreted The Term "Major Emitting Facility" To Include Stationary Sources Whose Emissions Of Regulated Non-Criteria Pollutants Exceed Threshold Levels

1. The central pre-construction permitting requirements of the PSD program are contained in 42 U.S.C. 7475(a). That provision states that "[n]o major emitting facility * * * may be constructed in any area to which this part [42 U.S.C. 7470-7492] applies unless" those requirements are met. The term "major emitting facility" is defined to mean a stationary source that emits "any air pollutant" in amounts that exceed specified statutory thresholds. 42 U.S.C. 7479(1). In light of this Court's holding in *Massachusetts* that greenhouse gases are an "air pollutant," that definition unambiguously covers a source that emits greenhouse gases in above-threshold quantities.

2. The PSD program's pre-construction permitting requirement does not apply to *every* "major emitting facility" as defined in Section 7479(1), but only to facilities to be "constructed in any area to which this part [42 U.S.C. 7470-7492] applies." 42 U.S.C. 7475(a). Because the PSD program is generally administered through a

state implementation plan, the phrase "area[s] to which this part applies" is most naturally understood as a reference to the geographic areas for which States must adopt plans. Those areas consist of "each region (or portion thereof) designated pursuant to [42 U.S.C. 7407] as attainment" for one or more criteria pollutants. 42 U.S.C. 7471; see 42 U.S.C. 7472(b) (referring to "areas * * * designated pursuant to [42 U.S.C. 7407] as attainment"), 7407(d)(1)(A) (designation of attainment status by "area"). Accord *Alabama Power*, 636 F.2d at 364-368.

Thus, the PSD program's pre-construction permitting requirements apply only in a geographic area that is in attainment for one or more criteria pollutants. As the EPA has recognized since 1980, however, the regulated pollutant(s) that a particular facility will emit in major quantities need not be the *same* pollutant(s) for which the relevant area is in attainment. See J.A. 1405 ("[N]either [Section 7475(a)] nor [Section 7479(1)] links the pollutant for which the source is major and the pollutant for which an area is designated attainment."). Rather, it is sufficient if the facility will emit above-threshold quantities of *some* regulated pollutant, and the area in which the facility is located is in attainment for *some* criteria pollutant. See J.A. 1407-1409 (offering illustrations).

3. The EPA's interpretation tracks the intent expressed in the Act's legislative history. See, *e.g.*, S. Rep. No. 127, 95th Cong., 1st Sess. 32 (1977) ("The chief tool to be used in implementing the no significant deterioration requirements is the permit that must be issued by the State for *any* major emitting facility to be located in *any* clean-air area.") (emphases added). That interpretation also conforms to the seminal D.C. Circuit decision

construing the PSD program's scope. See *Alabama Power*, 636 F.2d at 352 ("The definition [of 'major emitting facility'] is not pollutant-specific, but rather identifies sources that emit more than a threshold quantity of any air pollutant. * * * [T]he air pollutant, emissions of which caused the source to be classified as a 'major emitting facility,' may not be a [criteria] pollutant for which NAAQS have been promulgated.") (footnotes omitted).

B. Petitioners' Arguments Regarding The Stationary Sources To Which The PSD Program Applies Lack Merit

Petitioners identify various alternative ways in which the EPA might have construed the provisions governing the range of sources subject to the PSD program. Those arguments are inconsistent with the statutory text and with this Court's decision in *Massachusetts*. And even if the EPA could permissibly have adopted one of those alternative interpretations, none of them accords with the agency's longstanding interpretation of that program, and none shows that the EPA's straightforward interpretation was forbidden by the statute.

1. Petitioners offer no compelling reason to interpret "any air pollutant" more narrowly than "any pollutant subject to regulation under the Act"

a. Petitioners argue that, notwithstanding its literal breadth, the term "any air pollutant" in Section 7479(1)'s definition of "major emitting facility" should be read to exclude greenhouse gases. *E.g.*, Chamber Br. 20-21; UARG Br. 24-25. Those contentions largely parallel petitioners' *Brown & Williamson*-based argument that, even if a particular stationary source is subject to the PSD program based on its emissions of other pollutants, it need not satisfy the BACT requirement for its greenhouse-gas emissions. See pp. 37-39, *supra*. As already explained, that argument lacks merit.

b. The EPA has long construed the term "any air pollutant," as it appears in Section 7479(1), to mean "any air pollutant *subject to regulation under the Act*." See pp. 11-12, *supra*. The agency therefore did not view greenhouse-gas emissions as a trigger for PSD program requirements until the agency separately regulated motor-vehicle emissions of greenhouse gases under Title II. Some petitioners argue that, because the EPA has adopted that narrowing construction of the term "any air pollutant," the Court may appropriately narrow the term still further to exclude greenhouse gases. See Chamber Br. 20-21. That argument is unsound.

The relevant statutory context supports the EPA's longstanding view that a source's emissions of *un*regulated pollutants will not, by themselves, trigger PSD program requirements. See pp. 11-12, *supra*; J.A. 237-238; cf. *O'Connor* v. *United States*, 479 U.S. 27, 29-30 (1986) (concluding that "any taxes," in the context of a treaty addressing taxes in Panama, meant any *Panamanian* taxes). The requirements of the PSD program address only pollutants that are regulated in some way under the Act. See, *e.g.*, 42 U.S.C. 7475(a)(3)(B) (requirement with respect to "national ambient air quality standard"), 7475(a)(4) (requiring BACT for "each pollutant subject to regulation"). Since the substantive requirements of the PSD program do not address unregulated pollutants, no useful purpose would be served by treating emissions of such pollutants as a trigger for preconstruction review.[11]

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[11] The purpose of the PSD program is "to protect public health and welfare from any actual or potential adverse effect * * * reasonably * * * anticipate[d] to occur from air pollution." 42

In any event, the limitation to regulated air pollutants was adopted by the EPA in 1980 and has guided the agency's administration of the PSD program requirements since that time. Under bedrock principles of administrative law, the EPA's approach must be upheld so long as it reflects "a reasonable interpretation of the statute—not necessarily the only possible interpretation, nor even the interpretation deemed *most* reasonable by the courts." *Entergy Corp.* v. *Riverkeeper, Inc.*, 556 U.S. 208, 218 (2009). Deference to that approach is particularly appropriate here. The application of a statute as complex and technical as the CAA is within the unique and special expertise of the administering agency. See *Chevron*, 467 U.S. at 865; cf. *AEP*, 131 S. Ct. at 2539 ("It is altogether fitting that Congress designated an expert agency, here, EPA, as best suited to serve as primary regulator of greenhouse gas emissions."). And the Court has accorded special deference to agency interpretations that have remained consistent over a long period. See *Environmental Def.* v. *Duke Energy Corp.*, 549 U.S. 561, 575 (2007); *Alaska*, 540 U.S. at 487.

Petitioners' proposed alternative limiting construction, by contrast, is of recent vintage; it has been rejected by the expert agency; and it was self-evidently crafted to produce a particular result in a particular case, rather than to promote the sound long-term administration of the PSD program. It bears emphasis, moreover, that the premise of petitioners' argument—that "any air pollutant" could encompass unregulated pollutants—more naturally supports an argument that the EPA

U.S.C. 7470(1). If such an "adverse effect" is "reasonably anticipate[d]," then the corresponding pollutant will be regulated, either by congressional direction or as the subject of an endangerment finding by the EPA under another program.

should have given the term a *broader* meaning than it did. Yet petitioners do not advocate that broader construction because it would not serve their interests (in that it would then follow logically, in light of ***Massachusetts***'s holding that greenhouse gases are "air pollutant[s]," that greenhouse-gas emissions *can* trigger PSD program requirements). Given petitioners' ultimate agreement that the EPA's limiting construction is correct as far as it goes, their faux-literalist critique provides no basis for further narrowing the definition of "major emitting facility."

c. Any interpretation narrower than the EPA's would lead to substantial anomalies in the Act's broader context. The NSPS program authorizes the EPA to regulate categories of "stationary sources" that "cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare," 42 U.S.C. 7411(b)(1)(A), by establishing standards of performance for new or modified sources in each category. 42 U.S.C. 7411(b)(1)(B); see 42 U.S.C. 7411(a)(1) (defining "standard of performance" as "a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction").

In *AEP*, this Court found it "plain that [the NSPS program of] the Act 'speaks directly' to emissions of carbon dioxide from [stationary sources]." 131 S. Ct. at 2537; see 79 Fed. Reg. 1430 (Jan. 8, 2014) (notice of proposed rulemaking on performance standards for greenhouse-gas emissions from new electric utility generating units). Under petitioners' interpretation, the term "any air pollutant" would *include* greenhouse gases in 42 U.S.C. 7521(a)(1) (the Title II provision addressing emission standards for new motor vehicles), see *Massa-*

chusetts, *supra*; would *exclude* greenhouse gases in 42 U.S.C. 7479(1) (which defines "major emitting facility" for purposes of the PSD program); and would again *include* greenhouse gases in 42 U.S.C. 7411(a)(3) (defining the application of the NSPS program), see *AEP*, *supra*—all without any indication from Congress that it was using the term differently, and notwithstanding this Court's recognition that the CAA's definition of "air pollutant," applicable throughout the statute, "unquestionably" encompasses greenhouse gases, *Massachusetts*, 549 U.S. at 529 n.26.[12]

2. *The absurdity of implementing PSD and Title V permitting immediately for all sources emitting greenhouse gases above the statutory thresholds does not justify permanently excluding all such sources from those programs*

All petitioners rely heavily on the agency's own determination that "absurd results" would ensue if the PSD and Title V programs' requirements were immediately applied to all stationary sources emitting greenhouse gases in amounts above the statutory thresholds.

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[12] One petitioner notes that the EPA has interpreted the term "any pollutant," within the definition of "major stationary source" that appears in the CAA provision addressing visibility protection, as including only "visibility-impairing pollutants." UARG Br. 24 (quoting 42 U.S.C. 7491(g)(7) and 40 C.F.R. Pt. 51, App. Y, § III.A.2) (emphasis, brackets, and internal quotation marks omitted). But because the visibility program's requirements address only visibility-impairing pollutants (42 U.S.C. 7491(b)(2)(A))—in contrast to the wider-ranging requirements of PSD program—no significant purpose would be served by applying the visibility program to a broader range of sources. As the court of appeals recognized, that part of the Act does not indicate that Congress elsewhere used the term "any pollutant" in a more limited manner. See J.A. 251-252.

UARG Br. 27-28; ACC Br. 24-29; EIM Br. 20-21, 30-31; SLF Br. 14-15, 18-21; Tex. Br. 17-20; Chamber Br. 23-32. To avoid those untoward consequences, the agency prescribed much higher regulatory thresholds that currently exclude from the PSD and Title V programs numerous facilities that would otherwise have been covered. See pp. 15-18 & note 4, *supra*. Petitioners contend (*e.g.*, Chamber Br. 23-32) that, because the agency viewed those higher thresholds as necessary to the workable implementation of the PSD and Title V program, the agency must have erred in its antecedent determination that greenhouse-gas emissions could trigger the programs' requirements. That argument lacks merit.

a. Since the 1980 historic regulation, the EPA has interpreted the term "any air pollutant" in Section 7479(1)'s definition of "major emitting facility" to mean "any air pollutant subject to regulation under the Act." See pp. 11-12, *supra*. That interpretation has not of itself led to any absurd result; the definition of "major emitting facility" had been applied for decades to all regulated pollutants without difficulty and without serious objection.[13] The EPA also has not suggested that it would be unwise, let alone absurd, to apply the PSD and Title V programs' requirements to facilities that emit no criteria pollutants but emit very large quantities (*i.e.*, above the regulatory thresholds) of greenhouse gases.

Rather, the precise problem the EPA foresaw was that existing permitting mechanisms (under both the PSD and Title V programs, at both state and federal levels) had inadequate capacity to immediately receive and timely process the massive number of permit applications that would be required if those applications were demanded from every source that emitted (or proposed to emit) greenhouse gases in amounts above the statutory threshold. See pp. 15-16, *supra*. That created a practical conflict between Congress's directive that the EPA implement the PSD and Title V programs as to sources of a certain size measured in a certain way, and Congress's directive that the program proceed through expeditious processing of permits (see 42 U.S.C. 7475(c), 7661a(b)(6)-(7), 7661b(c)). That difficulty can be traced to the fact that, for some greenhouse gases—most prominently, carbon dioxide—the threshold amounts set forth in the Act are a poor proxy for magnitude of practical impact.[14]

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[13] Most "major emitting facilit[ies]" are classified as such because of their emissions of one or more criteria pollutants. But as other respondents note, some facilities have qualified only because of their emission of some other (non-criteria, non-greenhouse-gas) regulated pollutant.

To address that problem, the EPA established regulatory thresholds that execute the PSD and Title V programs as to the largest sources of greenhouse-gas emissions while keeping the current permitting system functional. The agency indicated it would revisit the regulatory thresholds, and recognized that as it did so, it would need to consider interpretations of the Act and permitting strategies that would ameliorate or eliminate the burden those programs could impose on smaller sources whose coverage Congress may not have anticipated. J.A. 588-595 (discussing some such streamlining measures); 74 Fed. Reg. 55,292, 55,320-55,325 (Oct. 27, 2009) (proposed rule) (same). Under the circumstances, the EPA's approach was within its "broad discretion to choose how best to marshal its limited resources and personnel to carry out its delegated responsibilities." *Massachusetts*, 549 U.S. at 527.

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[14] The Act's legislative history suggests that those thresholds were settled on with a relative handful of known sources and known types of pollutants in mind. See 123 Cong. Rec. 24,549 (1976) (reproducing memorandum from the Director of the EPA's Office of Air Quality Planning and Standards). Most of the compounds the EPA classified as greenhouse gases would not produce implementation concerns if classified as a distinct pollutant because most would, if emitted in excess of the statutory thresholds, necessarily exceed the regulatory threshold. For example, any facility that emitted sulfur hexafluoride in excess of the statutory threshold (250 tons per year) would necessarily surpass the regulatory threshold (because those emissions represent nearly six million tons of greenhouse gases on a carbon-dioxide-equivalent basis). See note 4, *supra*.

b. Petitioners suggest that the EPA should instead have avoided those implementation problems by abandoning its longstanding interpretation of the definition of "major emitting facility" (see pp. 11-12, *supra*) in favor of an interpretation that exempted greenhouse gases or exempted all non-criteria pollutants (see pp. 52-55, *infra*). But the desire to avoid the use of non-statutory emissions thresholds could support that approach only if petitioners' alternative interpretations of the relevant statutory language were themselves textually defensible. As the court of appeals correctly concluded (J.A. 241-255), the term "any air pollutant" in the definition of "major emitting facility" cannot be construed in the manner petitioners advocate.

Just as this Court, "when confronting a constitutional flaw in a statute, * * * limit[s] the solution to the problem," *Ayotte* v. *Planned Parenthood*, 546 U.S. 320, 328 (2006), so too an agency that confronts conflicting statutory commands "may deviate no further from the statute than is needed to protect congressional intent," *Mova Pharm. Corp.* v. *Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998). For two reasons, the EPA's solution to the implementation problem it identified is more consonant with that principle than are petitioners' alternatives.

First, the solution that the EPA adopted is narrowly tailored to the specific problem—the unsuitability of relying entirely on the statutory emissions thresholds to gauge emissions of certain greenhouse gases—that the agency identified. Petitioners, by contrast, ask this Court to overturn *general* interpretive principles that have guided the EPA's overall administration of the PSD program since 1980 and that generally have not produced any untoward administrative burden. Petitioners' proposed alternatives may be convenient means of achieving the result they desire in this case, but they clash with the statutory text and produce new sets of anomalies in the PSD program's application outside the sphere of greenhouse-gas regulation. See pp. 42-46, *supra*; pp. 52-55, *infra*.

Second, although the EPA found that *immediate* application of the statutory thresholds would be unworkable, the agency did not disavow the goal of ultimately applying those thresholds alone. Rather, the agency stated that it "will implement the phase-in approach by applying PSD and title V at threshold [regulatory] levels that are as close to the statutory levels as possible, and do so as quickly as possible, at least to a certain point." J.A. 310. To be sure, the EPA acknowledged that it is currently uncertain whether the phase-in process can feasibly be continued to the point that only the statutory thresholds remain. See J.A. 310-311, 421-422. But such an acknowledgment of future uncertainty is quite different from simple disregard of the statutory thresholds. "Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop. They instead whittle away at them over time, refining their preferred approach as circumstances change and they develop a more nuanced understanding of how best to proceed." *Massachusetts*, 549 U.S. at 524 (citation omitted).

Although the Congress that enacted the CAA "might not have appreciated the possibility that burning fossil fuels could lead to global warming," Congress drafted the CAA in broad terms "to confer the flexibility necessary to forestall * * * obsolescence." *Massachusetts*, 549 U.S. at 532. The EPA's determination that a phased-in implementation of the statutory thresholds was necessary in this context "may indicate that the CAA is a regulatory scheme less-than-perfectly tailored to dealing with greenhouse gases." J.A. 205. In contrast to petitioners' construction, however, the EPA's interpretation of "major emitting facility" is congruent with the statutory text and structure, and it best implements Congress's purpose in enacting the PSD program to "protect public health and welfare" from adverse effects resulting "from air pollution," 42 U.S.C. 7470(1), including adverse "effects on * * * weather" and "climate," 42 U.S.C. 7602(h).[15]

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[15] Some petitioners argue (*e.g.*, ACC Br. 27-28) that *Kloeckner* v. *Solis*, 133 S. Ct. 596 (2012), forbids an agency interpretation of a statute that produces any "absurd results." But that case is inapposite because the statute at issue there spoke in "crystalline fashion" (*id.* at 604) against the government's interpretation. Petitioners cite no case in which this Court did what they seek: reject an agency's longstanding interpretation of a statute (ameliorated by regulatory measures tailored to avoid implementation problems that arise in one particular context) in favor of a textually indefensible and practically anomalous reading of the statute. See *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982) ("[I]nterpretations of a statute which would produce absurd re-

3. There is no merit to petitioners' argument that the PSD program can be triggered only by the emission of a criteria pollutant by a source located in an area in attainment for that pollutant

Some petitioners argue that the PSD program "'applies' * * * to an attainment area only with respect to those particular [criteria] pollutants for which the area is attaining." ACC Br. 2. Under that view, "PSD permitting obligations are triggered only when a facility emits major amounts of a pollutant in an area that is in attainment for *that* pollutant." *Id.* at 3; see J.A. 175-180 (Kavanaugh, J., dissenting from the denials of rehearing en banc). Because the concept of "attainment" under the CAA applies only to criteria pollutants, this theory implies that a facility's greenhouse-gas emissions standing alone would never bring it under the PSD program. Petitioners' premise is mistaken, their reasoning is faulty, and their conclusion would produce significant anomalies in applications of the PSD program unrelated to greenhouse gases.

a. As petitioners recognize (ACC Br. 7-8), since 1980 the EPA has consistently taken the position that, "in order for PSD review to apply to a source, the source need not be major for a pollutant for which an area is designated attainment or unclassifiable." J.A. 1403. Rather, under the EPA's longstanding approach, "[Section 7475(a)] applies PSD preconstruction review to all sources that are major for any pollutant subject to regulation under the Act and locate in an area designated attainment or unclassified for any pollutant." J.A. 1405.

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sults are to be avoided *if alternative interpretations consistent with the legislative purpose are available.*") (emphasis added).

That longstanding agency interpretation is entitled to substantial judicial deference. See p.44, *supra*.

b. Whereas other petitioners seek to narrow the established understanding of "major emitting facility" (see pp. 42-46, *supra*), the statutory language on which these petitioners rely is the phrase "constructed in any area to which this part [42 U.S.C. 7470-7492] applies." 42 U.S.C. 7475(a). The PSD program "applies" in the areas for which 42 U.S.C. 7471 requires state implementation plans, *i.e.*, "in each region * * * designated * * * as attainment" for one or more criteria pollutants. See pp. 40-41, *supra*. More generally, the question whether a particular body of law "applies" in a particular "area" at a particular point in time would ordinarily have a single yes-or-no answer.

To be sure, the requirements and prohibitions that applicable laws impose will depend on the nature of the conduct sought to be regulated. If (for example) a proposed stationary source does not have the potential to emit above-threshold quantities of *any* regulated pollutant, the source will not be a "major emitting facility" and its construction and operation will be unconstrained by Section 7475(a). It would be quite odd, however, to say that, with respect to such a facility, the PSD program does not "apply" in the relevant geographic "area." That reading should be rejected unless the larger statutory context weighs strongly in its favor.

c. The PSD program's pre-construction review requirements cover any "major emitting facility" that is to "be constructed in any area to which [the program] applies." 42 U.S.C. 7475(a). Petitioners recognize (ACC Br. 23 n.10) that, under their interpretation of Section 7475(a), no facility will be subject to PSD program requirements unless it emits criteria pollutants. If Congress had wished to impose that limitation, however, by far the most natural way of doing so would have been to define "major emitting facility" by reference to criteria-pollutant emissions. Indeed, as other respondents explain in detail, the House's version of the PSD program would have so provided. But the Conference Committee adopted, and Congress enacted, the Senate's version, which defined that term more broadly to encompass sources that emit above-threshold quantities of "any air pollutant." 42 U.S.C. 7479(1); see H.R. Rep. No. 564, 95th Cong., 1st Sess. 55, 60-61, 91, 152, 172 (1977) (Conf. Rep.). Thus, while the applicability of PSD program requirements turns on both (a) the nature and quantity of the pollutants a particular source will emit, and (b) the "area" in which the source will "be constructed," petitioners anomalously seek to shoehorn into the second criterion a consideration that is much more naturally linked to the first.[16]

d. Petitioners' principal textual objection is that the EPA's interpretation renders the phrase "to which this part applies" in Section 7475(a) superfluous, because "[*a*]*ll* areas of the country are now * * * in attainment for at least *one* pollutant." ACC Br. 18-19. As the court of appeals explained, that argument "confuse[s] a lack of practical import with a lack of meaning." J.A. 254. And as other respondents explain, the enacting Congress had some reason to believe that the provision might limit the application of the PSD program in some places.

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[16] Petitioners also would import the criteria-pollutant-specific meaning of the phrasing in 42 U.S.C. 7473(b)(4). ACC Br. 17-18. But as the court of appeals explained, the separation of "any air pollutant" in Section 7479(1) from "in any area to which this part applies" in Section 7475(a) distinguishes those usages from the concatenated usage of the phrases in the very different context of Section 7473(b)(4). See J.A. 249-253.

e. Petitioners' approach would produce significant anomalies, and would potentially create perverse incentives, for facilities that emit above-threshold amounts of a single criteria pollutant. Such a source is a "major emitting facility" even under the narrowest reading of that term. Under the EPA's longstanding approach, the PSD program applies to such a facility if the area in which it locates is in attainment for *any* criteria pollutant (which is, in practice, anywhere in the Nation, see J.A. 480). That approach ensures that the facility will, *inter alia*, satisfy the BACT requirement for its emissions of *all* regulated pollutants.

Under petitioners' approach, by contrast, such a facility could avoid BACT requirements for all other regulated pollutants simply by locating in an area that is in nonattainment for the particular criteria pollutant that caused it to *be* a "major emitting facility." Although the source would be subject to the NNSR program, see pp. 7-8 & note 2, *supra*, that program imposes requirements only with respect to the criteria pollutant itself. See J.A. 1406-1407. Congress could not plausibly have intended to make available that sort of regulatory arbitrage.

III. THE EPA PERMISSIBLY CONCLUDED THAT THE TITLE V PROGRAM APPLIES TO SOME SOURCES SOLELY BECAUSE OF THEIR GREENHOUSE-GAS EMISSIONS

The Title V operating-permit program covers, *inter alia*, any "major source." 42 U.S.C. 7661a(a). Through a series of statutory cross-references, that term (like the PSD program's definition of "major emitting facility") is defined (in part) by reference to a source's emissions of threshold amounts of "any air pollutant." See p. 10, *supra*. As with the definition of "major emitting facility," the EPA interprets "any air pollutant" to refer to any air pollutant subject to regulation under the Act. J.A. 787-790. The Title V program's purpose of ensuring that existing sources with substantial emissions comply with requirements imposed under the Act is particularly well served by that broad understanding. And as explained (pp. 40, 43-45, *supra*), greenhouse gases are encompassed within any reasonable interpretation of "any air pollutant."

As in the court of appeals (see J.A. 241), petitioners offer no substantial argument specific to Title V. Some of petitioners' arguments with respect to the PSD program may also apply to Title V, but other arguments are irrelevant because they rely on inferences from provisions of the PSD program that have no counterpart in Title V. Compare Tex. Br. 7 ("*Brown & Williamson* should lead the Court to * * * disapprove EPA's attempts to regulate greenhouse-gas emissions under the PSD and Title V programs.") with ACC Br. 15-23 (advocating an interpretation of the range of facilities that are subject to the PSD program, based on 42 U.S.C. 7475(a)'s reference to "in any area to which this part applies," which has no counterpart in Title V). All parties appear to agree, however, that if this Court accepts the EPA's determination that greenhouse-gas emissions alone can trigger the PSD program's requirements, then it should also accept the EPA's like interpretation of the Title V program.

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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APPENDIX

1. 42 U.S.C. 7407 provides in pertinent part:

Air quality control regions

(a) Responsibility of each State for air quality; submission of implementation plan

Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State.

* * * * *

(d) Designations

(1) Designations generally

(A) Submission by Governors of initial designations following promulgation of new or revised standards

By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under section 7409 of this title, the Governor of each State shall (and at any other time the Governor of a State deems appropriate the Governor may) submit to the Administrator a list of all areas (or portions thereof) in the State, designating as—

(i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,

(ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or

(iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

The Administrator may not require the Governor to submit the required list sooner than 120 days after promulgating a new or revised national ambient air quality standard.

(B) Promulgation by EPA of designations

(i) Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) submitted under subparagraph (A) as expeditiously as practicable, but in no case later than 2 years from the date of promulgation of the new or revised national ambient air quality standard. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.

(ii) In making the promulgations required under clause (i), the Administrator may make such modifications as the Administrator deems necessary to the designations of the areas (or portions thereof) submitted under subparagraph (A) (including to the boundaries of such areas or portions thereof). Whenever the Administrator intends to make a modification, the Administrator shall notify the State and provide such State with an opportunity to demonstrate why any proposed modification is inappropriate. The Administrator shall give such notification no later than 120 days before the date the Administrator promulgates the designation, including any modification thereto. If the Governor fails to submit the list in whole or in part, as required under subparagraph (A), the Administrator shall promulgate the designation that the Administrator deems appropriate for any area (or portion thereof) not designated by the State.

(iii) If the Governor of any State, on the Governor's own motion, under subparagraph (A), submits a list of areas (or portions thereof) in the State designated as nonattainment, attainment, or unclassifiable, the Administrator shall act on such designations in accordance with the procedures under paragraph (3) (relating to redesignation).

(iv) A designation for an area (or portion thereof) made pursuant to this subsection shall remain in effect until the area (or portion thereof) is redesignated pursuant to paragraph (3) or (4).

(C) Designations by operation of law

(i) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(A), (B), or (C) of this subsection (as in effect immediately before November 15, 1990) is designated, by operation of law, as a nonattainment area for such pollutant within the meaning of subparagraph (A)(i).

(ii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(E) (as in effect immediately before November 15, 1990) is designated by operation of law, as an attainment area for such pollutant within the meaning of subparagraph (A)(ii).

(iii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(D) (as in effect immediately before November 15, 1990) is designated, by operation of law, as an unclassifiable area for such pollutant within the meaning of subparagraph (A)(iii).

* * * * *

2. 42 U.S.C. 7409 provides:

National primary and secondary ambient air quality standards

(a) Promulgation

(1) The Administrator—

(A) within 30 days after December 31, 1970, shall publish proposed regulations prescribing a national primary ambient air quality standard and a national secondary ambient air quality standard for each air pollutant for which air quality criteria have been issued prior to such date; and

(B) after a reasonable time for interested persons to submit written comments thereon (but no later than 90 days after the initial publication of such proposed standards) shall by regulation promulgate such proposed national primary and secondary ambient air quality standards with such modifications as he deems appropriate.

(2) With respect to any air pollutant for which air quality criteria are issued after December 31, 1970, the Administrator shall publish, simultaneously with the issuance of such criteria and information, proposed national primary and secondary ambient air quality standards for any such pollutant. The procedure provided for in paragraph (1)(B) of this subsection shall apply to the promulgation of such standards.

(b) Protection of public health and welfare

(1) National primary ambient air quality standards, prescribed under subsection (a) of this section shall be ambient air quality standards the attainment and maintenance of which in the judgment of the Ad-

ministrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health. Such primary standards may be revised in the same manner as promulgated.

(2) Any national secondary ambient air quality standard prescribed under subsection (a) of this section shall specify a level of air quality the attainment and maintenance of which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air. Such secondary standards may be revised in the same manner as promulgated.

(c) National primary ambient air quality standard for nitrogen dioxide

The Administrator shall, not later than one year after August 7, 1977, promulgate a national primary ambient air quality standard for NO_2 concentrations over a period of not more than 3 hours unless, based on the criteria issued under section 7408(c) of this title, he finds that there is no significant evidence that such a standard for such a period is requisite to protect public health.

(d) Review and revision of criteria and standards; independent scientific review committee; appointment; advisory functions

(1) Not later than December 31, 1980, and at five-year intervals thereafter, the Administrator shall complete a thorough review of the criteria published under section 7408 of this title and the national ambient air quality standards promulgated under this section and

shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate in accordance with section 7408 of this title and subsection (b) of this section. The Administrator may review and revise criteria or promulgate new standards earlier or more frequently than required under this paragraph.

(2)(A) The Administrator shall appoint an independent scientific review committee composed of seven members including at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies.

(B) Not later than January 1, 1980, and at five-year intervals thereafter, the committee referred to in subparagraph (A) shall complete a review of the criteria published under section 7408 of this title and the national primary and secondary ambient air quality standards promulgated under this section and shall recommend to the Administrator any new national ambient air quality standards and revisions of existing criteria and standards as may be appropriate under section 7408 of this title and subsection (b) of this section.

(C) Such committee shall also (i) advise the Administrator of areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised national ambient air quality standards, (ii) describe the research efforts necessary to provide the required information, (iii) advise the Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity, and (iv) advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such national ambient air quality standards.

3. 42 U.S.C. 7411 provides in pertinent part:

Standards of performance for new stationary sources

(a) Definitions

For purposes of this section:

* * * * *

(3) The term "stationary source" means any building, structure, facility, or installation which emits or may emit any air pollutant. Nothing in subchapter II of this chapter relating to nonroad engines shall be construed to apply to stationary internal combustion engines.

(4) The term "modification" means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted.

* * * * *

(b) List of categories of stationary sources; standards of performance; information on pollution control techniques; sources owned or operated by United States; particular systems; revised standards

(1)(A) The Administrator shall, within 90 days after December 31, 1970, publish (and from time to time thereafter shall revise) a list of categories of stationary sources. He shall include a category of sources in such list if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.

(B) Within one year after the inclusion of a category of stationary sources in a list under subparagraph (A), the Administrator shall publish proposed regulations, establishing Federal standards of performance for new sources within such category. The Administrator shall afford interested persons an opportunity for written comment on such proposed regulations. After considering such comments, he shall promulgate, within one year after such publication, such standards with such modifications as he deems appropriate. The Administrator shall, at least every 8 years, review and, if appropriate, revise such standards following the procedure required by this subsection for promulgation of such standards. Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if the Administrator determines that such review is not appropriate in light of readily available information on the efficacy of such standard. Standards of performance or revisions thereof shall become effective upon promulgation. When implementation and enforcement of any requirement of this chapter indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice.

(2) The Administrator may distinguish among classes, types, and sizes within categories of new sources for the purpose of establishing such standards.

(3) The Administrator shall, from time to time, issue information on pollution control techniques for categories of new sources and air pollutants subject to the provisions of this section.

(4) The provisions of this section shall apply to any new source owned or operated by the United States.

(5) Except as otherwise authorized under subsection (h) of this section, nothing in this section shall be construed to require, or to authorize the Administrator to require, any new or modified source to install and operate any particular technological system of continuous emission reduction to comply with any new source standard of performance.

(6) The revised standards of performance required by enactment of subsection (a)(1)(A)(i) and (ii) of this section shall be promulgated not later than one year after August 7, 1977. Any new or modified fossil fuel fired stationary source which commences construction prior to the date of publication of the proposed revised standards shall not be required to comply with such revised standards.

* * * * *

(d) Standards of performance for existing sources; remaining useful life of source

(1) The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State

shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

(2) The Administrator shall have the same authority—

> (A) to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under section 7410(c) of this title in the case of failure to submit an implementation plan, and
>
> (B) to enforce the provisions of such plan in cases where the State fails to enforce them as he would have under sections 7413 and 7414 of this title with respect to an implementation plan.

In promulgating a standard of performance under a plan prescribed under this paragraph, the Administrator shall take into consideration, among other factors, remaining useful lives of the sources in the category of sources to which such standard applies.

* * * * *

4. 42 U.S.C. 7412(b)(6) provides:

Hazardous air pollutants

(b) List of pollutants

(6) Prevention of significant deterioration

The provisions of part C of this subchapter (prevention of significant deterioration) shall not apply to pollutants listed under this section.

5. 42 U.S.C. 7470 provides:

Congressional declaration of purpose

The purposes of this part are as follows:

(1) to protect public health and welfare from any actual or potential adverse effect which in the Administrator's judgment may reasonably be anticipate[1] to occur from air pollution or from exposures to pollutants in other media, which pollutants originate as emissions to the ambient air)[2], notwithstanding attainment and maintenance of all national ambient air quality standards;

(2) to preserve, protect, and enhance the air quality in national parks, national wilderness areas,

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[1] So in original. Probably should be "anticipated".

[2] So in original. Section was enacted without opening parenthesis.

national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;

(3) to insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources;

(4) to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other State; and

(5) to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process.

6. 42 U.S.C. 7471 provides:

Plan requirements

In accordance with the policy of section 7401(b)(1) of this title, each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 7407 of this title as attainment or unclassifiable.

7. 42 U.S.C. 7472 provides:

Initial classifications

(a) Areas designated as class I

Upon the enactment of this part, all—

(1) international parks,

(2) national wilderness areas which exceed 5,000 acres in size,

(3) national memorial parks which exceed 5,000 acres in size, and

(4) national parks which exceed six thousand acres in size,

and which are in existence on August 7, 1977, shall be class I areas and may not be redesignated. All areas which were redesignated as class I under regulations promulgated before August 7, 1977, shall be class I areas which may be redesignated as provided in this part. The extent of the areas designated as Class I under this section shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990.

(b) Areas designated as class II

All areas in such State designated pursuant to section 7407(d) of this title as attainment or unclassifiable which are not established as class I under subsection (a) of this section shall be class II areas unless redesignated under section 7474 of this title.

8. 42 U.S.C. 7473 provides:

Increments and ceilings

(a) Sulfur oxide and particulate matter; requirement that maximum allowable increases and maximum allowable concentrations not be exceeded

In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of any maximum allowable increase (except an allowable increase specified under section 7475(d)(2)(C)(iv) of this title) for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.

(b) Maximum allowable increases in concentrations over baseline concentrations

(1) For any class I area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	5
Twenty-four-hour maximum	10
Sulfur dioxide:	
Annual arithmetic mean	2
Twenty-four-hour maximum	5
Three-hour maximum	25

(2)For any class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	512

(3) For any class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Pollutant	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	37
Twenty-four-hour maximum	75
Sulfur dioxide:	
Annual arithmetic mean	40
Twenty-four-hour maximum	182
Three-hour maximum	700

(4) The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to—

(A) the concentration permitted under the national secondary ambient air quality standard, or

(B) the concentration permitted under the national primary ambient air quality standard,

whichever concentration is lowest for such pollutant for such period of exposure.

(c) Orders or rules for determining compliance with maximum allowable increases in ambient concentrations of air pollutants

(1) In the case of any State which has a plan approved by the Administrator for purposes of carrying out this part, the Governor of such State may, after notice and opportunity for public hearing, issue orders or promulgate rules providing that for purposes of determining compliance with the maximum allowable increases in ambient concentrations of an air pollutant,

the following concentrations of such pollutant shall not be taken into account:

(A) concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from the use of petroleum products, or natural gas, or both, by reason of an order which is in effect under the provisions of sections 792(a) and (b) of Title 15 (or any subsequent legislation which supersedes such provisions) over the emissions from such sources before the effective date of such order.[1]

(B) the concentrations of such pollutant attributable to the increase in emissions from stationary sources which have converted from using natural gas by reason of a natural gas curtailment pursuant to a natural gas curtailment plan in effect pursuant to the Federal Power Act [16 U.S.C.A. § 791a et seq.] over the emissions from such sources before the effective date of such plan,

(C) concentrations of particulate matter attributable to the increase in emissions from construction or other temporary emission-related activities, and

(D) the increase in concentrations attributable to new sources outside the United States over the concentrations attributable to existing sources which are included in the baseline concentration determined in accordance with section 7479(4) of this title.

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[1] So in original. The period probably should be a comma.

(2) No action taken with respect to a source under paragraph (1)(A) or (1)(B) shall apply more than five years after the effective date of the order referred to in paragraph (1)(A) or the plan referred to in paragraph (1)(B), whichever is applicable. If both such order and plan are applicable, no such action shall apply more than five years after the later of such effective dates.

(3) No action under this subsection shall take effect unless the Governor submits the order or rule providing for such exclusion to the Administrator and the Administrator determines that such order or rule is in compliance with the provisions of this subsection.

9. 42 U.S.C. 7474(a) provides:

Area redesignation

(a) Authority of States to redesignate areas

Except as otherwise provided under subsection (c) of this section, a State may redesignate such areas as it deems appropriate as class I areas. The following areas may be redesignated only as class I or II:

(1) an area which exceeds ten thousand acres in size and is a national monument, a national primitive area, a national preserve, a national recreation area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore, and

(2) a national park or national wilderness area established after August 7, 1977, which exceeds ten thousand acres in size.

The extent of the areas referred to in paragraph[4] (1) and (2) shall conform to any changes in the boundaries of such areas which have occurred subsequent to August 7, 1977, or which may occur subsequent to November 15, 1990. Any area (other than an area referred to in paragraph (1) or (2) or an area established as class I under the first sentence of section 7472(a) of this title) may be redesignated by the State as class III if—

(A) such redesignation has been specifically approved by the Governor of the State, after consultation with the appropriate Committees of the legislature if it is in session or with the leadership of the legislature if it is not in session (unless State law provides that such redesignation must be specifically approved by State legislation) and if general purpose units of local government representing a majority of the residents of the area so redesignated enact legislation (including for such units of local government resolutions where appropriate) concurring in the State's redesignation;

(B) such redesignation will not cause, or contribute to, concentrations of any air pollutant which exceed any maximum allowable increase or maximum allowable concentration permitted under the classification of any other area; and

(C) such redesignation otherwise meets the requirements of this part.

Subparagraph (A) of this paragraph shall not apply to area redesignations by Indian tribes.

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[4] So in original. Probably should be "paragraphs".

10. 42 U.S.C. 7475 provides:

Preconstruction requirements

(a) Major emitting facilities on which construction is commenced

No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless—

(1) a permit has been issued for such proposed facility in accordance with this part setting forth emission limitations for such facility which conform to the requirements of this part;

(2) the proposed permit has been subject to a review in accordance with this section, the required analysis has been conducted in accordance with regulations promulgated by the Administrator, and a public hearing has been held with opportunity for interested persons including representatives of the Administrator to appear and submit written or oral presentations on the air quality impact of such source, alternatives thereto, control technology requirements, and other appropriate considerations;

(3) the owner or operator of such facility demonstrates, as required pursuant to section 7410(j) of this title, that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies more than one time per year, (B) national ambient air quality standard in any air quality control region, or (C) any other applicable

emission standard or standard of performance under this chapter;

(4) the proposed facility is subject to the best available control technology for each pollutant subject to regulation under this chapter emitted from, or which results from, such facility;

(5) the provisions of subsection (d) of this section with respect to protection of class I areas have been complied with for such facility;

(6) there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility;

(7) the person who owns or operates, or proposes to own or operate, a major emitting facility for which a permit is required under this part agrees to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such source; and

(8) in the case of a source which proposes to construct in a class III area, emissions from which would cause or contribute to exceeding the maximum allowable increments applicable in a class II area and where no standard under section 7411 of this title has been promulgated subsequent to August 7, 1977, for such source category, the Administrator has approved the determination of best available technology as set forth in the permit.

(b) Exception

The demonstration pertaining to maximum allowable increases required under subsection (a)(3) of this section shall not apply to maximum allowable increases for class II areas in the case of an expansion or modification of a major emitting facility which is in existence on August 7, 1977, whose allowable emissions of air pollutants, after compliance with subsection (a)(4) of this section, will be less than fifty tons per year and for which the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur oxides will not cause or contribute to ambient air quality levels in excess of the national secondary ambient air quality standard for either of such pollutants.

(c) Permit applications

Any completed permit application under section 7410 of this title for a major emitting facility in any area to which this part applies shall be granted or denied not later than one year after the date of filing of such completed application.

(d) Action taken on permit applications; notice; adverse impact on air quality related values; variance; emission limitations

(1) Each State shall transmit to the Administrator a copy of each permit application relating to a major emitting facility received by such State and provide notice to the Administrator of every action related to the consideration of such permit.

(2)(A) The Administrator shall provide notice of the permit application to the Federal Land Manager and the Federal official charged with direct responsibility for management of any lands within a class I area which may be affected by emissions from the proposed facility.

(B) The Federal Land Manager and the Federal official charged with direct responsibility for management of such lands shall have an affirmative responsibility to protect the air quality related values (including visibility) of any such lands within a class I area and to consider, in consultation with the Administrator, whether a proposed major emitting facility will have an adverse impact on such values.

(C)(i) In any case where the Federal official charged with direct responsibility for management of any lands within a class I area or the Federal Land Manager of such lands, or the Administrator, or the Governor of an adjacent State containing such a class I area files a notice alleging that emissions from a proposed major emitting facility may cause or contribute to a change in the air quality in such area and identifying the potential adverse impact of such change, a permit shall not be issued unless the owner or operator of such facility demonstrates that emissions of particulate matter and sulfur dioxide will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area.

(ii) In any case where the Federal Land Manager demonstrates to the satisfaction of the State that the emissions from such facility will have an adverse impact on the air quality-related values (including visibility) of such lands, notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area, a permit shall not be issued.

(iii) In any case where the owner or operator of such facility demonstrates to the satisfaction of the Federal Land Manager, and the Federal Land Manager so certifies, that the emissions from such facility will have no adverse impact on the air quality-related values of such lands (including visibility), notwithstanding the fact that the change in air quality resulting from emissions from such facility will cause or contribute to concentrations which exceed the maximum allowable increases for class I areas, the State may issue a permit.

(iv) In the case of a permit issued pursuant to clause (iii), such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides and particulates from such facility will not cause or contribute to concentrations of such pollutant which exceed the following maximum allowable increases over the baseline concentration for such pollutants:

	Maximum allowable increase (in micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	325

(D)(i) In any case where the owner or operator of a proposed major emitting facility who has been denied a certification under subparagraph (C)(iii) demonstrates to the satisfaction of the Governor, after notice and public hearing, and the Governor finds, that the facility cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any class I area and, in the case of Federal mandatory class I areas, that a variance under this clause will not adversely affect the air quality related values of the area (including visibility), the Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant a variance from such maximum allowable increase. If such variance is granted, a permit may be issued to such source pursuant to the requirements of this subparagraph.

(ii) In any case in which the Governor recommends a variance under this subparagraph in which the Federal Land Manager does not concur, the recommendations of the Governor and the Federal Land Manager shall be transmitted to the President. The President may approve the Governor's recommendation if he finds that such variance is in the national interest. No Presidential finding shall be reviewable in any court. The variance shall take effect if the President approves the Governor's recommendations. The President shall approve or disapprove such recommendation within ninety days after his receipt of the recommendations of the Governor and the Federal Land Manager.

(iii) In the case of a permit issued pursuant to this subparagraph, such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides from such facility will not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which exceed the following maximum allowable increases for such areas over the baseline concentration for such pollutant and to assure that such emissions will not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of exposure of 24 hours or less on more than 18 days during any annual period:

MAXIMUM ALLOWABLE INCREASE
(In micrograms per cubic meter)

Period of exposure	Low terrain areas	High terrain areas
24-hr maximum	36	62
3-hr maximum	130	221

(iv) For purposes of clause (iii), the term "high terrain area" means with respect to any facility, any area having an elevation of 900 feet or more above the base of the stack of such facility, and the term "low terrain area" means any area other than a high terrain area.

(e) Analysis; continuous air quality monitoring data; regulations; model adjustments

(1) The review provided for in subsection (a) of this section shall be preceded by an analysis in accordance with regulations of the Administrator, promulgated under this subsection, which may be conducted by the State (or any general purpose unit of local government) or by the major emitting facility applying for such permit, of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regula-

tion under this chapter which will be emitted from such facility.

(2) Effective one year after August 7, 1977, the analysis required by this subsection shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part. Such data shall be gathered over a period of one calendar year preceding the date of application for a permit under this part unless the State, in accordance with regulations promulgated by the Administrator, determines that a complete and adequate analysis for such purposes may be accomplished in a shorter period. The results of such analysis shall be available at the time of the public hearing on the application for such permit.

(3) The Administrator shall within six months after August 7, 1977, promulgate regulations respecting the analysis required under this subsection which regulations—

(A) shall not require the use of any automatic or uniform buffer zone or zones,

(B) shall require an analysis of the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility at the site of the proposed major emitting facility and in the area potentially affected by the emissions from such facility for each pollutant regulated under this chapter which will be emitted from, or which results from the construction or operation of, such facility, the size and nature of the proposed facility, the degree of continuous emission reduction which could be achieved by such facility, and such other factors as may be relevant in determining the effect of emissions from a proposed facility on any air quality control region,

(C) shall require the results of such analysis shall be available at the time of the public hearing on the application for such permit, and

(D) shall specify with reasonable particularity each air quality model or models to be used under specified sets of conditions for purposes of this part.

Any model or models designated under such regulations may be adjusted upon a determination, after notice and opportunity for public hearing, by the Administrator that such adjustment is necessary to take into account unique terrain or meteorological characteristics of an area potentially affected by emissions from a source applying for a permit required under this part.

11. 42 U.S.C. 7476 provides:

Other pollutants

(a) Hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides

In the case of the pollutants hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides, the Administrator shall conduct a study and not later than two years after August 7, 1977, promulgate regulations to prevent the significant deterioration of air quality which would result from the emissions of such pollutants. In the case of pollutants for which national ambient air quality standards are promulgated after August 7, 1977, he shall promulgate such regulations not more than 2 years after the date of promulgation of such standards.

(b) Effective date of regulations

Regulations referred to in subsection (a) of this section shall become effective one year after the date of promulgation. Within 21 months after such date of promulgation such plan revision shall be submitted to the Administrator who shall approve or disapprove the plan within 25 months after such date or[1] promulgation in the same manner as required under section 7410 of this title.

(c) Contents of regulations

Such regulations shall provide specific numerical measures against which permit applications may be evaluated, a framework for stimulating improved control technology, protection of air quality values, and fulfill the goals and purposes set forth in section 7401 and section 7470 of this title.

(d) Specific measures to fulfill goals and purposes

The regulations of the Administrator under subsection (a) of this section shall provide specific measures at least as effective as the increments established in section 7473 of this title to fulfill such goals and purposes, and may contain air quality increments, emission density requirements, or other measures.

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[1] So in original. Probably should be "of".

(e) Area classification plan not required

With respect to any air pollutant for which a national ambient air quality standard is established other than sulfur oxides or particulate matter, an area classification plan shall not be required under this section if the implementation plan adopted by the State and submitted for the Administrator's approval or promulgated by the Administrator under section 7410(c) of this title contains other provisions which when considered as a whole, the Administrator finds will carry out the purposes in section 7470 of this title at least as effectively as an area classification plan for such pollutant. Such other provisions referred to in the preceding sentence need not require the establishment of maximum allowable increases with respect to such pollutant for any area to which this section applies.

(f) PM-10 increments

The Administrator is authorized to substitute, for the maximum allowable increases in particulate matter specified in section 7473(b) of this title and section 7475(d)(2)(C)(iv) of this title, maximum allowable increases in particulate matter with an aerodynamic diameter smaller than or equal to 10 micrometers. Such substituted maximum allowable increases shall be of equal stringency in effect as those specified in the provisions for which they are substituted. Until the Administrator promulgates regulations under the authority of this subsection, the current maximum allowable increases in concentrations of particulate matter shall remain in effect.

12. 42 U.S.C. 7477 provides:

Enforcement

The Administrator shall, and a State may, take such measures, including issuance of an order, or seeking injunctive relief, as necessary to prevent the construction or modification of a major emitting facility which does not conform to the requirements of this part, or which is proposed to be constructed in any area designated pursuant to section 7407(d) of this title as attainment or unclassifiable and which is not subject to an implementation plan which meets the requirements of this part.

13. 42 U.S.C. 7478 provides:

Period before plan approval

(a) Existing regulations to remain in effect

Until such time as an applicable implementation plan is in effect for any area, which plan meets the requirements of this part to prevent significant deterioration of air quality with respect to any air pollutant, applicable regulations under this chapter prior to August 7, 1977, shall remain in effect to prevent significant deterioration of air quality in any such area for any such pollutant except as otherwise provided in subsection (b) of this section.

(b) Regulations deemed amended; construction commenced after June 1, 1975

If any regulation in effect prior to August 7, 1977, to prevent significant deterioration of air quality would be inconsistent with the requirements of section 7472(a), section 7473(b) or section 7474(a) of this title, then such regulations shall be deemed amended so as to conform with such requirements. In the case of a facility on which construction was commenced (in accordance with the definition of "commenced" in section 7479(2) of this title) after June 1, 1975, and prior to August 7, 1977, the review and permitting of such facility shall be in accordance with the regulations for the prevention of significant deterioration in effect prior to August 7, 1977.

14. 42 U.S.C. 7479 provides in pertinent part:

Definitions

For purposes of this part—

(1) The term "major emitting facility" means any of the following stationary sources of air pollutants which emit, or have the potential to emit, one hundred tons per year or more of any air pollutant from the following types of stationary sources: fossil-fuel fired steam electric plants of more than two hundred and fifty million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than fifty tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process

plants, fossil-fuel boilers of more than two hundred and fifty million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding three hundred thousand barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities. Such term also includes any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant. This term shall not include new or modified facilities which are nonprofit health or education institutions which have been exempted by the State.

* * * * *

(2)(C) The term "construction" when used in connection with any source or facility, includes the modification (as defined in section 7411(a) of this title) of any source or facility.

(3) The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section

7411 or 7412 of this title. Emissions from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to November 15, 1990.

* * * * *

15. 42 U.S.C. 7491 provides in pertinent part:

Visibility protection for Federal class I areas

* * * * *

(b) Regulations

Regulations under subsection (a)(4) of this section shall—

> (1) provide guidelines to the States, taking into account the recommendations under subsection (a)(3) of this section on appropriate techniques and methods for implementing this section (as provided in subparagraphs (A) through (C) of such subsection (a)(3)), and
>
> (2) require each applicable implementation plan for a State in which any area listed by the Administrator under subsection (a)(2) of this section is located (or for a State the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area) to contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal specified in subsection (a) of this section, including—

(A) except as otherwise provided pursuant to subsection (c) of this section, a requirement that each major stationary source which is in existence on August 7, 1977, but which has not been in operation for more than fifteen years as of such date, and which, as determined by the State (or the Administrator in the case of a plan promulgated under section 7410(c) of this title) emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area, shall procure, install, and operate, as expeditiously as practicable (and maintain thereafter) the best available retrofit technology, as determined by the State (or the Administrator in the case of a plan promulgated under section 7410(c) of this title) for controlling emissions from such source for the purpose of eliminating or reducing any such impairment, and

(B) a long-term (ten to fifteen years) strategy for making reasonable progress toward meeting the national goal specified in subsection (a) of this section.

In the case of a fossil-fuel fired generating powerplant having a total generating capacity in excess of 750 megawatts, the emission limitations required under this paragraph shall be determined pursuant to guidelines, promulgated by the Administrator under paragraph (1).

* * * * *

(g) Definitions

For the purpose of this section—

* * * * *

(7) the term "major stationary source" means the following types of stationary sources with the potential to emit 250 tons or more of any pollutant: fossil-fuel fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than 250 million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities.

16. 42 U.S.C. 7501 provides:

Definitions

For the purpose of this part—

(1) REASONABLE FURTHER PROGRESS.—The term "reasonable further progress" means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.

(2) NONATTAINMENT AREA.—The term "nonattainment area" means, for any air pollutant, an area which is designated "nonattainment" with respect to that pollutant within the meaning of section 7407(d) of this title.

(3) The term "lowest achievable emission rate" means for any source, that rate of emissions which reflects—

(A) the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or

(B) the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent.

In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance.

(4) The terms "modifications" and "modified" mean the same as the term "modification" as used in section 7411(a)(4) of this title.

17. 42 U.S.C. 7502(c)(5) provides:

Nonattainment plan provisions in general

* * * * *

(c) Nonattainment plan provisions

The plan provisions (including plan items) required to be submitted under this part shall comply with each of the following:

* * * * *

(5) Permits for new and modified major stationary sources

Such plan provisions shall require permits for the construction and operation of new or modified major stationary sources anywhere in the nonattainment area, in accordance with section 7503 of this title.

18. 42 U.S.C. 7503(a) provides:

Permit requirements

(a) In general

The permit program required by section 7502(b)(6)[1] of this title shall provide that permits to construct and operate may be issued if—

> (1) in accordance with regulations issued by the Administrator for the determination of baseline emissions in a manner consistent with the assumptions underlying the applicable implementation plan approved under section 7410 of this title and this part, the permitting agency determines that—
>
> > (A) by the time the source is to commence operation, sufficient offsetting emissions reductions have been obtained, such that total allowable emissions from existing sources in the region, from new or modified sources which are not major emitting facilities, and from the proposed source will be sufficiently less than total emissions from existing sources (as determined in accordance with the regulations under this paragraph) prior to the application for such permit to construct or modify so as to represent (when considered together with the plan provisions required under section 7502 of this title) reasonable further progress (as defined in section 7501 of this title); or
> >
> > (B) in the case of a new or modified major stationary source which is located in a zone

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[1] See References in Text note below.

(within the nonattainment area) identified by the Administrator, in consultation with the Secretary of Housing and Urban Development, as a zone to which economic development should be targeted, that emissions of such pollutant resulting from the proposed new or modified major stationary source will not cause or contribute to emissions levels which exceed the allowance permitted for such pollutant for such area from new or modified major stationary sources under section 7502(c) of this title;

(2) the proposed source is required to comply with the lowest achievable emission rate;

(3) the owner or operator of the proposed new or modified source has demonstrated that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in such State are subject to emission limitations and are in compliance, or on a schedule for compliance, with all applicable emission limitations and standards under this chapter; and[2]

(4) the Administrator has not determined that the applicable implementation plan is not being adequately implemented for the nonattainment area in which the proposed source is to be constructed or modified in accordance with the requirements of this part; and

(5) an analysis of alternative sites, sizes, production processes, and environmental control tech-

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[2] So in original. The word "and" probably should not appear.

niques for such proposed source demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.

Any emission reductions required as a precondition of the issuance of a permit under paragraph (1) shall be federally enforceable before such permit may be issued.

19. 42 U.S.C. 7602 provides in pertinent part:

Definitions

When used in this chapter—

* * * * *

(g) The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

(h) All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

* * * * *

(j) Except as otherwise expressly provided, the terms "major stationary source" and "major emitting facility" mean any stationary facility or source of air pollutants which directly emits, or has the potential to emit, one hundred tons per year or more of any air pollutant (including any major emitting facility or source of fugitive emissions of any such pollutant, as determined by rule by the Administrator).

* * * * *

20. 42 U.S.C. 7661(2) provides:

Definitions

As used in this subchapter—

* * * * *

(2) **Major source**

The term "major source" means any stationary source (or any group of stationary sources located within a contiguous area and under common control) that is either of the following:

(A) A major source as defined in section 7412 of this title.

(B) A major stationary source as defined in section 7602 of this title or part D of subchapter I of this chapter.

21. 42 U.S.C. 7661a(a) provides:

Permit programs

(a) Violations

After the effective date of any permit program approved or promulgated under this subchapter, it shall be unlawful for any person to violate any requirement of a permit issued under this subchapter, or to operate an affected source (as provided in subchapter IV-A of this chapter), a major source, any other source (including an area source) subject to standards or regulations under section 7411 or 7412 of this title, any other source required to have a permit under parts[1] C or D of subchapter I of this chapter, or any other stationary source in a category designated (in whole or in part) by regulations promulgated by the Administrator (after notice and public comment) which shall include a finding setting forth the basis for such designation, except in compliance with a permit issued by a permitting authority under this subchapter. (Nothing in this subsection shall be construed to alter the applicable requirements of this chapter that a permit be obtained before construction or modification.) The Administrator may, in the Administrator's discretion and consistent with the applicable provisions of this chapter, promulgate regulations to exempt one or more source categories (in whole or in part) from the requirements of this subsection if the Administrator finds that compliance with such requirements is impracticable, infeasible, or unnecessarily burdensome on such categories, except that the Administrator may not exempt any major source from such requirements.

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[1] So in original. Probably should be "part".

22. 40 C.F.R. 51.166 provides in pertinent part:

Prevention of significant deterioration of air quality.

(a)(1) *Plan requirements.* In accordance with the policy of section 101(b)(1) of the Act and the purposes of section 160 of the Act, each applicable State Implementation Plan and each applicable Tribal Implementation Plan shall contain emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality.

* * * * *

(7) *Applicability.* Each plan shall contain procedures that incorporate the requirements in paragraphs (a)(7)(i) through (vi) of this section.

(i) The requirements of this section apply to the construction of any new major stationary source (as defined in paragraph (b)(1) of this section) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.

(ii) The requirements of paragraphs (j) through (r) of this section apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides.

(iii) No new major stationary source or major modification to which the requirements of paragraphs (j) through (r)(5) of this section apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements.

(iv) Each plan shall use the specific provisions of paragraphs (a)(7)(iv)(*a*) through (*f*) of this section. Deviations from these provisions will be approved only if the State specifically demonstrates that the submitted provisions are more stringent than or at least as stringent in all respects as the corresponding provisions in paragraphs (a)(7)(iv)(*a*) through (*f*) of this section.

(*a*) Except as otherwise provided in paragraphs (a)(7)(v) and (vi) of this section, and consistent with the definition of major modification contained in paragraph (b)(2) of this section, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in paragraph (b)(39) of this section), and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

* * * * *

(b) *Definitions.* All State plans shall use the following definitions for the purposes of this section. Deviations from the following wording will be approved only if the State specifically demonstrates that the submitted definition is more stringent, or at least as stringent, in all respects as the corresponding definitions below:

(1)(i) *Major stationary source* means:

(*a*) Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants;

(*b*) Notwithstanding the stationary source size specified in paragraph (b)(1)(i)(a) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or

(*c*) Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source if the change would constitute a major stationary source by itself.

* * * * *

(2)(i) *Major modification* means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(39) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(49) of this section); and a significant net emissions increase of that pollutant from the major stationary source.

* * * * *

(4) *Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

* * * * *

(8) *Construction* means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) that would result in a change in emissions.

* * * * *

(12) *Best available control technology* means an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each a regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the reviewing authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61. If the reviewing authority determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

* * * * *

(23)(i) *Significant* means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

POLLUTANT AND EMISSIONS RATE

Carbon monoxide: 100 tons per year (tpy)

Nitrogen oxides: 40 tpy

Sulfur dioxide: 40 tpy

Particulate matter: 25 tpy of particulate matter emissions. 15 tpy of PM_{10} emissions

$PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions unless demonstrated not to be a $PM_{2.5}$ precursor under paragraph (b)(49) of this section

Ozone: 40 tpy of volatile organic compounds or nitrogen oxides

Lead: 0.6 tpy

Fluorides: 3 tpy

Sulfuric acid mist: 7 tpy

Hydrogen sulfide (H_2S): 10 tpy

Total reduced sulfur (including H_2S): 10 tpy

Reduced sulfur compounds (including H_2S): 10 tpy

Municipal waste combustor organics (measured as total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2 x 10–$^{-6}$ megagrams per year (3.5 x 10^{-6} tons per year)

Municipal waste combustor metals (measured as particulate matter): 14 megagrams per year (15 tons per year)

Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tons per year)

Municipal solid waste landfill emissions (measured as nonmethane organic compounds): 45 megagrams per year (50 tons per year)

(ii) *Significant* means, in reference to a net emissions increase or the potential of a source to emit a regulated NSR pollutant that paragraph (b)(23)(i) of this section, does not list, any emissions rate.

(iii) Notwithstanding paragraph (b)(23)(i) of this section, *significant* means any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within 10 kilometers of a Class I area, and have an impact on such area equal to or greater than 1 $\mu g/m^3$ (24–hour average).

* * * * *

(48) *Subject to regulation* means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(i) *Greenhouse gases* (GHGs), the air pollutant defined in § 86.1818–12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in paragraphs (b)(48)(iv) through (v) of this section.

(ii) For purposes of paragraphs (b)(48)(iii) through (v) of this section, the term tpy CO_2 *equivalent emissions* (CO_2e) shall represent an amount of GHGs emitted, and shall be computed as follows:

(*a*) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A–1 to subpart A of part 98 of this chapter—Global Warming Potentials. For purposes of this paragraph (b)(48)(ii)(a), prior to July 21, 2014, the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

(*b*) Sum the resultant value from paragraph (b)(48)(ii)(a) of this section for each gas to compute a tpy CO_2e.

(iii) The term *emissions increase* as used in paragraphs (b)(48)(iv) through (v) of this section shall mean that both a significant emissions increase (as calculated using the procedures in (a)(7)(iv) of this section) and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section) occur. For the pollutant GHGs, an emissions increase shall be based on tpy CO_2e, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and "significant" is defined as 75,000 tpy CO_2e instead of applying the value in paragraph (b)(23)(ii) of this section.

(iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:

(*a*) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO_2e or more; or

(*b*) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO_2e or more; and,

(v) Beginning July 1, 2011, in addition to the provisions in paragraph (b)(48)(iv) of this section, the pollutant GHGs shall also be subject to regulation:

(*a*) At a new stationary source that will emit or have the potential to emit 100,000 tpy CO_2e; or

(*b*) At an existing stationary source that emits or has the potential to emit 100,000 tpy CO_2e, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO_2e or more.

(49) *Regulated NSR pollutant*, for purposes of this section, means the following:

(i) Any pollutant for which a national ambient air quality standard has been promulgated. This includes, but is not limited to, the following:

(*a*) $PM_{2.5}$ emissions and PM_{10} emissions shall include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures. On or after January 1, 2011, such condensable particulate matter shall be accounted for in applicability determinations and in establishing emissions limitations for $PM_{2.5}$ and PM_{10} in PSD permits. Compliance with emissions limitations for $PM_{2.5}$ and PM_{10} issued prior to this date shall not be based on condensable particulate matter unless required by the terms and conditions of the permit or the applicable implementation plan. Applicability determinations made prior to this date without accounting for condensable particulate matter shall not be considered in violation of this section unless the applicable implementation plan required condensable particulate matter to be included;

(*b*) Any pollutant identified under this paragraph (b)(49)(i)(b) as a constituent or precursor to a pollutant for which a national ambient air quality standard has been promulgated. Precursors identified by the Administrator for purposes of NSR are the following:

(*1*) Volatile organic compounds and nitrogen oxides are precursors to ozone in all attainment and unclassifiable areas.

(*2*) Sulfur dioxide is a precursor to $PM_{2.5}$ in all attainment and unclassifiable areas.

(*3*) Nitrogen oxides are presumed to be precursors to $PM_{2.5}$ in all attainment and unclassifiable areas, unless the State demonstrates to the Administrator's satisfaction or EPA demonstrates that emissions of nitrogen oxides from sources in a specific area are not a significant contributor to that area's ambient $PM_{2.5}$ concentrations.

(*4*) Volatile organic compounds are presumed not to be precursors to $PM_{2.5}$ in any attainment or unclassifiable area, unless the State demonstrates to the Administrator's satisfaction or EPA demonstrates that emissions of volatile organic compounds from sources in a specific area are a significant contributor to that area's ambient $PM_{2.5}$ concentrations.

(ii) Any pollutant that is subject to any standard promulgated under section 111 of the Act;

(iii) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act;

(iv) Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(48) of this section.

(v) Notwithstanding paragraphs (b)(49)(i) through (iv) of this section, the term *regulated NSR pollutant* shall not include any or all hazardous air pollutants either listed in section 112 of the Act, or added to the list pursuant to section 112(b)(2) of the Act, and which have not been delisted pursuant to section 112(b)(3) of the Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

* * * * *

(c) *Ambient air increments and other measures.* (1) The plan shall contain emission limitations and such other measures as may be necessary to assure that in areas designated as Class I, II, or III, increases in pollutant concentrations over the baseline concentration shall be limited to the following:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Class I Area	
$PM_{2.5}$:	
Annual arithmetic mean	1
24-hr maximum	2
PM_{10}:	
Annual arithmetic mean	4
24-hr maximum	8
Sulfur dioxide:	
Annual arithmetic mean	2
24-hr maximum	5
3-hr maximum	25
Nitrogen dioxide:	
Annual arithmetic mean	2.5
Class II Area	
$PM_{2.5}$:	
Annual arithmetic mean	4
24-hr maximum	9
PM_{10}:	
Annual arithmetic mean	17

24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91
3-hr maximum	512
Nitrogen dioxide:	
Annual arithmetic mean	25

Class III Area

$PM_{2.5}$:	
Annual arithmetic mean	8
24-hr maximum	18
PM_{10}:	
Annual arithmetic mean	34
24-hr maximum	60
Sulfur dioxide:	
Annual arithmetic mean	40
24-hr maximum	182
3-hr maximum	700
Nitrogen dioxide:	
Annual arithmetic mean	50

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(2) Where the State can demonstrate that it has alternative measures in its plan other than maximum allowable increases as defined under paragraph (c)(1) of this section, that satisfy the requirements in sec-

tions 166(c) and 166(d) of the Clean Air Act for a regulated NSR pollutant for which the Administrator has established maximum allowable increases pursuant to section 166(a) of the Act, the requirements for maximum allowable increases for that pollutant under paragraph (c)(1) of this section shall not apply upon approval of the plan by the Administrator. The following regulated NSR pollutants are eligible for such treatment:

(i) Nitrogen dioxide.

(ii) $PM_{2.5}$.

(d) *Ambient air ceilings.* The plan shall provide that no concentration of a pollutant shall exceed:

(1) The concentration permitted under the national secondary ambient air quality standard, or

(2) The concentration permitted under the national primary ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.

* * * * *

(j) *Control technology review.* The plan shall provide that:

(1) A major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable emission standards and standard of performance under 40 CFR parts 60 and 61.

(2) A new major stationary source shall apply best available control technology for each a regulated NSR

pollutant that it would have the potential to emit in significant amounts.

(3) A major modification shall apply best available control technology for each a regulated NSR pollutant for which it would be a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

(4) For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the least reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.

(k) *Source impact analysis*—(1) *Required demonstration.* The plan shall provide that the owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reduction (including secondary emissions), would not cause or contribute to air pollution in violation of:

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(2) SIGNIFICANT IMPACT LEVELS. The plan may provide that, for purposes of $PM_{2.5}$ the demonstration required in paragraph (k)(1) of this section is deemed to have been made if the emissions increase from the new stationary source alone or from the modification alone would cause, in all areas, air quality impacts less than the following amounts:

Pollutant	Averaging time	Class I area	Class II area	Class III area
$PM_{2.5}$	Annual	0.06 μgm^3	0.3 μgm^3	.03 μgm^3
	24-hour......	0.07 μgm^3	1.2 μgm^3	1.2 μgm^3

* * * * *

(m) *Air quality analysis*—(1) *Preapplication analysis*. (i) The plan shall provide that any application for a permit under regulations approved pursuant to this section shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants:

(*a*) For the source, each pollutant that it would have the potential to emit in a significant amount;

(*b*) For the modification, each pollutant for which it would result in a significant net emissions increase.

(ii) The plan shall provide that, with respect to any such pollutant for which no National Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as the reviewing authority determines is necessary to assess ambient air quality for that pollutant in any area that the emissions of that pollutant would affect.

(iii) The plan shall provide that with respect to any such pollutant (other than nonmethane hydrocarbons) for which such a standard does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase.

(iv) The plan shall provide that, in general, the continuous air monitoring data that is required shall have been gathered over a period of one year and shall represent the year preceding receipt of the application, except that, if the reviewing authority determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not to be less than four months), the data that is required shall have been gathered over at least that shorter period.

(v) The plan may provide that the owner or operator of a proposed major stationary source or major modification of volatile organic compounds who satisfies all conditions of 40 CFR part 51 appendix S, section IV may provide postapproval monitoring data for ozone in lieu of providing preconstruction data as required under paragraph (m)(1) of this section.

* * * * *

(o) *Additional impact analyses.* The plan shall provide that—

(1) The owner or operator shall provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial, and other growth associated with the source or modification. The

owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

(2) The owner or operator shall provide an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source or modification.

* * * * *

23. 40 C.F.R. 52.21 provides in pertinent part:

Prevention of significant deterioration of air quality.

(a)(1) *Plan disapproval.* The provisions of this section are applicable to any State implementation plan which has been disapproved with respect to prevention of significant deterioration of air quality in any portion of any State where the existing air quality is better than the national ambient air quality standards. Specific disapprovals are listed where applicable, in subparts B through DDD of this part. The provisions of this section have been incorporated by reference into the applicable implementation plans for various States, as provided in subparts B through DDD of this part. Where this section is so incorporated, the provisions shall also be applicable to all lands owned by the Federal Government and Indian Reservations located in such State. No disapproval with respect to a State's failure to prevent significant deterioration of air quality shall invalidate or otherwise affect the obligations of States, emission sources, or other persons with respect to all portions of plans approved or promulgated under this part.

(2) *Applicability procedures.* (i) The requirements of this section apply to the construction of any new major stationary source (as defined in paragraph (b)(1) of this section) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.

(ii) The requirements of paragraphs (j) through (r) of this section apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides.

(iii) No new major stationary source or major modification to which the requirements of paragraphs (j) through (r)(5) of this section apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements. The Administrator has authority to issue any such permit.

(iv) The requirements of the program will be applied in accordance with the principles set out in paragraphs (*a*)(2)(iv)(a) through (*f*) of this section.

(*a*) Except as otherwise provided in paragraphs (a)(2)(v) and (vi) of this section, and consistent with the definition of major modification contained in paragraph (b)(2) of this section, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in paragraph (b)(40) of this section), and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

* * * * *

(b) *Definitions*. For the purposes of this section:

(1)(i) *Major stationary source* means:

(*a*) Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants;

(*b*) Notwithstanding the stationary source size specified in paragraph (b)(1)(i) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or

(*c*) Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source, if the changes would constitute a major stationary source by itself.

* * * * *

(2)(i) *Major modification* means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(40) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(50) of this section); and a significant net emissions increase of that pollutant from the major stationary source.

* * * * *

(4) *Potential to emit* means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not

count in determining the potential to emit of a stationary source.

* * * * *

(8) *Construction* means any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) that would result in a change in emissions.

* * * * *

(12) *Best available control technology* means an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the re-

quirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.

* * * * *

(23)(i) Significant means, in reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

POLLUTANT AND EMISSIONS RATE

Carbon monoxide: 100 tons per year (tpy)

Nitrogen oxides: 40 tpy

Sulfur dioxide: 40 tpy

Particulate matter: 25 tpy of particulate matter emissions

PM_{10}: 15 tpy

$PM_{2.5}$: 10 tpy of direct $PM_{2.5}$ emissions; 40 tpy of sulfur dioxide emissions; 40 tpy of nitrogen oxide emissions unless demonstrated not to be a $PM_{2.5}$ precursor under paragraph (b)(50) of this section

Ozone: 40 tpy of volatile organic compounds or nitrogen oxides

Lead: 0.6 tpy

Fluorides: 3 tpy

Sulfuric acid mist: 7 tpy

Hydrogen sulfide (H_2S): 10 tpy

Total reduced sulfur (including H_2S): 10 tpy

Reduced sulfur compounds (including H_2S): 10 tpy

Municipal waste combustor organics (measured as total tetra-through octa-chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2×10^{-6} megagrams per year (3.5×10^{-6} tons per year)

Municipal waste combustor metals (measured as particulate matter): 14 megagrams per year (15 tons per year)

Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tons per year)

Municipal solid waste landfills emissions (measured as nonmethane organic compounds): 45 megagrams per year (50 tons per year)

(ii) *Significant* means, in reference to a net emissions increase or the potential of a source to emit a regulated NSR pollutant that paragraph (b)(23)(i) of this section, does not list, any emissions rate.

* * * * *

(49) *Subject to regulation* means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(i) *Greenhouse gases (GHGs)*, the air pollutant defined in §86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation except as provided in paragraphs (b)(49)(iv) through (v) of this section and shall not be subject to regulation if the stationary source maintains its total source-wide emissions below the GHG PAL level, meets the requirements in paragraphs (aa)(1) through (15) of this section, and complies with the PAL permit containing the GHG PAL.

(ii) For purposes of paragraphs (b)(49)(iii) through (v) of this section, the term tpy *CO_2 equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed as follows:

(*a*) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials. For purposes of this paragraph, prior to July 21, 2014, the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of non-fossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

(*b*) Sum the resultant value from paragraph (b)(49)(ii)(*a*) of this section for each gas to compute a tpy CO_2e.

(iii) The term *emissions increase* as used in paragraphs (b)(49)(iv) through (v) of this section shall mean that both a significant emissions increase (as calculated using the procedures in paragraph (a)(2)(iv) of this section) and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section) occur. For the pollutant GHGs, an emissions increase shall be based on tpy CO_2e, and shall be calculated assuming the pollutant GHGs is a regulated NSR pollutant, and "significant" is defined as 75,000 tpy CO_2e instead of applying the value in paragraph (b)(23)(ii) of this section.

(iv) Beginning January 2, 2011, the pollutant GHGs is subject to regulation if:

(*a*) The stationary source is a new major stationary source for a regulated NSR pollutant that is not GHGs, and also will emit or will have the potential to emit 75,000 tpy CO_2e or more; or

(*b*) The stationary source is an existing major stationary source for a regulated NSR pollutant that is not GHGs, and also will have an emissions increase of a regulated NSR pollutant, and an emissions increase of 75,000 tpy CO_2e or more; and,

(v) Beginning July 1, 2011, in addition to the provisions in paragraph (b)(49)(iv) of this section, the pollutant GHGs shall also be subject to regulation

(*a*) At a new stationary source that will emit or have the potential to emit 100,000 tpy CO_2e; or

(*b*) At an existing stationary source that emits or has the potential to emit 100,000 tpy CO_2e, when such stationary source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy CO_2e or more.

(50) *Regulated NSR pollutant*, for purposes of this section, means the following:

(i) Any pollutant for which a national ambient air quality standard has been promulgated. This includes, but is not limited to, the following:

(*a*) $PM_{2.5}$ emissions and PM_{10} emissions shall include gaseous emissions from a source or activity, which condense to form particulate matter at ambient temperatures. On or after January 1, 2011, such condensable particulate matter shall be accounted for in applicability determinations and in establishing emissions limitations for $PM_{2.5}$ and PM_{10} in PSD permits. Compliance with emissions limitations for $PM_{2.5}$ and PM_{10} issued prior to this date shall not be based on condensable particulate matter unless required by the terms and conditions of the permit or the applicable implementation plan. Applicability determinations made prior to this date without accounting for condensable particulate matter shall not be considered in violation of this section unless the applicable implementation plan required condensable particulate matter to be included.

(*b*) Any pollutant identified under this paragraph (b)(50)(i)(*b*) as a constituent or precursor for a pollutant for which a national ambient air quality standard has been promulgated. Precursors identified by the Administrator for purposes of NSR are the following:

(*1*) Volatile organic compounds and nitrogen oxides are precursors to ozone in all attainment and unclassifiable areas.

(*2*) Sulfur dioxide is a precursor to $PM_{2.5}$ in all attainment and unclassifiable areas.

(*3*) Nitrogen oxides are presumed to be precursors to $PM_{2.5}$ in all attainment and unclassifiable areas, unless the State demonstrates to the Administrator's satisfaction or EPA demonstrates that emissions of nitrogen oxides from sources in a specific area are not a significant contributor to that area's ambient $PM_{2.5}$ concentrations.

(*4*) Volatile organic compounds are presumed not to be precursors to $PM_{2.5}$ in any attainment or unclassifiable area, unless the State demonstrates to the Administrator's satisfaction or EPA demonstrates that emissions of volatile organic compounds from sources in a specific area are a significant contributor to that area's ambient $PM_{2.5}$ concentrations.

(ii) Any pollutant that is subject to any standard promulgated under section 111 of the Act;

(iii) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act;

(iv) Any pollutant that otherwise is subject to regulation under the Act as defined in paragraph (b)(49) of this section.

(v) Notwithstanding paragraphs (b)(50)(i) through (iv) of this section, the term *regulated NSR pollutant* shall not include any or all hazardous air pollutants either listed in section 112 of the Act, or added to the list pursuant to section 112(b)(2) of the Act, and which have not been delisted pursuant to section 112(b)(3) of the Act, unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under section 108 of the Act.

* * * * *

(c) *Ambient air increments.* In areas designated as Class I, II or III, increases in pollutant concentration over the baseline concentration shall be limited to the following:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Class I Area	
$PM_{2.5}$:	
Annual arithmetic mean	1
24-hr maximum	2
PM_{10}:	
Annual arithmetic mean	4
24-hr maximum	8
Sulfur dioxide:	
Annual arithmetic mean	2
24-hr maximum	5
3-hr maximum	25

Nitrogen dioxide:	
Annual arithmetic mean	2.5

Class II Area

$PM_{2.5}$:	
Annual arithmetic mean	4
24-hr maximum	9
PM_{10}:	
Annual arithmetic mean	17
24-hr maximum	30
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr maximum	91
3-hr maximum	512
Nitrogen dioxide:	
Annual arithmetic mean	25

Class III Area

$PM_{2.5}$:	
Annual arithmetic mean	8
24-hr maximum	18
PM_{10}:	
Annual arithmetic mean	34
24-hr maximum	60
Sulfur dioxide:	
Annual arithmetic mean	40
24-hr maximum	182
3-hr maximum	700

Nitrogen dioxide:

Annual arithmetic mean	50

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(d) *Ambient air ceilings.* No concentration of a pollutant shall exceed:

(1) The concentration permitted under the national secondary ambient air quality standard, or

(2) The concentration permitted under the national primary ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.

* * * * *

(j) *Control technology review.* (1) A major stationary source or major modification shall meet each applicable emissions limitation under the State Implementation Plan and each applicable emissions standard and standard of performance under 40 CFR parts 60 and 61.

(2) A new major stationary source shall apply best available control technology for each regulated NSR pollutant that it would have the potential to emit in significant amounts.

(3) A major modification shall apply best available control technology for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a

physical change or change in the method of operation in the unit.

(4) For phased construction projects, the determination of best available control technology shall be reviewed and modified as appropriate at the latest reasonable time which occurs no later than 18 months prior to commencement of construction of each independent phase of the project. At such time, the owner or operator of the applicable stationary source may be required to demonstrate the adequacy of any previous determination of best available control technology for the source.

(k) *Source impact analysis*—(1) *Required demonstration.* The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:

(i) Any national ambient air quality standard in any air quality control region; or

(ii) Any applicable maximum allowable increase over the baseline concentration in any area.

(2) *Significant impact levels.* For purposes of $PM_{2.5}$, the demonstration required in paragraph (k)(1) of this section is deemed to have been made if the emissions increase from the new stationary source alone or from the modification alone would cause, in all areas, air quality impacts less than the following amounts.

* * * * *

(m) *Air quality analysis*—(1) *Preapplication analysis.* (i) Any application for a permit under this section shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants:

(*a*) For the source, each pollutant that it would have the potential to omit in a significant amount;

(*b*) For the modification, each pollutant for which it would result in a significant net emissions increase.

(ii) With respect to any such pollutant for which no National Ambient Air Quality Standard exists, the analysis shall contain such air quality monitoring data as the Administrator determines is necessary to assess ambient air quality for that pollutant in any area that the emissions of that pollutant would affect.

(iii) With respect to any such pollutant (other than nonmethane hydrocarbons) for which such a standard does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase.

(iv) In general, the continuous air quality monitoring data that is required shall have been gathered over a period of at least one year and shall represent at least the year preceding receipt of the application, except that, if the Administrator determines that a complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not to be less than four months), the data that is required shall have been gathered over at least that shorter period.

(v) For any application which becomes complete, except as to the requirements of paragraphs (m)(1)(iii) and (iv) of this section, between June 8, 1981, and February 9, 1982, the data that paragraph (m)(1) (iii) of this section, requires shall have been gathered over at least the period from February 9, 1981, to the date the application becomes otherwise complete, except that:

(*a*) If the source or modification would have been major for that pollutant under 40 CFR 52.21 as in effect on June 19, 1978, any monitoring data shall have been gathered over at least the period required by those regulations.

(*b*) If the Administrator determines that a complete and adequate analysis can be accomplished with monitoring data over a shorter period (not to be less than four months), the data that paragraph (m)(1) (iii) of this section, requires shall have been gathered over at least that shorter period.

(*c*) If the monitoring data would relate exclusively to ozone and would not have been required under 40 CFR 52.21 as in effect on June 19, 1978, the Administrator may waive the otherwise applicable requirements of this paragraph (v) to the extent that the applicant shows that the monitoring data would be unrepresentative of air quality over a full year.

(vi) The owner or operator of a proposed stationary source or modification of volatile organic compounds who satisfies all conditions of 40 CFR part 51 Appendix S, section IV may provide post-approval monitoring data for ozone in lieu of providing preconstruction data as required under paragraph (m)(1) of this section.

(vii) For any application that becomes complete, except as to the requirements of paragraphs (m)(1) (iii) and (iv) pertaining to PM_{10}, after December 1, 1988 and no later than August 1, 1989 the data that paragraph (m)(1)(iii) requires shall have been gathered over at least the period from August 1, 1988 to the date the application becomes otherwise complete, except that if the Administrator determines that a complete and adequate analysis can be accomplished with monitoring data over a shorter period (not to be less than 4 months), the data that paragraph (m)(1) (iii) requires shall have been gathered over that shorter period.

(viii) With respect to any requirements for air quality monitoring of PM_{10} under paragraphs (i)(11) (i) and (ii) of this section the owner or operator of the source or modification shall use a monitoring method approved by the Administrator and shall estimate the ambient concentrations of PM_{10} using the data collected by such approved monitoring method in accordance with estimating procedures approved by the Administrator.

* * * * *

(o) *Additional impact analyses.* (1) The owner or operator shall provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification. The owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

(2) The owner or operator shall provide an analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial and other growth associated with the source or modification.

(3) *Visibility monitoring.* The Administrator may require monitoring of visibility in any Federal class I area near the proposed new stationary source for major modification for such purposes and by such means as the Administrator deems necessary and appropriate.

24. 40 C.F.R. 52.22 provides:

Enforceable commitments for further actions addressing the pollutant greenhouse gases (GHGs).

(a) *Definitions.* (1) *Greenhouse Gases (GHGs)* means the air pollutant as defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

(2) All other terms used in this section shall have the meaning given in § 52.21.

(b) *Further action to regulate GHGs under the PSD* program.

(1) *Near term action on GHGs.* The Administrator shall solicit comment, under section 307(b) of the Act, on promulgating lower GHGs thresholds for

PSD applicability. Such action shall be finalized by July 1, 2012 and become effective July 1, 2013.

(2) Further *study and action on GHGs.*

(i) No later than April 30, 2015 the Administrator shall complete a study projecting the administrative burdens that remain with respect to stationary sources for which GHGs do not constitute a regulated NSR pollutant. Such study shall account, among other things, for permitting authorities ability to secure resources, hire and train staff; experiences associated with GHG permitting for new types of sources and technologies; and, the success of streamlining measures developed by EPA (and adopted by the states) for reducing the permitting burden associated with such stationary sources.

(ii) Based on the results of the study described in paragraph (b)(2)(i) of this section, the Administrator shall propose a rule addressing the permitting obligations of such stationary sources under § 52.21 and § 51.166 of this chapter. The Administrator shall take final action on such a rule no later than April 30, 2016.

(iii) Before completing the rule described in paragraph (b)(2)(ii) of this section, the Administrator shall take no action to make the pollutant GHGs subject to regulation at stationary sources that emit or have the potential to emit less than 50,000 tpy CO_2e, or for physical changes or changes in the method of operations at stationary sources that result in an emissions increase of less than 50,000 tpy CO_2e (as determined using the methodology described in § 52.21(b)(49)(ii).)

25. 40 C.F.R. 70.1 provides:

Program overview.

(a) The regulations in this part provide for the establishment of comprehensive State air quality permitting systems consistent with the requirements of title V of the Clean Air Act (Act) (42 U.S.C. 7401, *et seq.*). These regulations define the minimum elements required by the Act for State operating permit programs and the corresponding standards and procedures by which the Administrator will approve, oversee, and withdraw approval of State operating permit programs.

(b) All sources subject to these regulations shall have a permit to operate that assures compliance by the source with all applicable requirements. While title V does not impose substantive new requirements, it does require that fees be imposed on sources and that certain procedural measures be adopted especially with respect to compliance.

(c) Nothing in this part shall prevent a State, or interstate permitting authority, from establishing additional or more stringent requirements not inconsistent with this Act. The EPA will approve State program submittals to the extent that they are not inconsistent with the Act and these regulations. No permit, however, can be less stringent than necessary to meet all applicable requirements. In the case of Federal intervention in the permit process, the Administrator reserves the right to implement the State operating permit program, in whole or in part, or the Federal program contained in regulations promulgated under title V of the Act.

(d) The requirements of part 70, including provisions regarding schedules for submission and approval or disapproval of permit applications, shall apply to the permitting of affected sources under the acid rain program, except as provided herein or modified in regulations promulgated under title IV of the Act (acid rain program).

(e) Issuance of State permits under this part may be coordinated with issuance of permits under the Resource Conservation and Recovery Act and under the Clean Water Act, whether issued by the State, the U.S. Environmental Protection Agency (EPA), or the U.S. Army Corps of Engineers.

(f) States that choose to receive electronic documents must satisfy the requirements of 40 CFR Part 3—(Electronic reporting) in their program.

26. 40 C.F.R. 70.2 provides:

Definitions.

The following definitions apply to part 70. Except as specifically provided in this section, terms used in this part retain the meaning accorded them under the applicable requirements of the Act.

Act means the Clean Air Act, as amended, 42 U.S.C. 7401, et seq.

Affected source shall have the meaning given to it in the regulations promulgated under title IV of the Act.

Affected States are all States:

(1) Whose air quality may be affected and that are contiguous to the State in which a part 70 permit, per-

mit modification or permit renewal is being proposed; or

(2) That are within 50 miles of the permitted source.

Affected unit shall have the meaning given to it in the regulations promulgated under title IV of the Act.

Alternative operating scenario (AOS) means a scenario authorized in a part 70 permit that involves a change at the part 70 source for a particular emissions unit, and that either results in the unit being subject to one or more applicable requirements which differ from those applicable to the emissions unit prior to implementation of the change or renders inapplicable one or more requirements previously applicable to the emissions unit prior to implementation of the change.

Applicable requirement means all of the following as they apply to emissions units in a part 70 source (including requirements that have been promulgated or approved by EPA through rulemaking at the time of issuance but have future-effective compliance dates):

(1) Any standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA *through* rulemaking under title I of the Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in part 52 of this chapter;

(2) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Act;

(3) Any standard or other requirement under section 111 of the Act, including section 111(d);

(4) Any standard or other requirement under section 112 of the Act, including any requirement concerning accident prevention under section 112(r)(7) of the Act;

(5) Any standard or other requirement of the acid rain program under title IV of the Act or the regulations promulgated thereunder;

(6) Any requirements established pursuant to section 504(b) or section 114(a)(3) of the Act;

(7) Any standard or other requirement under section 126(a)(1) and (c) of the Act;

(8) Any standard or other requirement governing solid waste incineration, under section 129 of the Act;

(9) Any standard or other requirement for consumer and commercial products, under section 183(e) of the Act;

(10) Any standard or other requirement for tank vessels under section 183(f) of the Act;

(11) Any standard or other requirement of the program to control air pollution from outer continental shelf sources, under section 328 of the Act;

(12) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Act, unless the Administrator has determined that such requirements need not be contained in a title V permit; and

(13) Any national ambient air quality standard or increment or visibility requirement under part C of ti-

tle I of the Act, but only as it would apply to temporary sources permitted pursuant to section 504(e) of the Act.

Approved replicable methodology (ARM) means part 70 permit terms that:

(1) Specify a protocol which is consistent with and implements an applicable requirement, or requirement of this part, such that the protocol is based on sound scientific and/or mathematical principles and provides reproducible results using the same inputs; and

(2) Require the results of that protocol to be recorded and used for assuring compliance with such applicable requirement, any other applicable requirement implicated by implementation of the ARM, or requirement of this part, including where an ARM is used for determining applicability of a specific requirement to a particular change.

Designated representative shall have the meaning given to it in section 402(26) of the Act and the regulations promulgated thereunder.

Draft permit means the version of a permit for which the permitting authority offers public participation under § 70.7(h) or affected State review under § 70.8 of this part.

Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

Emissions unit means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act. This term is not meant to alter or affect the definition of the term "unit" for purposes of title IV of the Act.

The EPA or the Administrator means the Administrator of the EPA or his designee.

Final permit means the version of a part 70 permit issued by the permitting authority that has completed all review procedures required by §§ 70.7 and 70.8 of this part.

Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening.

General permit means a part 70 permit that meets the requirements of § 70.6(d).

Major source means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person (or persons under common control)) belonging to a single major industrial grouping and that are described in paragraph (1), (2), or (3) of this definition. For the purposes of defining "major source," a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.

(1) A major source under section 112 of the Act, which is defined as:

(i) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or

(ii) For radionuclides, "major source" shall have the meaning specified by the Administrator by rule.

(2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits, or has the potential to emit, 100 tpy or more of any air pollutant subject to regulation (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:

(i) Coal cleaning plants (with thermal dryers);

(ii) Kraft pulp mills;

(iii) Portland cement plants;

(iv) Primary zinc smelters;

(v) Iron and steel mills;

(vi) Primary aluminum ore reduction plants;

(vii) Primary copper smelters;

(viii) Municipal incinerators capable of charging more than 250 tons of refuse per day;

(ix) Hydrofluoric, sulfuric, or nitric acid plants;

(x) Petroleum refineries;

(xi) Lime plants;

(xii) Phosphate rock processing plants;

(xiii) Coke oven batteries;

(xiv) Sulfur recovery plants;

(xv) Carbon black plants (furnace process);

(xvi) Primary lead smelters;

(xvii) Fuel conversion plants;

(xviii) Sintering plants;

(xix) Secondary metal production plants;

(xx) Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;

(xxi) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;

(xxii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;

(xxiii) Taconite ore processing plants;

(xxiv) Glass fiber processing plants;

(xxv) Charcoal production plants;

(xxvi) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or

(xxvii) Any other stationary source category, which as of August 7, 1980 is being regulated under section 111 or 112 of the Act.

(3) A major stationary source as defined in part D of title I of the Act, including:

(i) For ozone nonattainment areas, sources with the potential to emit 100 tpy or more of volatile organic compounds or oxides of nitrogen in areas classified as "marginal" or "moderate," 50 tpy or more in areas classified as "serious," 25 tpy or more in areas classified as "severe," and 10 tpy or more in areas classified as "extreme"; except that the references in this paragraph to 100, 50, 25 and 10 tpy of nitrogen oxides shall not apply with respect to any source for which the Administrator has made a finding, under section 182(f)(1) or (2) of the Act, that requirements under section 182(f) of the Act do not apply;

(ii) For ozone transport regions established pursuant to section 184 of the Act, sources with the potential to emit 50 tpy or more of volatile organic compounds;

(iii) For carbon monoxide nonattainment areas:

(A) That are classified as "serious," and

(B) in which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator, sources with the potential to emit 50 tpy or more of carbon monoxide; and

(iv) For particulate matter (PM-10) nonattainment areas classified as "serious," sources with the potential to emit 70 tpy or more of PM-10.

Part 70 permit or *permit* (unless the context suggests otherwise) means any permit or group of permits covering a part 70 source that is issued, renewed, amended, or revised pursuant to this part.

Part 70 program or *State program* means a program approved by the Administrator under this part.

Part 70 source means any source subject to the permitting requirements of this part, as provided in §§ 70.3(a) and 70.3(b) of this part.

Permit modification means a revision to a part 70 permit that meets the requirements of § 70.7(e) of this part.

Permit program costs means all reasonable (direct and indirect) costs required to develop and administer a permit program, as set forth in § 70.9(b) of this part (whether such costs are incurred by the permitting authority or other State or local agencies that do not issue permits directly, but that support permit issuance or administration).

Permit revision means any permit modification or administrative permit amendment.

Permitting authority means either of the following:

(1) The Administrator, in the case of EPA-implemented programs; or

(2) The State air pollution control agency, local agency, other State agency, or other agency authorized by the Administrator to carry out a permit program under this part.

Potential to emit means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is enforceable by the Administrator. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in title IV of the Act or the regulations promulgated thereunder.

Proposed permit means the version of a permit that the permitting authority proposes to issue and forwards to the Administrator for review in compliance with § 70.8.

Regulated air pollutant means the following:

(1) Nitrogen oxides or any volatile organic compounds;

(2) Any pollutant for which a national ambient air quality standard has been promulgated;

(3) Any pollutant that is subject to any standard promulgated under section 111 of the Act;

(4) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or

(5) Any pollutant subject to a standard promulgated under section 112 or other requirements established under section 112 of the Act, including sections 112(g), (j), and (r) of the Act, including the following:

(i) Any pollutant subject to requirements under section 112(j) of the Act. If the Administrator fails to promulgate a standard by the date established pursuant to section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to section 112(e) of the Act; and

(ii) Any pollutant for which the requirements of section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to section 112(g)(2) requirement.

Regulated pollutant (for presumptive fee calculation), which is used only for purposes of § 70.9(b)(2), means any "regulated air pollutant" except the following:

(1) Carbon monoxide;

(2) Any pollutant that is a regulated air pollutant solely because it is a Class I or II substance to a stan-

dard promulgated under or established by title VI of the Act; or

(3) Any pollutant that is a regulated air pollutant solely because it is subject to a standard or regulation under section 112(r) of the Act.

Renewal means the process by which a permit is reissued at the end of its term.

Responsible official means one of the following:

(1) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representatives is approved in advance by the permitting authority;

(2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

(3) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic

unit of the agency (e.g., a Regional Administrator of EPA); or

(4) For affected sources:

(i) The designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Act or the regulations promulgated thereunder are concerned; and

(ii) The designated representative for any other purposes under part 70.

Section 502(b)(10) changes are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

State means any non-Federal permitting authority, including any local agency, interstate association, or statewide program. The term "State" also includes the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands. Where such meaning is clear from the context, "State" shall have its conventional meaning. For purposes of the acid rain program, the term "State" shall be limited to authorities within the 48 contiguous States and the District of Columbia as provided in section 402(14) of the Act.

Stationary source means any building, structure, facility, or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act.

Subject to regulation means, for any air pollutant, that the pollutant is subject to either a provision in the Clean Air Act, or a nationally-applicable regulation codified by the Administrator in subchapter C of this chapter, that requires actual control of the quantity of emissions of that pollutant, and that such a control requirement has taken effect and is operative to control, limit or restrict the quantity of emissions of that pollutant released from the regulated activity. Except that:

(1) *Greenhouse gases (GHGs),* the air pollutant defined in § 86.1818-12(a) of this chapter as the aggregate group of six greenhouse gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, shall not be subject to regulation unless, as of July 1, 2011, the GHG emissions are at a stationary source emitting or having the potential to emit 100,000 tpy CO_2 equivalent emissions.

(2) The term *tpy CO_2 equivalent emissions (CO_2e)* shall represent an amount of GHGs emitted, and shall be computed by multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas's associated global warming potential published at Table A-1 to subpart A of part 98 of this chapter—Global Warming Potentials, and summing the resultant value for each to compute a tpy CO_2e. For purposes of this paragraph, prior to July 21, 2014, the mass of the greenhouse gas carbon dioxide shall not include carbon dioxide emissions resulting from the combustion or decomposition of nonfossilized and biodegradable organic material originating from plants, animals, or micro-organisms (including products, by-products, residues and waste from

agriculture, forestry and related industries as well as the non-fossilized and biodegradable organic fractions of industrial and municipal wastes, including gases and liquids recovered from the decomposition of non-fossilized and biodegradable organic material).

Whole program means a part 70 permit program, or any combination of partial programs, that meet all the requirements of these regulations and cover all the part 70 sources in the entire State. For the purposes of this definition, the term "State" does not include local permitting authorities, but refers only to the entire State, Commonwealth, or Territory.

27. 40 C.F.R. 70.3 provides:

Applicability.

(a) *Part 70 sources.* A State program with whole or partial approval under this part must provide for permitting of the following sources:

(1) Any major source;

(2) Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 of the Act;

(3) Any source, including an area source, subject to a standard or other requirement under section 112 of the Act, except that a source is not required to obtain a permit solely because it is subject to regulations or requirements under section 112(r) of this Act;

(4) Any affected source; and

(5) Any source in a source category designated by the Administrator pursuant to this section.

(b) *Source category exemptions.* (1) All sources listed in paragraph (a) of this section that are not major sources, affected sources, or solid waste incineration units required to obtain a permit pursuant to section 129(e) of the Act, may be exempted by the State from the obligation to obtain a part 70 permit until such time as the Administrator completes a rulemaking to determine how the program should be structured for nonmajor sources and the appropriateness of any permanent exemptions in addition to those provided for in paragraph (b)(4) of this section.

(2) In the case of nonmajor sources subject to a standard or other requirement under either section 111 or section 112 of the Act after July 21, 1992 publication, the Administrator will determine whether to exempt any or all such applicable sources from the requirement to obtain a part 70 permit at the time that the new standard is promulgated.

(3) [Reserved]

(4) The following source categories are exempted from the obligation to obtain a part 70 permit:

(i) All sources and source categories that would be required to obtain a permit solely because they are subject to part 60, subpart AAA—Standards of Performance for New Residential Wood Heaters; and

(ii) All sources and source categories that would be required to obtain a permit solely because they are subject to part 61, subpart M—National Emission Standard for Hazardous Air Pollutants for Asbestos, §61.145, Standard for Demolition and Renovation.

(c) *Emissions units and part 70 sources.* (1) For major sources, the permitting authority shall include in the permit all applicable requirements for all relevant emissions units in the major source.

(2) For any nonmajor source subject to the part 70 program under paragraph (a) or (b) of this section, the permitting authority shall include in the permit all applicable requirements applicable to emissions units that cause the source to be subject to the part 70 program.

(d) *Fugitive emissions.* Fugitive emissions from a part 70 source shall be included in the permit application and the part 70 permit in the same manner as stack emissions, regardless of whether the source category in question is included in the list of sources contained in the definition of major source.

RESPONDENT'S BRIEF

Supreme Court, U.S.
FILED
DEC - 9 2013
OFFICE OF THE CLERK

Nos. 12-1146, 12-1248, 12-1254, 12-1268, 12-1269, 12-1272

In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, ET AL., PETITIONERS
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR RESPONDENTS COALITION FOR RESPONSIBLE REGULATION, INC., ALPHA NATURAL RESOURCES, INC., GREAT NORTHERN PROJECT DEVELOPMENT, L.P., AND NATIONAL CATTLEMEN'S BEEF ASSOCIATION IN SUPPORT OF PETITIONERS

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

PARTIES TO THE PROCEEDINGS

Challenges to 75 Fed. Reg. 17,004 (Apr. 2, 2010) ("Timing Rule")

1. Petitioners in No. 10-1073 below were Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association–North America, Massey Energy Company, National Cattlemen's Beef Association and Rosebud Mining Company.

2. Respondents below were the United States Environmental Protection Agency and Lisa P. Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Regina McCarthy.

3. Additional petitioners below were Southeastern Legal Foundation, Inc., Michele Bachmann, Marsha Blackburn, Kevin Brady, Dan Burton, Paul Broun, Nathan Deal, Phil Gingrey, Steve King, Jack Kingston, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Lynn Westmoreland, The Langdale Company, Langdale Forest Products Company, Langdale Farms, LLC, Langdale Fuel Company, Langdale Chevrolet-Pontiac, Inc., Langdale Ford Company, Langboard, Inc. – MDF, Langboard, Inc. – OSB, Georgia Motor Trucking Association, Inc., Collins Industries, Inc., Collins Trucking Company, Inc., Kennesaw Transportation, Inc., J&M Tank Lines, Southeast Trailer Mart, Inc., Georgia Agribusiness Council, Inc.; Clean Air Implementation Project; American Iron and Steel Institute; Gerdau

Ameristeel US Inc.; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; Peabody Energy Company; American Farm Bureau Federation; National Mining Association; Utility Air Regulatory Group; Chamber of Commerce of the United States of America; Missouri Joint Municipal Electric Utility Commission; National Environmental Development Association's Clean Air Project; Ohio Coal Association; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Packaging Institute; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Federation of Independent Business; National Oilseed Processors Association; National Petrochemical & Refiners Association; North American Die Casting Association; Specialty Steel Industry of North America; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers and Commerce; State of Texas; State of Alabama; State of South Carolina; State of South Dakota; State of Nebraska; State of North Dakota; State of Louisiana; Commonwealth of Virginia; Rick Perry, Governor of Texas; Greg Abbott; Attorney General of Texas; Texas Commission on Environmental Quality; Texas Agriculture Commission; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; Haley Barbour, Governor of the State of Mississippi; and Portland Cement Association.

4. Petitioner-intervenors below were Independent Petroleum Association of America, Indiana Cast Metals Association, Michigan Manufacturers Association, Tennessee Chamber of Commerce and Industry, West Virginia Manufacturers Association, Wisconsin Manufacturers and Commerce, Glass Association of North America, State of Louisiana, National Association of Manufacturers, American Petroleum Institute, Corn Refiners Association, National Association of Home Builders, National Oilseed Processors Association, Western States Petroleum Association, American Frozen Food Institute, and American Fuel & Petrochemical Manufacturers.

5. Respondent-intervenors below were Commonwealth of Massachusetts, Conservation Law Foundation, Natural Resources Council of Maine, Indiana Wildlife Federation, Michigan Environmental Council, Ohio Environmental Council, Environmental Defense Fund, Natural Resources Defense Council, Sierra Club, State of California, State of Illinois, State of Iowa, State of Maine, State of Maryland, State of New Hampshire, State of New Mexico, State of New York, State of Oregon, State of Rhode Island, Georgia ForestWatch, Wild Virginia, Center for Biological Diversity, National Mining Association, American Farm Bureau Federation, National Environmental Development Association's Clean Air Project, Utility Air Regulatory Group, Brick Industry Association, South Coast Air Quality Management District, State of North Carolina.

Challenges to 75 Fed. Reg. 31,514 (June 3, 2010) ("Tailoring Rule")

1. Petitioners in No. 10-1132 below were Alpha Natural Resources, Inc., Coalition for Responsible Regulation, Inc., Great Northern Project Development, L.P., Industrial Minerals Association–North America, Massey Energy Company, National Cattlemen's Beef Association and Rosebud Mining Company.

2. Respondents below were the United States Environmental Protection Agency and Lisa P. Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Regina McCarthy.

3. Additional petitioners below were Southeastern Legal Foundation, Inc., Michele Bachmann, Marsha Blackburn, Kevin Brady, Paul Broun, Dan Burton, Phil Gingrey, Steve King, Jack Kingston, John Linder, Tom Price, Dana Rohrabacher, John Shadegg, John Shimkus, Lynn Westmoreland, The Langdale Company, Langdale Forest Products Company, Langdale Farms, LLC, Langdale Fuel Company, Langdale Chevrolet-Pontiac, Inc., Langdale Ford Company, Langboard, Inc. – MDF, Langboard, Inc. – OSB, Georgia Motor Trucking Association, Inc., Collins Industries, Inc., Collins Trucking Company, Inc., Kennesaw Transportation, Inc., J&M Tank Lines, Inc., Southeast Trailer Mart, Inc., Georgia Agribusiness Council, Inc.; The Ohio Coal Association; American Iron and Steel Institute; Gerdau Ameristeel US Inc.; Chamber of Commerce of the United States of America; Georgia Coalition for Sound Environmental

Policy; National Mining Association; American Farm Bureau Federation; Peabody Energy Company; Energy-Intensive Manufacturers' Working Group on Greenhouse Gas Regulation; South Carolina Public Service Authority; Mark R. Levin; Landmark Legal Foundation; National Alliance of Forest Owners; American Forest & Paper Association; National Environmental Development Association's Clean Air Project; State of Alabama; State of North Dakota; State of South Dakota; Haley Barbour, Governor of the State of Mississippi; State of South Carolina; State of Nebraska; Utility Air Regulatory Group; Missouri Joint Municipal Electric Utility Commission; Sierra Club; Clean Air Implementation Project; National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Brick Industry Association; Corn Refiners Association; Glass Association of North America; Glass Packaging Institute; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; Mississippi Manufacturers Association; National Association of Home Builders; National Oilseed Processors Association; National Petrochemical and Refiners Association; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; Wisconsin Manufacturers & Commerce; American Fuel & Petrochemical Manufacturers; National Federation of Independent Business; Portland Cement Association; Louisiana Department of Environmental Quality; Rick Perry, Governor of Texas; Greg Abbott; Attorney General of Texas; Texas Commission on Environmental Quality; Texas Department of Agriculture; Texas Public Utilities Commission; Texas Railroad Commission; Texas General Land Office; and State of Texas.

4. Petitioner-intervenors below were National Association of Manufacturers; American Frozen Food Institute; American Petroleum Institute; Corn Refiners Association; Glass Association of North America; Independent Petroleum Association of America; Indiana Cast Metals Association; Michigan Manufacturers Association; National Association of Home Builders; National Oilseed Processors Association; National Petrochemical and Refiners Association; American Fuel & Petrochemical Manufacturers; Tennessee Chamber of Commerce and Industry; Western States Petroleum Association; West Virginia Manufacturers Association; and Wisconsin Manufacturers & Commerce.

5. Respondent-intervenors below were Natural Resources Defense Council; Environmental Defense Fund; Sierra Club; Conservation Law Foundation, Inc.; Georgia Forest Watch; Natural Resources Council of Maine; Wild Virginia; State of New York; State of California; State of Illinois; State of Iowa; State of Maine; State of Maryland; Commonwealth of Massachusetts; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; Commonwealth of Pennsylvania Department of Environmental Protection; State of Rhode Island; South Coast Air Quality Management District; Center for Biological Diversity; National Mining Association; Brick Industry Association; Peabody Energy Company; American Farm Bureau Federation; National Environmental Development Association's Clean Air Project; Utility Air Regulatory Group.

RULE 29.6 STATEMENT

Petitioners Coalition for Responsible Regulation, Inc., Alpha Natural Resources, Inc., Great Northern Project Development, L.P., and National Cattlemen's Beef Association have no parent companies, and no publicly-held corporation owns 10% or more of their stock.

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OPINIONS BELOW

The opinion of the court of appeals (J.A. 191-267) is reported at 684 F.3d 102. The order of the court of appeals denying a petition for rehearing en banc (J.A. 139-190) is unreported, but available at 2012 WL 6621785.

JURISDICTION

The judgment of the court of appeals was entered on June 26, 2012. That court denied timely petitions for panel rehearing and rehearing en banc on December 20, 2012. A petition for certiorari was timely filed on March 20, 2013 and granted on October 15, 2013. This Court has jurisdiction under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Section 166 of the Clean Air Act, 42 U.S.C. § 7476, titled "Other pollutants" (part of Part C of Title I of the Act, titled "Prevention of Significant Deterioration of Air Quality," 42 U.S.C. §§ 7470-7492), provides, in pertinent part:

> (a) *Hydrocarbons, carbon monoxide, petrochemical oxidants, and nitrogen oxides*
>
> In the case of the pollutants hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides, the Administrator shall conduct a study and not later than two years after August 7, 1977, promulgate regulations to prevent the significant deterioration of air quality which would result from the emissions of such pollutants. In the case of pollutants for which national ambient air quality standards are promulgated after August 7, 1977, he shall promulgate such regulations

not more than 2 years after the date of promulgation of such standards.

(b) *Effective date of regulations*

Regulations referred to in subsection (a) of this section shall become effective one year after the date of promulgation. Within 21 months after such date of promulgation such plan revision shall be submitted to the Administrator who shall approve or disapprove the plan within 25 months after such date or promulgation in the same manner as required under section 7410 of this title.

(c) *Contents of regulations*

Such regulations shall provide specific numerical measures against which permit applications may be evaluated, a framework for stimulating improved control technology, protection of air quality values, and fulfill the goals and purposes set forth in section 7401 and section 7470 of this title.

(d) *Specific measures to fulfill goals and purposes*

The regulations of the Administrator under subsection (a) of this section shall provide specific measures at least as effective as the increments established in section 7473 of this title to fulfill such goals and purposes, and may contain air quality increments, emission density requirements, or other measures.

(e) *Area classification plan not required*

With respect to any air pollutant for which a national ambient air quality standard is established other than sulfur oxides or particulate mat-

> ter, an area classification plan shall not be required under this section if the implementation plan adopted by the State and submitted for the Administrator's approval or promulgated by the Administrator under section 7410(c) of this title contains other provisions which when considered as a whole, the Administrator finds will carry out the purposes in section 7470 of this title at least as effectively as an area classification plan for such pollutant. Such other provisions referred to in the preceding sentence need not require the establishment of maximum allowable increases with respect to such pollutant for any area to which this section applies.

Other relevant provisions of the Clean Air Act are reproduced at Pet. App. 664a-680a (No. 12-1146).

INTRODUCTION

This case presents a straightforward question of statutory interpretation: Does EPA's decision to regulate mobile-source greenhouse gas (GHG) emissions under Title II of the Clean Air Act (Act) automatically compel stationary sources to obtain permits to emit GHG under Titles I and V of the Act? EPA answers "yes," even while conceding it must then rewrite unambiguous parts of the statute to avoid "severely undermin[ing] [the Act's] congressional purpose," 75 Fed. Reg. 31,514, 31,541-31,542 (June 3, 2010).

Petitioners provide many reasons to answer "no." For instance, the Utility Air Regulatory Group explains that the plain language and structure of Title I are inconsistent with regulating a globally dispersed pollutant such as GHGs. See Br. of Petitioner Utility Air Regulatory Group 20-32 (UARG Br.); see also Br.

of Petitioners Energy Intensive Manufacturers Working Group on Greenhouse Gas Regulation et al. (EIM Br.). And the American Chemistry Council demonstrates that the text of Title I demonstrates that only emissions of pollutants for which EPA has promulgated a national ambient air quality standard (NAAQS), in a region designated as "attainment" for that NAAQS, trigger stationary source permitting. See Br. of Petitioners Am. Chemistry Council et al. 15-23 (ACC Br.).

Respondents Coalition for Responsible Regulation, Inc., Alpha Natural Resources, Inc., Great Northern Project Development, L.P., and National Cattlemen's Beef Association (Coalition) offer another independent basis to conclude that EPA's interpretation is foreclosed by the statutory text: In Section 166 of the Act, 42 U.S.C. § 7476, Congress clearly directed how the PSD program could be extended to pollutants other than the two specifically mentioned in the statute, and EPA ignored those directives. Compliance with Section 166's substantive and procedural requirements not only is faithful to statutory text, but also avoids the absurdities inherent in EPA's reading and the need for administrative "tailoring" of unambiguous statutory provisions.

EPA's interpretation that a decision to regulate *mobile* sources triggers Title V permitting also is nonsensical: Title V simply codifies the Act's requirements otherwise applicable to *stationary* sources.

EPA's remarkable concession that its favored interpretation—which the panel held to be *compelled* by the statute—yields "absurd" consequences weighs heavily in favor of other interpretations that do not.

Petitioners and the Coalition have identified several. "[T]he simple and absolutely dispositive point in this case is the following: * * * [W]hen an agency is faced with two plausible readings of a statutory term, but one reading would cause absurd results, the agency cannot choose the absurd reading." J.A. 179 (Kavanaugh, J., dissenting from denial of reh'g en banc) (citing *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982)).

STATEMENT OF THE CASE

1. Title I of the Act, including the Prevention of Significant Deterioration (PSD) program in Part C of that title, 42 U.S.C. §§ 7470-7492, is directed to the development and defense of NAAQS. *Whitman* v. *Am. Trucking Ass'ns, Inc.*, 531 U.S. 457, 468 (2001) (NAAQS are "the engine that drives nearly all of Title I of the [Act]").

a. 42 U.S.C. § 7409(a) directs EPA to promulgate NAAQS for air pollutants for which "air quality criteria" have been issued under 42 U.S.C. § 7408. NAAQS establish the maximum allowed concentrations of pollutants in the "ambient" air. *Train* v. *Natural Res. Def. Council*, 421 U.S. 60, 65 (1975).

The Act reserves to states primary responsibility for attaining NAAQS, through a state implementation plan (SIP). 42 U.S.C. § 7407(a). For each NAAQS, EPA must designate regions as either "attainment," "nonattainment," or "unclassifiable." *Id.* § 7407(d). Because area designations are "pollutant-specific," *Alabama Power Co.* v. *Costle*, 636 F.2d 323, 350 (D.C. Cir. 1980), an area may be in attainment for one NAAQS, but nonattainment for another. J.A. 233.

b. Following EPA's approval of the first SIPs in 1972, *Sierra Club* v. *Ruckelshaus*, 344 F. Supp. 253, 257 (D.D.C.), aff'd per curiam 4 Env't Rep. Cas. (BNA) 1815 (D.C. Cir. 1972), aff'd per curiam by an equally divided Court sub nom. *Fri* v. *Sierra Club*, 412 U.S. 541 (1973), ordered EPA to disapprove any SIP for an attainment area that would allow air quality to deteriorate to the level of a NAAQS.

Implementing that order, EPA promulgated regulations in 1974 to "prevent significant deterioration" in "area-wide concentrations" of sulfur dioxide (SO_2) and particulate matter (PM)—two pollutants for which EPA had then promulgated NAAQS. See 39 Fed. Reg. 42,510 (Dec. 5, 1974); *Alabama Power*, 636 F.2d at 347. The regulations required preconstruction permits for new major sources (and major modifications) in attainment areas. Permits ensured that (1) ambient air quality would not degrade beyond numerical "increments" for SO_2 and PM, and (2) sources would employ "best available control technology" (BACT) for SO_2 and PM. EPA acknowledged that, in the future, "it may become desirable to control deterioration due to * * * additional pollutants for which national standards might be set." 39 Fed. Reg. 31,000, 31,006 (Aug. 27, 1974).

In 1977, Congress codified the PSD program as Part C of Title I. See Pub. L. No. 95-95, 91 Stat. 731 (Aug. 7, 1977). Part C requires each SIP to contain "emission limitations and such other measures as may be necessary"—determined under regulations from EPA—to "prevent significant deterioration of air quality in each [air quality control] region" designated as attainment or unclassifiable. 42 U.S.C. § 7471.

Each new "major emitting facility" must obtain a preconstruction permit. 42 U.S.C. § 7475(a). To avoid unintended or disproportionate economic effects on small sources, the Act sets numerical emission thresholds below which a source is not subject to PSD permitting. See J.A. 1542; 42 U.S.C. § 7479(1) ("major emitting facility" means enumerated facilities that emit "one hundred tons per year or more of any air pollutant," and "any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant"). Those thresholds make sense as applied to the two pollutants then regulated under the PSD program: SO_2 and PM.

No major emitting facility "may be constructed in any area to which th[e] [PSD program] applies" unless (among other things) "a permit has been issued for such proposed facility" following a demonstration that it will not cause or contribute to air pollution in excess of: (a) pollutant-specific numerical increments; (b) the NAAQS; or (c) any other applicable requirement of the Act. 42 U.S.C. § 7475(a)(1), (3). The facility must also be "subject to [BACT] * * * for each pollutant subject to regulation under th[e] [Act]." *Id.* § 7475(a)(4).

The Act establishes increments (i.e., maximum allowable increases from baseline) for SO_2 and PM. See 42 U.S.C. § 7473. For all "[o]ther pollutants"—including four named criteria pollutants and others for which NAAQS might later be promulgated—Congress "direct[ed] EPA to develop within two years [pollutant-specific] PSD programs." *Alabama Power*, 636 F.2d at 351; 42 U.S.C. § 7476.

Section 166 requires EPA to "conduct a study" and, by August 7, 1979, "promulgate regulations to prevent the significant deterioration of air quality" from other pollutants for which NAAQS existed but for which EPA had yet devised a PSD program: "hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides." 42 U.S.C. § 7476(a). As to yet *other* pollutants, "for which [NAAQS] are promulgated after [the statute's effective date]," EPA must "promulgate [PSD] regulations not more than 2 years after the * * * [NAAQS]." *Ibid.*

Section 166 regulations may use different thresholds than the statutory PSD program for SO_2 and PM. See 42 U.S.C. § 7476(c) (regulations "shall provide specific numerical measures against which permit applications may be evaluated, a framework for stimulating improved control technology, protection of air quality values, and fulfill the goals and purposes set forth in [the Congressional findings and declaration of purpose for Title I and Part C]."). The regulations must include "specific measures at least as effective as"—but not necessarily identical to—"the increments established [for SO_2 and PM] * * *, and may contain air quality increments, emission density requirements, or other measures." *Id.* § 7476(d).

Section 166 also provides a timeline for orderly implementation. It delays the effective date of any new PSD regulations until "one year after the date of promulgation," affords states 21 months to submit a "plan revision" to address any new permitting requirements, and directs EPA to "approve or disapprove the plan [revision] within 25 months." 42 U.S.C. § 7476(b).

c. EPA has interpreted "any air pollutant" in the statutory 100/250-ton thresholds—beyond which a source is a "major emitting facility" for PSD, 42

U.S.C. § 7479(1)—to mean not *any* pollutant, but *only* pollutants "subject to regulation under the Act." 40 C.F.R. § 52.21(b)(50); see also 40 C.F.R. § 52.21(b)(1) (1978).

2. In 1990, Congress added Title V to the Act, requiring certain stationary sources to obtain a federal operating permit. 42 U.S.C. §§ 7661-7661f. Rather than "'impos[ing] new substantive air quality control requirements,'" a Title V permit "'consolidate[s] into a single document (the operating permit) all of the * * * [Act's] requirements applicable to a particular source of air pollution.'" *United States* v. *EME Homer City Generation, L.P.*, 727 F.3d 274, 280 (3d Cir. 2013) (quoting *Sierra Club* v. *Johnson*, 541 F.3d 1257, 1260-1261 (11th Cir. 2008)). Among other listed source types, Title V applies to "major stationary sources," defined as sources emitting 100 tons/year of "any air pollutant." 42 U.S.C. §§ 7602(j), 7661(2). As with PSD, EPA has interpreted "any air pollutant" in Title V to mean pollutants subject to regulation under the Act. 40 C.F.R. § 70.2.

3. *Massachusetts* v. *EPA*, 549 U.S. 497, 532 (2007), held that GHGs fall within the Act's general definition of "air pollutant," in the context of mobile source regulation under Title II of the Act. On remand, EPA issued an Endangerment Finding, concluding that "elevated concentrations" of atmospheric GHGs "may reasonably be anticipated to endanger the public health and * * * welfare," and that "emissions of * * * [GHGs] from new motor vehicles contribute to th[is] air pollution." 74 Fed. Reg. 66,496, 66,516, 66,537 (Dec. 15, 2009). EPA also issued emissions standards for new cars in a joint rulemaking with the National

Highway Transportation Safety Administration. 75 Fed. Reg. 25,324 (May 7, 2010) ("Tailpipe Rule").

EPA then concluded that regulating GHG emissions from cars under Title II triggers automatic stationary-source regulation under Titles I and V. See 74 Fed. Reg. 55,292, 55,294 (Oct. 27, 2009); 75 Fed. Reg. 17,004 (Apr. 2, 2010) ("Timing Rule"). As a result, no state could issue a PSD or Title V permit to a source that emits GHG above certain thresholds without subjecting it to review for GHG. 75 Fed. Reg. at 17,006. EPA did not address how, or whether, this reading would advance the objectives in Title I and Part C of ensuring compliance with NAAQS and preventing deterioration of air quality, or Title V's objective of collecting otherwise applicable requirements.

EPA acknowledged that immediate stationary-source regulation of GHGs would generate "absurd" results Congress could not have intended, subjecting thousands of sources, including small, non-industrial sources, to burdensome permitting reviews, and imposing $22.5 billion in paperwork costs alone. 75 Fed. Reg. 31,514, 31,517, 31,540 (June 3, 2010) (Table V-1). EPA conceded that its interpretation would extend stationary-source permitting to "an extraordinarily large number of small sources," which would "incur unduly high compliance costs" and impose "overwhelming administrative burdens." *Id.* at 31,541. The Agency estimated that some 81,000 sources per year would become subject to PSD (compared to a baseline of 280 per year), and approximately 6 million sources to Title V (compared to a baseline of 14,700). *Id.* at 31,536, 31,538. EPA concluded that "applying the PSD and Title V requirements literally (as previously interpreted narrowly by

EPA) * * * would severely undermine congressional purpose." *Id.* at 31,541-31,542.

EPA sought to cure this self-made absurdity, not by revisiting its expansive interpretation of the statutory triggers, but by revising upward by several orders of magnitude ("tailoring") the Act's *statutory* thresholds. 75 Fed. Reg. at 31,514 ("Tailoring Rule"). EPA defined the phrase "subject to regulation" to exempt sources emitting under 100,000 tons/year of GHGs. The Tailoring Rule also established a series of reductions in the threshold over time, but even the final thresholds do not come within two orders of magnitude of the statutory triggers. See *id.* at 31,566. EPA rejected the possibility that it had an obligation—or even discretion—to interpret the Act to avoid these "absurd results." *Id.* at 31,548.

EPA then ordered states immediately to revise their SIPs to accommodate GHG regulation. See 75 Fed. Reg. 53,892 (Sept. 2, 2010), 75 Fed. Reg. 77,698 (Dec. 13, 2010); 75 Fed. Reg. 81,874 (Dec. 29, 2010). EPA declared some state rules void retroactively from their moment of adoption years earlier, in essence because the states did not anticipate that EPA would later regulate GHG at particular thresholds. 75 Fed. Reg. 82,430, 82,431, 82,433 (Dec. 30, 2010). Notwithstanding laws giving states at least three years to revise their SIPs (see 42 U.S.C. § 7410(a)(1); 40 C.F.R. § 51.166(a)(6)(i)), EPA immediately imposed a GHG federal implementation plan (FIP) on certain states. 75 Fed. Reg. 82,246 (Dec. 30, 2010).

4. Dozens of parties sought review of the Endangerment Finding and the Tailpipe, Timing, and Tailoring Rules pursuant to 42 U.S.C. § 7607(b). The panel upheld the rules in their entirety, finding

EPA's interpretation "compelled" by the Act. J.A. 193-194, 236.

Under Step 1 of *Chevron USA Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), the panel held that the term "any air pollutant" in 42 U.S.C. 7479(1) "unambiguously means 'any air pollutant regulated under the [Act].'" J.A. 241.[1] The panel adopted this interpretation while acknowledging that it would result in "overwhelming permitting burdens that would * * * fall on permitting authorities and sources." *Id.* at 235, 257. The statute compelled an "expansive" approach, in the panel's view, even though EPA itself had "narrow[ed] the literal statutory definition," which "nowhere requires that 'any air pollutant' be a *regulated* pollutant." *Id.* at 237. The panel rejected the "literal statutory definition" as yielding "absurd" results (*id.* at 238), while concluding that EPA's interpretation (which *also* yielded absurd results) was compelled (*id.* at 236, 246).

The panel rejected "three alternate interpretations" of the statute. J.A. 241. First, it rejected "a greenhouse gas-exclusive interpretation of 'pollutant,'" under which "a source would qualify as a 'major emitting facility' only if it emits 100/250 [tons per year] of 'any air pollutant' except [GHGs]," and sources subject to PSD would not be required to install BACT for GHGs. J.A. 242; see UARG Br. 25-32. The panel viewed the phrase "each pollutant subject to regulation under [the Act]," 42 U.S.C. § 7475(a)(4), as "without qualification." J.A. 242.

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[1] The panel rejected EPA's contention that challenges to its interpretation of "any air pollutant" in 42 U.S.C. §§ 7475(a) & 7479(1) were time-barred. J.A. 225-231.

Second, the panel rejected a reading under which a stationary source triggers PSD permitting only if it "has major emissions of a NAAQS criteria pollutant" and "is located in an area attaining *that pollutant's* air quality standard." J.A. 246; ACC Br. 15-23. The panel acknowledged that this reading would "alleviat[e] any 'absurd results'" because "EPA [has] declined to make greenhouse gases a NAAQS criteria pollutant." *Ibid.* Although the term "any air pollutant" is "capable of narrower interpretations," the panel "garnered" no textual basis for narrowing here. *Id.* at 251, 252.

Finally, the panel rejected the argument that "to regulate new pollutants through the PSD program, EPA was required to go through the process prescribed by [Section] 166." J.A. 255. The panel acknowledged that Section 166 "provides specific steps that EPA must take when designating new 'pollutants for which [NAAQS]' apply." *Ibid.* And it did not dispute that EPA "failed to follow" those steps here. J.A. 256. But the panel interpreted Section 166 as applying "only to new pollutants for which [NAAQS] apply." *Ibid.* (internal quotation marks omitted). Because EPA "never classified [GHGs] as a NAAQS criteria pollutant," Section 166 "has absolutely no bearing" on EPA's "addition of [GHGs] into the PSD [c]onstellation." *Ibid.* ("entirely inapplicable"). The lower court also invoked its 1980 decision in *Alabama Power*, which it viewed as "reject[ing] a nearly identical argument." *Ibid.*

5. The court of appeals denied en banc rehearing over two substantial dissents. J.A. 139, 145, 170.

EPA's expansive interpretation, Judge Kavanaugh explained, "has a glaring problem" and "would lead to absurd results" that even EPA conceded were "'contrary to'" and "'undermine[d]'" "'what Congress had in mind.'" *Id.* at 172-173 (quoting 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009)). EPA erred by rejecting "the narrower and more sensible interpretation of the term 'air pollutant,'" and instead "re-wr[iting] the very specific 250-ton [statutory] trigger" to "'tailor' the absurdity" it had created. *Id.* at 173-174. Given the absurdities infecting EPA's interpretation, and "[i]n the context of the [PSD] program as a whole," Judge Kavanaugh found it "straightforward" that "the term 'air pollutant' refers to the NAAQS air pollutants" and thus EPA had "exceeded its statutory authority." *Id.* at 175, 170. Judge Brown also dissented, concluding that regulation of GHGs under the Act "rest[s] on the shakiest of foundations," because "[a]mbient air quality * * * was the point, purpose, and focus of the [Act]." J.A. at 147-149.

SUMMARY OF ARGUMENT

The panel erred in holding the Act *compels* the conclusion that regulating GHGs from cars under Title II automatically triggers stationary-source permitting under Titles I and V, which even EPA concedes leads to absurd results requiring *ad hoc* "tailoring" of unambiguous statutory provisions. EPA may add new pollutants to PSD only through Section 166, which avoids the absurd results and other legal infirmities of EPA's approach.

The panel erred in concluding that Section 166 "has absolutely no bearing" (J.A. 256) on the scope of the PSD program of which it is a central part. Section 166 provides EPA flexibility to establish specific measures for permitting new pollutants, and a "framework for stimulating improved control technology." 42 U.S.C. § 7476(c). Section 166 also provides orderly timeframes for implementation, consistent with the Act's structure of cooperative federalism, *id.* § 7476(b), in contrast to EPA's hurried imposition of federal dictates. EPA unquestionably failed to follow Section 166 here. J.A. 256.

The panel also erred by dismissing arguments about Title V, mistakenly concluding that they were waived. EPA erred by treating a regulation inapplicable to stationary sources (the Tailpipe Rule) as a trigger for a permitting program that merely collects otherwise applicable *stationary*-source requirements. In addition, Title V expressly forbids EPA from exempting major sources, as it did here.

ARGUMENT

EPA does not claim that its GHG rulemakings addressing Titles I and V of the Act do anything to advance the purposes of those titles. Rather, EPA contends that statutory text compels its rules regardless of their effect. A careful examination of the statute as a whole, considering text, context, and purpose, shows that the Act forecloses EPA's interpretation.

I. EPA's Determination That The Tailpipe Rule Triggers PSD Regulation Conflicts With Section 166 Of The Act

A. EPA Failed To Follow The Statutory Mechanism For Extending The PSD Program To New Pollutants

The plain text of Part C reflects Congress's intent to prevent significant deterioration of criteria air pollutants regulated at the time of its enactment in 1977. The Act contains explicit requirements for SO_2 and PM, the two criteria pollutants for which EPA already had developed a PSD program. See 38 Fed. Reg. 25,678 (Sept. 14, 1973) (SO_2); 36 Fed. Reg. 8,186 (Apr. 30, 1971) (PM). Section 163 specifies numerical increments ("maximum allowable increases over baseline concentrations") for those pollutants. 42 U.S.C. § 7473(b). Congress's focus on PM and SO_2 is consistent with the EPA regulations on which it based the PSD statute. See 39 Fed. Reg. at 31,006 (addressing SO_2 and PM).

Section 166 also instructs EPA how to address the criteria pollutants then in existence other than SO_2 and PM, including "hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides." 42 U.S.C. § 7476(a). And EPA must issue PSD "regulations" for any other pollutants "for which [NAAQS] are promulgated after August 7, 1977." *Ibid.* In directing EPA to "promulgate [PSD] regulations" for such air pollutants, *ibid.*, Congress obviously assumed that the statutory PSD program for SO_2 and PM would not apply of its own force.

With respect to "other pollutants," Section 166 grants EPA flexibility to establish "numerical measures against which permit applications may be evaluated" (i.e., increments or triggering thresholds), and to create a "framework for stimulating improved control technology" (i.e., a BACT-type element). 42 U.S.C. § 7476(c). Although regulations for "[o]ther pollutants" "shall provide specific numerical measures against which permit applications may be evaluated," they need not be identical to the statutory program if they are "at least as effective." *Id.* § 7476(c), (d). Section 166 provides flexibility to ensure "protection of air quality values" while remaining faithful to "the goals and purposes [of Title I and Part C]." *Id.* § 7476(c).

Section 166 also sets an orderly implementation schedule. Any new regulations take effect only "one year after the date of promulgation," and states have "21 months" to submit a "plan revision" to reflect new permitting requirements. 42 U.S.C. § 7476(b). The one-year delay allows Congress to review the rules before the states must implement them. See 72 Fed. Reg. 54,112, 54,118 (Sept. 21, 2007) (citing H.R. Conf. Rep. 95-564, at 151 (1977)). The statute further contemplates EPA "approv[al] or disapprov[al] [of] the plan [revision]" within "25 months." *Ibid.*

Congress's expectation that EPA would address additional pollutants by pollutant-specific regulation, not by shoehorning them into the statutory program for SO_2 and PM, is confirmed by how unsuited that program is to regulating a non-criteria pollutant such as GHGs. Petitioners explain this mismatch in greater detail. See UARG Br. 25-32; ACC Br. 15-23; see generally EIM Br.

Among other anomalies, Section 161 applies to "prevent significant deterioration of air quality in each region * * * designated pursuant to section 7407 * * * as attainment or unclassifiable [for a NAAQS,]" 42 U.S.C. § 7471, but there are no such "region[s] * * * designated" for GHGs because EPA has not promulgated a NAAQS for GHGs. Section 162 contemplates PSD increments varying with location, such as national parks. *Id.* § 7472. That requirement makes no sense for GHGs, which are uniformly distributed around the globe. Nor does Section 165(a)(4)'s requirement that a "proposed facility" be "subject to [BACT] * * * for each pollutant subject to regulation under this chapter," *id.* § 7475(a)(4), have meaning in a program that prevents ambient air quality from deteriorating to the level of the NAAQS, absent a NAAQS for GHGs.

These textual markers demonstrate that Congress created a three-step PSD program: (1) the statute applies of its own terms to SO_2 and PM; (2) EPA must develop a *regulatory* PSD program for hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides within a certain time; and (3) EPA must promulgate regulations to address any future NAAQS pollutants. The statute contains no indication that EPA should apply the statutory (SO_2 and PM) PSD program to non-criteria pollutants: Any future application of Part C is limited to criteria pollutants—i.e., pollutants "for which [NAAQS] are promulgated after August 7, 1977."

In this context, the phrase "any air pollutant" in Section 169(1)—and the phrase "any pollutant subject to regulation under th[e] [Act]," in Section 165(a)(4)—are best understood in their literal, present-tense sense, as applying to pollutants subject to regulation *in 1977*. See *United States* v. *Wilson*, 503 U.S. 329, 333 (1992) ("Congress' use of a verb tense is significant in construing statutes."). That reading fulfills the PSD program's stated purposes, is consistent with that Part's other provisions and legislative history, and avoids the absurdities that cause EPA to "tailor" the Act.

B. Section 166 Provides The Exclusive Mechanism By Which "Other Pollutants" Can Trigger PSD Regulation

Read in light of familiar principles of statutory construction, Section 166 establishes the exclusive pathway for bringing "other pollutants" into Part C.

The statute contains several strong textual indications that new pollutants do not trigger PSD permitting unless EPA has complied with Section 166. Section 166(a) directs EPA to "conduct a study" and promulgate "regulations to prevent the significant deterioration of air quality" resulting from the enumerated pollutants. Under Section 165, no permit may issue unless EPA first reviews it "in accordance with regulations promulgated by the Administrator," 42 U.S.C. § 7475(a)(2). Issuance of regulations under Section 166 is therefore a practical prerequisite to PSD permitting. Section 165 also directs a permitting authority to determine whether a proposed facility will "cause, or contribute to, air pollution in excess of * * * maximum allowable increase * * * for any air pollutant," *id.* § 7475(a)(3); only under Section 166 does EPA establish such increments for other pollutants. *Id.* § 7476(c).

That Congress established an express, detailed mechanism to incorporate other criteria pollutants creates a strong inference that Congress did not "give

[EPA] a free hand authority," *Alabama Power*, 636 F.2d at 354, to expand the PSD program's scope while ignoring procedures specified for such "[o]ther pollutants." That "Congress include[d] particular language" for adding new NAAQS pollutants to the PSD program "but omit[ted]" any reference to adding non-NAAQS pollutants implicates the "genera[l] presum[ption] that Congress act[ed] intentionally and purposely in the disparate inclusion or exclusion." *Gozlon-Peretz* v. *United States*, 498 U.S. 395, 404 (1991) (internal quotation marks omitted). Congress's care in crafting a system for including new NAAQS in a statute focused on their achievement and maintenance—and lack of any reason why EPA should have free reign to add non-NAAQS pollutants—"justif[ies] the inference" that Congress excluded non-NAAQS pollutants "by deliberate choice, not inadvertence." *Barnhart* v. *Peabody Coal Co.*, 537 U.S. 149, 168 (2003).

To similar effect, the absence of any language conferring discretion on EPA to extend PSD at will violates the rule that "[c]ourts do not lightly conclude that Congress intended such major consequences [as expanding PSD permitting to include GHGs] absent some indication that Congress meant to do so." J.A. 179 (Kavanaugh, J., dissenting) (citing *FDA* v. *Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159-61 (2000)).

EPA's error in "cho[osing] an admittedly absurd reading over a perfectly natural reading of the relevant statutory text" (J.A. 187 (Kavanaugh, J., dissenting)) is highlighted by considering how compliance with Section 166 avoids the legal and practical problems that required EPA's "tailoring." Under Section 166, EPA can establish appropriate "numerical measures," as to which the statute is silent for GHGs. EPA may develop a "framework for stimulating improved control technology," rather than mechanical application of BACT—an important degree of flexibility given that GHGs are not really susceptible to BACT. See Chamber Br. 18; EIM Br. And EPA need not establish an "area classification plan," a useless construct for GHGs given their uniform global distribution.

Section 166 also has the advantage of allowing for orderly implementation, consistent with the "wide discretion" the Act reserves to the states in crafting implementation plans. *Alaska Dep't of Envtl. Conservation* v. *EPA*, 540 U.S. 461, 470 (2004). As noted, Section 166 provides EPA two years to promulgate PSD regulations after adopting a new NAAQS, delays implementation for "one year," affords states 21 months to submit a "plan revision," and directs EPA to act on the revision "within 25 months." 42 U.S.C. § 7476(b). By contrast, EPA's "SIP Call" regulations gave some states mere weeks to update their plans before imposing a federal plan.

C. The Panel Misreads The Statute By Treating Section 166 As Irrelevant

1. Rather than engaging with the above analysis, the panel summarily concluded that Section 166 "applies only to new 'pollutants for which [NAAQS]' apply." J.A. 256 (quoting 42 U.S.C. § 7476(a)). Consequently, EPA could add *non*-NAAQS pollutants as a permit trigger, without regard to Section 166.

This approach reads a fragment of statutory text ("pollutants for which [NAAQS] are promulgated," 42

U.S.C. § 7476(a)) "'in isolation,'" contrary to the cardinal rule that courts must "'read statutes as a whole.'" *Samantar* v. *Yousuf*, 560 U.S. 305, 319 (2010) (quoting *United States* v. *Morton*, 467 U.S. 822, 828 (1984)). The panel ignored the more plausible reading: that Section 166 applies to new NAAQS because Part C of the Act, in which it is located, applies only to NAAQS pollutants.

Even if Part C were not so limited, the panel's reading ignores other clues, including Section 166's caption, which applies to "[o]ther pollutants" without limitation to NAAQS. 42 U.S.C. § 7476. It disregards Section 166's repeated use of the mandatory "shall," imposing numerous requirements on how EPA may subject "[o]ther pollutants" to PSD. And the panel attributes to Congress the perverse intention of imposing detailed restrictions on EPA's addition of new NAAQS pollutants to PSD (a program enacted to address region-specific concerns), while requiring EPA to immediately apply the statutory PSD program built for SO_2 and PM to any other non-NAAQS pollutant EPA identifies, no matter how poor the fit.

Section 166's reference to NAAQS confirms what is evident from the PSD program's text and structure: Permitting is triggered only by emission of NAAQS pollutants by a source located in a region that is in attainment for that NAAQS. This understanding harmonizes Section 166's reference to NAAQS with the PSD program's broader scope.

2. The panel also relied on *Alabama Power* v. *Costle*, 636 F.2d 323, 405-406 (D.C. Cir. 1980), which rejected an attempt to postpone Section 165(a)'s "Au-

gust 7, 1977" effective date for PSD regulation of the four pollutants named in Section 166(a). J.A. 256.

Alabama Power is not binding on this Court, and any persuasive value is undercut because the D.C. Circuit did not have occasion to consider the absurdities that result from applying that interpretation to GHGs. Even if the court's interpretation were facially "plausible" when viewing Section 166 in isolation, it must yield to "the simple and absolutely dispositive point in this case": EPA's reading of the statute "produces what even EPA itself admits are absurd consequences." J.A. 179 (Kavanaugh, J., dissenting).

This Court has not hesitated to correct an error of statutory interpretation, even (unlike here) in the absence of absurd results and where many other courts have endorsed that interpretation. See, *e.g.*, *Buckhannon Bd. & Care Home, Inc.* v. *W. Va. Dep't of Health and Human Res.*, 532 U.S. 598, 643 (2001) (Ginsburg, J., dissenting) (noting that majority decided question differently than every court of appeals to consider it); *Jones* v. *United States*, 526 U.S. 227, 254 (1999) (Kennedy, J., dissenting) (same). This Court's obligation independently to decide the merits of a question presented, without giving other courts' decisions precedential weight, is particularly important where time and circumstances reveal practical and legal infirmities in an earlier approach. See, *e.g.*, *Morrison* v. *Nat'l Australia Bank Ltd.*, 130 S. Ct. 2869, 2878-2881 (2010).

In any event, the panel drew the wrong lesson from *Alabama Power*, which squarely rejected an analogous attempt by EPA to tailor statutory permitting thresholds to offset the Agency's own implausible interpretation. EPA had defined "potential to emit" in a way that inflated the number of sources subject to PSD review beyond what was "cost-effective," and "would strain to the limits the agency's resources." 636 F.2d at 352-356. To solve this (self-imposed) problem, EPA sought to exempt from PSD review any source with emissions below 50 tons/year, notwithstanding the statute's explicit 100/250 ton-per-year thresholds. *Id.* at 355-356. The D.C. Circuit held that EPA's reading "falls well beyond the agency's exemption authority," and adopted—despite deference to EPA—a different reading of the threshold trigger. *Id.* at 353-355. For the same reasons, EPA's current efforts to "tailor" the clear statutory thresholds to mitigate its self-made absurdities must fail.

3. The panel also held that GHGs are unambiguously a "pollutant subject to regulation under th[e] [Act]" for purposes of Section 165(a)(4)'s BACT requirement. J.A. 242. As a result, sources subject to PSD because of their emissions of *other* pollutants must satisfy BACT for GHGs. As petitioners explain, this reading ignores textual reasons why the PSD statute is incompatible with GHG regulation. See UARG Br. 28; see generally EIM Br. (explaining why BACT for GHGs constitutes regulation of means of production, not emission controls). It also ignores Section 166(c)'s directive that any regulatory PSD program must include "a framework for stimulating improved control technology"—a clear reference to crafting a "BACT-like" approach appropriate for the new pollutant, replacing mechanical application of Section 165(a)(4). Critically, under Section 166, EPA may establish appropriate permitting thresholds for new pollutants, avoiding the absurdities created by

its current approach and the need for ad hoc "tailoring" of the statutory thresholds for PM and SO_2.[2]

II. EPA Misreads The Act As Requiring Pointless Title V Regulation

Based on its interpretation that the term "any air pollutant" in Title V means any pollutant subject to regulation anywhere in the Act, 40 C.F.R. § 70.2, EPA concluded that regulation of GHGs from cars under Title II also triggered mandatory Title V permitting of GHG emissions from stationary sources. EPA did not, and could not, explain why Congress would have triggered a permitting requirement intended solely to collect otherwise applicable *stationary*-source requirements, ***EME Homer City***, 727 F.3d at 280, based on EPA having promulgated a requirement (the Tailpipe Rule for cars) inapplicable to stationary sources.

Regardless, the statute forecloses EPA's approach. Although Title V grants EPA discretion to exempt certain sources, it expressly prohibits EPA from exempting any "major source." 42 U.S.C. § 7661a(a) provides that EPA may "exempt one or more source categories" from Title V permitting if "compliance with such requirements is impracticable, infeasible, or unnecessarily burdensome[,] * * * except that the Administrator may not exempt any major source from such requirements." Yet exempting "major source[s]" of GHGs is precisely what EPA did in the Tailoring Rule. 75 Fed. Reg. at 31,523-31,524.[3] This clear statutory violation reveals EPA's error in interpreting "any air pollutant" in Title V to include GHGs simply because they are regulated under Title II.

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[2] That EPA has previously applied Section 165(a)(4)'s BACT requirement to non-NAAQS pollutants, see 75 Fed. Reg. at 31,561-31,562, does not immunize the Agency's interpretation from challenge. "Age is no antidote to clear inconsistency with a statute," particularly where a change in circumstances has recently removed that interpretation from its prior "unscrutinized and unscrutinizable existence." *Brown* v. *Gardner*, 513 U.S. 115, 122 (1994) (citation omitted); *Cooper Indus., Inc.* v. *Aviall Servs., Inc.*, 543 U.S. 157, 165-167 (2004) (rejecting as inconsistent with statute's "clear meaning" agency interpretation endorsed for nearly 20 years). EPA's own concession that stationary-source GHG permitting generates "absurd" results constitutes a significant new circumstance that justifies revisiting the Agency's historical position.

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[3] The panel erroneously held that petitioners "forfeited any challenges to EPA's greenhouse gas-inclusive interpretation of Title V" by "failing to raise [the argument] in their opening brief." J.A. 241. But petitioners (including the Coalition) squarely raised the issue, devoting an entire sub-heading to the argument that "EPA is expressly forbidden to 'exempt any major source' from Title V requirements." Joint Opening Br. of Non-State Pet'rs & Supporting Intervenors at 46-47, No. 10-1073 (D.C. Cir. Dec. 14, 2011) (Doc. 1347709).

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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RESPONDENT'S BRIEF

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In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, ET AL., PETITIONERS
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

REPLY BRIEF FOR RESPONDENTS COALITION FOR RESPONSIBLE REGULATION, INC., ALPHA NATURAL RESOURCES, INC., GREAT NORTHERN PROJECT DEVELOPMENT, L.P., AND NATIONAL CATTLEMEN'S BEEF ASSOCIATION IN SUPPORT OF PETITIONERS

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ARGUMENT

In their brief supporting petitioners, Respondents Coalition for Responsible Regulation, Inc., Alpha Natural Resources, Inc., Great Northern Project Development, L.P., and National Cattlemen's Beef Association ("Coalition") explained that EPA's application of the Clean Air Act's prevention of significant deterioration ("PSD") program to greenhouse gases ("GHG") cannot be reconciled with Section 166, 42 U.S.C. § 7476, which addresses how EPA may add "other pollutants" to the PSD program. Neither EPA nor its supporters meaningfully rebut this straightforward textual argument, or the Coalition's exposition of error in EPA's interpretation of Title V.

I. Section 166 Confirms The PSD Program's Limited Role In Controlling Air Pollution

EPA views PSD as a generalized mandate for new or modified sources of *any* regulated pollutant to obtain a permit, so that the permitting authority may undertake case-by-case judgments about best available control technology ("BACT"). See Br. for Federal Respondents ("U.S. Br.") 21. EPA justifies applying that view to GHG emissions "given the substantial harms that large-scale [GHG] emissions can cause, [so] application of BACT requirements to those emissions directly serves the [Act's] purpose." *Ibid.*; accord Br. of Envtl. Orgs. ("NRDC Br.") 23. Missing from that justification is citation to anything in the record showing reduced emissions or harms, or to the enumerated purposes of PSD in Section 160 of the Clean Air Act ("Act"), 42 U.S.C. § 7470.

Over the past 44 years, Congress has enacted six different titles, forging an array of tools, to accomplish the Act's general goal of "enhanc[ing] the quality of the Nation's air resources." 42 U.S.C. § 7401(b)(1). For PSD, Congress specified the purpose of protecting "the ambient air" (*id.* § 7470(1)) from increasing concentrations of criteria pollutants, i.e., those pollutants for which Congress established increments of acceptable deterioration (*id.* § 7473), and those for which EPA might do so in the future after following specific statutory procedures (*id.* § 7476). The Act includes other provisions (*e.g.*, Section 111's new source performance standards ("NSPS"), *id.* § 7411, and Section 112's hazardous air pollutant program, *id.* § 7412) authorizing EPA to set emission limits for entire categories of new sources, based on "best" or "maximum achievable" technologies. See *N. Plains Res. Council* v. *EPA*, 645 F.2d 1349, 1356 (9th Cir. 1981).

Precisely because time- and labor-intensive case-by-case PSD permitting is reserved to provide "added protection to air quality in certain parts of the country" beyond that achieved under Section 111 (*Envtl. Def.* v. *Duke Energy Corp.*, 549 U.S. 561, 567 (2007); 42 U.S.C. § 7475(a)), Part C should not be construed, as EPA and aligned respondents suggest, to apply PSD to effectively all sources of any pollutant.[1]

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[1] Various respondents and *amici* claim that because permits are being issued, concerns about program burdens are overstated. See Br. of New York et al. ("States Br.") 35-39; Br. of Calpine Corp. as *Amicus Curiae* in Support of Respondent. But a few swallows do not make a summer: Since early 2011, EPA's Region 6 has received 81 PSD applications for GHG-emitting projects in Texas, but issued only 27 permits. See EPA Region 6

PSD's numeric applicability thresholds, 42 U.S.C. § 7479(1), and geographic limitations, *id.* § 7475(a), deserve attention not solely because EPA has treated them as optional, but because they inform the appropriate construction of Part C. The thresholds sensibly define the "major sources" of the few pollutants intended to be covered by the Act as amended in 1977, with any coverage expansion contingent on EPA complying with Section 166, which authorizes EPA to develop thresholds ("numerical measures") appropriate to those other pollutants. *Id.* § 7476. The geographic limitations confirm that only sources with significant potential to cause significant deterioration would undergo site-specific impact assessments and technology reviews. See Br. of Am. Chem. Council et al. 19.

In disclaiming any obligation to comply with Section 166, EPA and the panel draw precisely the wrong conclusion from the statutory text, which contemplates "regulations" adapting PSD to pollutants "for which national ambient air quality standards are promulgated." 42 U.S.C. § 7476(a); U.S. Br. 30 n.7; J.A. 256. Neither the panel nor EPA and aligned respondents explain why Congress would have intended the PSD program to apply instantly and woodenly to *non*-criteria pollutants, while requiring thoughtful federal and state rulemakings for the criteria pollutants at the heart of Part C.

PSD Permitting Process for Greenhouse Gases, http://yosemite.epa.gov/r6/Apermit.nsf/AirP (last visited Feb. 12, 2014). Some applications have been pending for nearly two years, twice the statutory limit. 42 U.S.C §7475(c). These projects represent tens of billions in capital investment, held up by a process for which EPA documents no benefit.

EPA characterizes the Coalition's interpretation as "deeply flawed" (U.S. Br. 29) without identifying any flaw. Rather, EPA conflates what it has done with what it may or must do under the statute. EPA contends that its 2002 regulation applying PSD to certain other non-criteria pollutants (*e.g.*, hydrogen sulfide) somehow compels the Agency to apply PSD to GHG (*id.*), despite all evidence that Congress enacted Part C to address only a limited set of pollutants. See Coalition Br. 16-19.

EPA and its respondents imply that limiting PSD to criteria pollutants would undo important environmental protections, but PSD is not the Act's only tool. Compare U.S. Br. 29; States Br. 32-35 & n.17; NRDC Br. 22, with 42 U.S.C. § 7411 (NSPS); *id.* § 7412 (hazardous air pollutants). The Coalition's interpretation of PSD will not prevent EPA from using these other tools to impose technology-based limits on, or protect the public from excessive exposure to, any non-criteria pollutant, whether hydrogen sulfide or GHGs.

EPA and aligned respondents also note that Congress amended the Act in 1990 to eliminate any suggestion that PSD applies to hazardous air pollutants. U.S. Br. 28; States Br. 18; NRDC Br. 26. That amendment, however, is consistent with and confirms the Coalition's view that Congress intended PSD to apply only to criteria pollutants. Coalition Br. 22.

EPA argues that Congress intended PSD as an omnibus tool to minimize "air pollution" from any pollutant EPA regulates under any part of the Act. The flaws in that reading are exposed not only by the extreme over-inclusion of sources that emit GHGs (see Br. for State Pet'rs 3-4), but also by the significant *under*-inclusion of sources of other pollutants. A 249-

ton source of hydrogen sulfide, for example, could have significant air-quality consequences, but remain outside PSD's scope. See 42 U.S.C. § 7479(1) (250-ton threshold). Under EPA's reading, the more dangerous the pollutant, the less likely it is to face PSD review.

The thresholds' specificity confirms Congress's intent that PSD applies only to those pollutants enumerated in Part C at its enactment, with any additions made pursuant to Section 166. Coalition Br. 16-21. Other tools remain to accomplish the Act's goals with respect to other pollutants.

EPA's main textual defense is that "[s]ome PSD program requirements * * * focus specifically on *non*-criteria pollutants," citing Section 165(a)(3)(C) for "imposing, in addition to requirements relevant to criteria pollutants, requirements related to 'any *other* applicable emissions standard * * * under th[e] [Act].'" U.S. Br. 30 (quoting 42 U.S.C. § 7475(a)(3)(C)); accord States Br. 13. But the cited section merely requires that a permit applicant show its project also complies with otherwise applicable law, not that PSD is triggered by any pollutant. The weakness of EPA's textual evidence damns its case with faint proof.

II. The Government And Aligned Respondents Ignore Flaws In EPA's Approach To Title V

As for Title V, no responsive brief meaningfully addresses either of the Coalition's arguments. Compare Coalition Br. 25, with U.S. Br. 56; NRDC Br. 37-38; States Br. 2-3 n.1. While EPA acknowledges that Title V's entire purpose is to codify requirements otherwise applicable to large and complex stationary sources (U.S. Br. 10), it does not explain why EPA's adoption of mobile-source rules should require a stationary source to obtain a Title V permit. EPA's sole defense to its violation of 42 U.S.C. § 7661a(a), which expressly prohibits "exempt[ing] any major source" from Title V, is that EPA may eventually (but likely will not, see J.A. 310-311, 421-422, 498) comply with that mandate. U.S. Br. 16.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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FEBRUARY 2014

RESPONDENT'S
BRIEF

Nos. 12-1146, 12-1248, 12-1254, 12-1268, 12-1269, 12-1272

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OFFICE OF THE CLERK

IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP,
Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

and five related cases.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

RULE 29.6 STATEMENT

Respondents Conservation Law Foundation; Environmental Defense Fund; Georgia ForestWatch; Indiana Wildlife Federation; Michigan Environmental Council; National Wildlife Federation; Natural Resources Council of Maine; Natural Resources Defense Council; Ohio Environmental Council; Sierra Club; Wetlands Watch, and Wild Virginia (collectively, Environmental Organization Respondents), all respondent-intervenors in the court of appeals, are nonprofit environmental organizations. The Environmental Organization Respondents have no corporate parents and no publicly held corporation owns an interest in any of them.

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STATEMENT

A. Statutory Background. The Clean Air Act, enacted in 1970 and amended in 1977 and 1990, establishes a comprehensive array of programs "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. 7401(b)(1). The Act requires EPA to establish standards that apply to a wide variety of air pollutants and stationary and mobile sources. These include health-based national ambient air quality standards ("NAAQS") set by EPA and implemented through state plans, *id.* 7408–7410, and technology-based performance standards applicable to various categories of stationary and mobile sources, *id.* 7411, 7521.

For these and all other provisions of the Act, "air pollutant" means "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air." *Id.* 7602(g). There are six NAAQS pollutants (or "criteria pollutants") and nearly 250 other air pollutants subject to regulation under other provisions of the Act.[1]

Complementing these standard-setting authorities are case-by-case permitting provisions enacted in the 1977 amendments that require advanced pollution controls for all major new and modified stationary sources. The principal provisions at issue in this case are in Title I, Part C of the Act, entitled "Prevention of Significant Deterioration of Air Quality" ("PSD"). PSD's purpose is "to protect public health and welfare from any actual or potential adverse effect" that "may reasonably be anticipate[d] to occur from air pollution," "notwithstanding" achievement of "all" the NAAQS. *Id.* 7470(1). PSD permitting requirements apply to any new or modified "major emitting facility" located "in any area to which [Part C] applies," *id.* 7475(a), *i.e.,* any area designated an "attainment" or "unclassifiable" area, *id.* 7407(d), see also *id.* 7471. A "major emitting facility" is any stationary source that emits or has the potential to emit specified amounts of "any air pollutant"—at least 100 tons per year for a source in one of 28 listed industrial categories, or at least 250 tons per year for "any other source." *Id.* 7479(1). PSD permits must include emission limitations reflecting the "best available control technology" ("BACT") for "each pollutant subject to regulation under [the Act]." *Id.* 7475(a)(1), 7475(a)(4), 7479(3). The permitting authority, typically a state or local agency, determines BACT, defined as "the maximum degree of reduction of each pollutant subject to regulation" under the Act, taking into account "energy, environmental, and economic impacts and other costs." *Id.* 7479(3). Other PSD provisions divide attainment areas into "classes," *id.* 7472, 7474, and establish limits on the amount by which concentrations of NAAQS pollutants may increase. *Id.* 7473, 7475(a)(3)(A).

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[1] See, *e.g.*, 40 C.F.R. Part 50 (six NAAQS pollutants); Part 60 (new source performance standards limiting NAAQS and non-NAAQS pollutants from various source categories); Part 63 (hazardous air pollutants); Part 82 (ozone-depleting substances); Part 86 (pollutants emitted by motor vehicles and engines). The addendum to this brief contains a glossary of abbreviations.

Together with the PSD provisions, Congress in 1977 enacted the more stringent permit requirements in Part D. Those provisions apply in any area designated a "nonattainment area." That term is defined as "for any pollutant, an area which is designated 'nonattainment' with respect to that pollutant within the meaning of Section 7407(d) of this title." *Id.* 7501(2). An area can be designated nonattainment for one pollutant and attainment for others, and thus be affected by both permit programs. State plans for nonattainment areas must require permits for any new or modified "major stationary source[s]" emitting at least 100 tons per year, *id.* 7602(j), and each source must meet the "lowest achievable emission rate" ("LAER"), *id.* 7503. LAER is more stringent than BACT, see *id.* 7501(3), but is targeted only to the relevant nonattainment pollutant, *id.* 7501(3), 7503(a)(2). Where a source is also a "major emitting facility" under Section 7479(1), BACT applies to the source's other pollutants subject to regulation under the Act in accordance with PSD requirements.

The Title V permit program, added in the 1990 amendments, does not impose substantive requirements, but aims to enhance transparency and facilitate compliance with Clean Air Act requirements. It requires all stationary "major sources" (any source that emits or has the potential to emit 100 tons per year of "any air pollutant") and other stationary sources subject to emissions standards to have operating permits that collect in one place all applicable requirements of the Act. *Id.* 7661a(a), 7661c(a), 7661(2), 7602(j).

Nearly all states administer the permitting programs pursuant to state implementation plans approved by EPA.

B. Regulatory Implementation of the PSD and Title V Programs. For more than three decades EPA's regulations have consistently required a new or modified major emitting facility to obtain a PSD permit if (a) it is located in any area in attainment for at least one NAAQS and (b) it will emit requisite amounts of *any* air pollutant regulated under any provision of the Act.

In 1978, EPA defined the sources subject to PSD permit obligations as those that emit, in amounts meeting the statutory threshold, "any air pollutant regulated under the [Clean Air] Act." J.A. 1489 (federal requirement); J.A. 1508 (corresponding requirement for state PSD plans). And in *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1979), industry petitioners raised and lost the very argument that petitioners press here—that PSD permitting can be triggered only by emissions of NAAQS pollutants. See *id.* at 352; *cf.* Brief of Petitioner American Chemistry Council, *et al.*, 15–23 ("ACC Br.").

EPA promulgated rules in 1980 confirming that as "required by *Alabama Power* and Sections [7475(a)] and [7479(1)] of the Act," "PSD review [applies] to any source that emits any pollutant in major amounts" to be constructed in any area that is in attainment for "*any* criteria pollutant." J.A. 1403. EPA explained that "all sources that are major for any pollutant subject to regulation under the Act and locate[d] in an area designated attainment or unclassified for any pollutant" are subject to permitting and that "neither section [7475] nor [7479(1)] links the pollutant for which the source is major and the pollutant for which an area is designated attainment or unclassifiable." J.A. 1405.

In revised regulations promulgated in 2002, EPA again reaffirmed that "[t]he PSD program applies automatically to newly regulated ... pollutants," regardless of the section of the Act under which those pollutants are regulated. J.A. 1389. See 40 C.F.R. 51.166(b)(49), 52.21(b)(50) (pollutants subject to PSD permitting include: NAAQS pollutants and precursors, pollutants subject to new source performance standards, substances subject to stratospheric ozone protection requirements, and any pollutant otherwise subject to regulation under the Act).[2]

EPA has similarly interpreted the Title V permit obligation to be triggered when a source emits major amounts of any air pollutant subject to regulation under any provision of the Act. See 57 Fed. Reg. 32,250, 32,252 (July 21, 1992).

C. Application to Greenhouse Gases. In 2007, this Court held in ***Massachusetts v. EPA*** that greenhouse gases "without a doubt" and "unambiguous[ly]" fall within "[the] Act's sweeping definition of 'air pollutant.'" 549 U.S. 497, 528–29 (2007). On remand, EPA determined that greenhouse gas air pollution may reasonably be anticipated to endanger public health and welfare and that emissions of six greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) contribute to that pollution. J.A.

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[2] From 1978 through 1990, the list of triggering pollutants also included hazardous air pollutants regulated under 42 U.S.C. 7412. The 1990 Amendments rewrote Section 7412, expanding the number of hazardous air pollutants, establishing a separate, stringent permitting program for hazardous pollutant sources, and removing hazardous pollutants from the PSD program. See *id.* 7412(b)(1), 7412(b)(6), and 7412(c)(2).

793–810, 957–72 ("Endangerment Finding"). Accordingly, EPA promulgated standards for greenhouse gas emissions from light-duty motor vehicles in 2010. J.A. 698–703 ("Tailpipe Rule").

The Timing Decision and Tailoring Rule. Recognizing that regulation of greenhouse gas emissions from motor vehicles would trigger PSD and Title V permitting obligations under the terms of the Act and the agency's longstanding regulations, EPA initiated two proceedings. First, in an interpretive ruling issued after notice and comment (the "Timing Decision"), the agency determined that a pollutant becomes "subject to regulation" (and thus covered by PSD and Title V requirements) at the time compliance is required with the emission standards for that pollutant. For greenhouse gases, that date was January 2, 2011, when vehicles would first be obligated to comply with greenhouse gas emission standards under the Tailpipe Rule. JA 705.

In a second action known as the "Tailoring Rule," EPA undertook to implement PSD and Title V permitting requirements in steps, commencing with sources whose greenhouse gas emissions both exceed the 100/250 ton statutory thresholds and are equivalent to at least 100,000 tons of carbon dioxide per year. J.A. 309–11, 313.[3] EPA responded in detail to arguments that greenhouse gases should be exempt from PSD and Title V, and reaffirmed that the Act unambiguously includes all regulated air pollutants, including greenhouse gases, among the pollutants that trigger the permitting requirements. See J.A. 474–83, 500–02.

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[3] "Carbon dioxide equivalent" takes account of differing heat-trapping potencies of greenhouse gases.

The agency also determined, however, that applying PSD and Title V permit requirements to all sources emitting greenhouse gases above the statutory thresholds immediately, before ameliorating efforts could be considered, would pose unmanageable administrative problems due to a sudden increase in the number of sources requiring permits. J.A. 355–57. Because carbon dioxide is emitted in large volumes from many sources, EPA estimated that the annual demand for PSD permits would increase from 280 to more than 81,000, and Title V operating permits from 14,700 to 6.1 million, with most of the estimated increase coming from smaller sources. J.A. 449. EPA found that those increases, in turn, would impose burdens on small sources and on permitting authorities, to the point of causing "[p]ermit gridlock." J.A. 284. EPA found that the agency and state permitting authorities did not have enough time before January 2, 2011 to complete the steps that could address those administrative burdens. Accordingly, the Tailoring Rule phased in the applicability of PSD and Title V permitting starting with the largest greenhouse gas emitters. J.A. 268.

EPA established an enforceable schedule for further rulemaking to gather additional information and evaluate whether the number of sources with emissions above the statutory thresholds could be reduced, and to streamline requirements for those that remain subject to permitting. J.A. 675–676, 681–682; see also 74 Fed. Reg. 55,292, 55,321 (Oct. 27, 2009) (Tailoring Rule Proposal) (finding that streamlining mechanisms could "significantly reduce the number of sources subject to PSD and Title V").[4]

EPA pledged to "implement the phase-in approach by applying PSD and title V at threshold levels that are as close to the statutory levels as possible, and do so as quickly as possible," but reserved the possibility of deciding in a future rulemaking to stop at a point above the statutory thresholds if the agency determined that permissible streamlining and other measures were insufficient to resolve unworkable permitting burdens. J.A. 310.

EPA relied on three closely related legal rationales and the Administrator's general authority "to prescribe such regulations as are necessary to carry out his functions" under the Act. JA 281; see 42 U.S.C. 7601(a)(1). First, EPA determined that the costs and administrative burdens that would be associated with immediate application of PSD and Title V on January 2, 2011 to all sources with greenhouse gas emissions above the statutory thresholds would constitute "absurd results" warranting application of statutory requirements "differently than a literal reading would indicate." J.A. 280, 286; see *id.* 447–48. Second, pointing to the administrative burdens for permitting authorities, EPA determined that an interim departure from the 100/250-ton thresholds was warranted under the doctrine of administrative necessity. See J.A. 544–53 (citing, *e.g.*, *Alabama Power*).[5] Finally, EPA invoked precedent recognizing that agencies may implement statutory requirements "one step at a time." See J.A. 553–57.

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[4] For example, recognizing its limited information on the emissions characteristics of smaller sources, J.A. 588–89, EPA committed to collect additional data and consider whether the number of sources whose "potential to emit" exceeds the statutory thresholds could be significantly lowered from EPA's original estimates. J.A. 588–95; 74 Fed. Reg. at 55,320–21. EPA also committed to explore streamlining methods, such as electronic permitting, which could simplify the permitting process for covered sources. EPA found that all these techniques would take time to implement. J.A. 590–91. The agency is following the process to which it committed. See 77 Fed. Reg. 41,051 (July 12, 2012); Clean Air Act Advisory Committee Report to EPA on Air Permitting Streamlining Techniques and Approaches for Greenhouse Gases (Sept. 14, 2012), available at http://www.epa.gov/oar/caaac/reports.html.

Since the Tailoring Rule was promulgated, PSD permitting has proceeded in an orderly fashion for the relatively small number of large sources that exceed the agency's interim regulatory thresholds. In the first two years of implementation, fewer than 200 greenhouse gas-emitting sources, all of them large facilities, have applied for PSD permits.[6]

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[5] EPA read the D.C. Circuit's administrative necessity precedents to require that "[w]hen an agency has identified what it believes may be insurmountable burdens in administering a statutory requirement," the agency must (1) attempt to "streamline administration as much as possible" within confines of the statute; (2) determine whether even after such streamlining, it is impossible to implement the statute; and (3) if so, "phase in or otherwise adjust the requirements so that they are administrable," provided it acts "in a manner that is as refined as possible so that the agency may continue to implement as fully as possible Congressional intent." J.A. 401–402.

[6] Greenhouse Gas Permitting Update, EPA Office of Air Quality Planning and Standards, National Association of Clean Air Agencies Meeting at 39 (Sept. 2013), available at http://www.westar.org/Docs/Business%20Meetings/Fall13/06.2%20NACAA%20fall%202013.PPT.

D. This Litigation. Numerous parties petitioned the D.C. Circuit to review the Endangerment Finding, Tailpipe Rule, Timing Decision, and Tailoring Rule. Certain parties also filed actions challenging EPA's 1978, 1980, and 2002 regulations confirming that PSD permitting applies to sources emitting any regulated air pollutant, not only sources emitting NAAQS pollutants.

A unanimous D.C. Circuit panel denied the petitions challenging the Endangerment Finding, the Tailpipe Rule, and the 1978–2002 PSD regulations, and dismissed those challenging the Timing Decision and the Tailoring Rule.

Regarding whether greenhouse gas emissions triggered PSD and Title V permitting, the court first addressed whether the 60-day limitation in 42 U.S.C. 7607(b) barred the attack on EPA's decades-old PSD regulations. The court held that two petitioners could invoke the statutory exemption for challenges based on "grounds arising after" the 60-day period because (unlike the other industry petitioners) they could not have challenged EPA's interpretation earlier. J.A. 231.

On the merits, the court found EPA's interpretation that PSD permitting applies to all regulated air pollutants, including greenhouse gases, to be "unambiguously correct" and "statutorily compelled." J.A. 193–94, 236. "[G]iven both the statute's plain language and the Supreme Court's decision in *Massachusetts*," the court had "little trouble concluding that the phrase 'any air pollutant' includes *all* regulated air pollutants, including greenhouse gases." J.A. 237. The court concluded that none of the "alternative interpretations of the PSD permitting triggers" offered by the challengers "cast[s] doubt on the unambiguous nature of the statute." J.A. 241.

Observing that "none of Petitioners' alternative interpretations applies to Title V," the court held they had "forfeited any challenges to EPA's greenhouse gas-inclusive interpretation of Title V." J.A. 241.

The court of appeals held that no petitioner had established standing to attack the Timing Decision and Tailoring Rule, which benefited, rather than harmed, petitioners. J.A. 261–62, 265.

Petitions for rehearing en banc were denied, with Judges Brown and Kavanaugh dissenting.

SUMMARY OF ARGUMENT

As EPA correctly concluded, sources of greenhouse gases indisputably became subject to the PSD permitting and BACT requirements by operation of the statute once greenhouse gases became regulated pollutants in 2011. Every indication of legislative intent—including text, the statutory structure and history, EPA's 35 years of consistent administrative interpretation, and judicial interpretation—confirms that conclusion.

The PSD program is designed "to protect public health and welfare from any actual or potential adverse effect ... from air pollution" "notwithstanding attainment and maintenance of all [NAAQS]." 42 U.S.C. 7470(1). Under the program, all new or modified "major emitting facilities" must undergo preconstruction review and comply with certain specific requirements, including using the best available control technology. *Id.* 7475(a). The statute provides that the PSD permit obligation is triggered by threshold emissions of "any air pollutant," *id.* 7479(1), and that the principal pollution-control obligation, BACT, applies to "each pollutant subject to regulation under this chapter [*i.e.*, the Clean Air Act]," *id.* 7475(a)(4).

The statute-wide definition of "air pollutant"—whose broad scope was established in the same 1977 legislation that added the PSD program—"without a doubt" and "unambiguous[ly]" includes greenhouse gases. *Massachusetts*, 549 U.S. at 529. In *Am. Electric Power Co. v. Connecticut*, 131 S. Ct. 2527, 2537 (2011), this Court relied upon that conclusion in confirming EPA's authority to regulate greenhouse gas emissions from stationary sources. Since EPA's vehicle emissions standards came into force on January 2, 2011, greenhouse gases indisputably have been an "air pollutant subject to regulation under the Act."

Petitioners offer various theories by which they claim the Act can be interpreted to exempt greenhouse gases, but their arguments flout the statutory language and misunderstand the role of PSD permitting under the Act. Language encompassing "any air pollutant" and "each pollutant subject to regulation" plainly is not limited to NAAQS pollutants, "conventional" pollutants, or any of petitioners' other invented categories. As the BACT provision makes clear, coverage of all regulated pollutants is, in fact, central to the program. Indeed, at conference, the 1977 Congress specifically rejected the House bill's language limiting the PSD permit obligation to "any air pollutant for which a national ambient air quality standard is promulgated," choosing instead the broader terms of the Senate bill that became the statutory text.

Petitioners argue that the fact that carbon dioxide is emitted in high volumes by a large number of sources obligated EPA to adopt an interpretation exempting greenhouse gases from the Act's permitting programs. Petitioners' "solution," however, lacks any basis in the statutory text, is entirely disproportionate to the implementation difficulties EPA actually confronted, ignores EPA's ongoing efforts to resolve those problems, and requires the agency to move far further from the text of the statute than does EPA's phased-in implementation plan.

Finally, the court of appeals correctly found that petitioners had forfeited any challenges to the application of Title V. Forfeiture aside, petitioners fail here to demonstrate how Title V, applicable to emissions of "any air pollutant" and intended to apply to the full universe of Clean Air Act obligations of each source, could reasonably exclude greenhouse gases.

I. THE PSD PROGRAM APPLIES TO SOURCES THAT EMIT MORE THAN THRESHOLD AMOUNTS OF ANY REGULATED AIR POLLUTANT, INCLUDING GREENHOUSE GASES.

Offering a welter of inconsistent theories, petitioners urge that EPA was obligated to exclude greenhouse gases from the PSD program. Some appear to seek a *complete* exemption, denying even that greenhouse gases are "pollutants subject to regulation under the Act" for purposes of the BACT requirement. See Brief for the State Petitioners 3–8 ("Texas Br."); Brief of Petitioner Utility Air Regulatory Group 25–32 ("UARG Br."); Brief of Petitioners Energy-Intensive Manufacturers Working Group 17–34 ("EIMWG Br."). Others acknowledge that sources otherwise subject to PSD permitting are required to adopt controls for greenhouse gases, but assert nevertheless that only NAAQS pollutants can trigger the PSD permit obligation. See ACC Br. 18 n.7, 29 n.12. Still others draw analogies to *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), as their primary basis for a greenhouse gas exemption. See Brief of Southeastern Legal Foundation, *et al.* 7–18 ("SELF Br."); Texas Br. 4–8. And, misrepresenting EPA's findings in the Tailoring Rule, many petitioners plead for wholesale exemptions by pointing to "absurd" consequences. See Brief of Chamber of Commerce, *et al.* 1–2 ("Chamber Br."); EIMWG Br. 7–8, 29; SELF Br. 14; Texas Br. 9–10; ACC Br. 24–29. These arguments all lack merit.

A. Contrary to Petitioners' Contentions, Greenhouse Gases Are "Air Pollutants" for Purposes of the PSD Program.

Statutory Text. The unambiguous statutory text compels EPA's conclusion that the PSD permit obligation, including the BACT requirement, applies to greenhouse gases.

PSD permitting requirements apply to any "major emitting facility," defined as a facility that emits more than specified amounts of "any air pollutant." 42 U.S.C. 7475(a), 7479(1). "Air pollutant" for purposes of the entire Act "means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive ... substance or matter which is emitted into or otherwise enters the ambient air." *Id.* 7602(g).

A PSD permit must include BACT controls for "each pollutant subject to regulation under this chapter," referring to 42 U.S.C. chapter 85, the Clean

Air Act as codified. *Id.* 7475(a)(4). See also Pub. L. No. 95–95, Section 127(a), 91 Stat. 685, 736, 741 (1977) (language as enacted, stating "... under this Act"). BACT is "an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter." 42 U.S.C. 7479(3). See *Alabama Power*, 636 F.2d at 406 (noting statute's "litany of repetition" confirming that each regulated air pollutant is covered).

The references to "any air pollutant" in Section 7479(1), and to "each pollutant subject to regulation under this [Act]" in Sections 7475(a)(4) and 7479(3), manifestly include greenhouse gases. This Court has twice confirmed that greenhouse gases unambiguously fall within the Section 7602(g) statute-wide definition of that term. See *Massachusetts*, 549 U.S. at 532 (referring to "*the Clean Air Act*'s capacious definition of 'air pollutant'" (emphasis added)); *AEP*, 131 S. Ct. at 2537 ("[E]missions of carbon dioxide qualify as air pollution subject to regulation under the Act."). Furthermore, every PSD permit must demonstrate compliance with applicable new source performance standards ("NSPS") under Section 7411, see 42 U.S.C. 7475(a)(3)(C), 7475(a)(4), 7479(3), which, as *AEP* makes clear, can include standards for greenhouse gas emissions, see 131 S. Ct. at 2538. See also 42 U.S.C. 7479(3) (BACT definition requirement that "[i]n no event" may BACT standard be less stringent than an applicable NSPS).

Congress's reliance on the defined term "air pollutant" in the description of covered PSD sources in Section 7479(1) was a considered choice: Congress adopted the Section 7602(g) definition of "air pollutant" as part of the same 1977 statute that established the PSD program. Pub. L. No. 95–95, Section 301(c), 91 Stat. 685, 770 (1977). Congress enacted a special definitions section for PSD, describing various terms as used "[f]or purposes of this part," 42 U.S.C. 7479. Congress, however, also chose not to adopt a special "PSD-specific" definition of "air pollutant," relying instead upon the broad Act-wide definition in Section 7602(g). *Cf. id.* 7491(g)(3) (specialized definition of "manmade air pollution" for Part C visibility program adopted in the 1977 Amendments, 91 Stat. 685, 744). When the Tailpipe Rule became effective, on January 2, 2011, greenhouse gases became a pollutant "subject to regulation under this [Act]," 42 U.S.C. 7475(a)(4), 7479(3), triggering the statutory BACT requirement for major greenhouse gas emitting facilities. As some petitioners appear to acknowledge, ACC Br. 29 n.12, there is no plausible way to read that BACT language to exclude greenhouse gases, which are undeniably "subject to regulation" under Section 7521 (and also will be under Section 7411, see *AEP*, 131 S. Ct. at 2538, 79 Fed. Reg. 1430 (Jan. 8, 2014) (proposed carbon dioxide NSPS for electric generating units)). See also J.A. 177 ("By its terms, Section 7475(a)(4) ... applies to greenhouse gases, not just the NAAQS.") (Kavanaugh, J., dissenting from en banc denial).

The BACT requirement further confirms that greenhouse gases are "air pollutants" for purposes of the Section 7479(1) "major emitting facility" definition. A "pollutant subject to regulation under this [Act]," 42 U.S.C. 7479(3), is necessarily also "any air pollutant" within the meaning of Section 7479(1), see *Alabama Power*, 636 F.2d at 353 n.60; see also *City of Arlington v. FCC*, 133 S. Ct. 1863, 1874 (2013) (adhering to "the theorem that the whole includes all of its parts").[7]

Nevertheless, petitioners insist that greenhouse gases are not *PSD* air pollutants. *E.g.*, UARG Br. 15 (greenhouse gases "fit within Section 7602(g)'s general definition" of "air pollutant," but are "not an air pollutant Congress intended to be regulated under PSD and Title V"). But, as noted, there *is no* "PSD-specific" definition of "air pollutant." Instead, Congress chose to rely on the term as broadly defined in Section 7602(g). That definition is not, as UARG would have it, optional. See *Burgess v. United States*, 553 U.S. 124, 129–30 (2008) (statutory definitions are usually "control[ling]") (internal quotation marks and citation omitted); *Bilski v. Kappos*, 130 S. Ct. 3218, 3226 (2010) (court "must follow" express statutory definition).

The familiar principle that a recurring statutory term may be read differently depending on context, see UARG Br. 24, Chamber Br. 21 (both citing *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561 (2007)), is not a license to ignore an unambiguous statutory definition. *Duke Energy* explained that any interpretive differentiation must stay "within the limits of what is reasonable, as set by the Act's common definition." 549 U.S. at 576. Petitioners do not attempt to show how *the text* of the "air pollutant" definition may reasonably be read to exclude greenhouse gases, or how a pollutant in the category "each pollutant subject to regulation under this [Act]," can somehow *not* be in the category "any air pollutant."

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[7] EPA's longstanding regulation limiting the PSD trigger to regulated air pollutants provides no grounds for limiting "any air pollutant" to only a subset of regulated air pollutants. See J.A. 237–38 (D.C. Circuit panel's characterization of EPA's interpretation as "the only logical reading of the statute"). The statute is not ambiguous as to whether regulated air pollutants are covered. See 42 U.S.C. 7475(a)(4), 7479(1), 7479(3).

Statutory Purposes. Petitioners insist that covering greenhouse gases is beyond what they claim are the limited purposes of the PSD program: addressing only "conventional" or "local" air pollutants, or maintaining the NAAQS. *E.g.*, UARG Br. 25-30; Chamber Br. 19–20; EIMWG Br. 20–21; ACC Br. 22; SELF Br. 9–10.

The face of the Act contradicts these arguments. The PSD program's purpose is "to protect public health and welfare from any actual or potential adverse effect" from air pollution "notwithstanding" attainment of the NAAQS. See 42 U.S.C. 7470(1). The term "air pollution" is not limited to pollution caused by NAAQS pollutants. Effects on "welfare" are expressly defined to include effects on "weather" and "climate," *id.* 7602(h). Furthermore, PSD's breadth of purpose is reflected in Congress's decision to apply the program's central substantive requirement—BACT—to "each pollutant subject to regulation under this [Act]," see *id.* 7475(a)(4), 7479(3), and to condition issuance of a permit on compliance with "any other applicable emission standard or standard of performance under this [Act]," *id.* 7475(a)(3)(C). Those terms indisputably are *not* limited to NAAQS pollutants. See, *e.g.*, *AEP*, 131 S. Ct. at 2538 (discussing NSPS for greenhouse gases); 40 C.F.R. 60.752 (NSPS limiting emissions of non-methane organic compounds from landfills). See also 42 U.S.C. 7479(3) (BACT limitations cannot be less stringent than NSPS). As the panel recognized: "the PSD program was meant to protect against precisely the types of harms caused by greenhouse gases." J.A. 240.

Petitioners contend that PSD is limited to air pollutants that harm local air quality, and therefore cannot include greenhouse gases. See, *e.g.*, UARG Br. 18, 27; SELF Br. 9–10. The factual premise that greenhouse gas emissions *do not* "deteriorat[e] ambient air quality," UARG Br. 25, is false. It is well documented, for example, that greenhouse gas pollution exacerbates local smog problems. See J.A. 803 (endangerment finding) (greenhouse gas emissions lead to "[i]ncreases in ambient ozone" that are "expected to increase serious adverse health effects"). In any event, petitioners' claimed limit to PSD coverage is found nowhere in the statute. *Cf. Massachusetts*, 549 U.S. at 512, 528-29 (rejecting a similar argument). The "welfare" to be protected by PSD includes effects on "climate," see 42 U.S.C. 7602(h), and BACT applies to *all* regulated pollutants, see *id.* 7475(a)(4), not just those that could satisfy some special "local-impacts" standard. The PSD program, moreover, has long covered pollutants whose primary harms to public health and welfare occur at a global level. See 40 C.F.R. 52.21(b)(50)(iii) (PSD regulations cover compounds that deplete the stratospheric ozone layer, listed at 42 U.S.C. 7671a).[8]

Similarly, the Chamber (Br. 15-16) invokes language referring to actual or potential adverse effects to public health or welfare that "occur from air pollution or from *exposures* to pollutants in other media, which pollutants originate as emissions to the ambient air." 42 U.S.C. 7470(1) (emphasis added in brief). This point establishes nothing, because harms from greenhouse gases manifestly *are* "from air pollution." But it is also wrong: Greenhouse gas pollution is directly acidifying the oceans, which harms coral reefs, shellfish and other aquatic life, and is a paradigm example of harmful "exposures ... in other media." See EPA, Technical Support Document for Endangerment Finding 38, 134 (Dec. 7, 2007) (End. C.A. J.A. 3386, 3482).

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[8] See also David W. Fahey, *et al.*, Twenty Questions and Answers About the Ozone Layer: 2010 Update 8–9, 14–19 (2010), available at http://ozone.unep.org/Assessment_Panels/SAP/Scientific_Assessment_2010/SAP-2010-FAQs-update.pdf (describing how ozone-depleting pollutants migrate to the upper atmosphere and deplete the protective ozone layer, causing cancer and other health harms).

Statutory Structure. PSD's pivotal substantive provision is the requirement that each major emitting facility install BACT for "each pollutant subject to regulation under this chapter." 42 U.S.C. 7475(a)(4), 7479(3). That requirement applies to major emitting facilities in all instances, unless Part D's more stringent requirements are triggered for a nonattainment pollutant. See pp. 2–3, *supra*. Congress anticipated that "changing circumstances and scientific developments," *Massachusetts*, 549 U.S. at 532, would lead to regulating additional pollutants in the future under the Act's various provisions, and provided that they would be covered by PSD permitting without any further prerequisites or qualifications.

Pointing out that some PSD provisions cover only NAAQS pollutants, several petitioners suggest the entire program is limited to such pollutants. See, *e.g.*, SELF Br. 11–13; EIMWG Br. 20–21. Yet, as noted in *Alabama Power*, 636 F.2d at 403–06, Congress carefully distinguished the scope of different provisions within Part C, making specific choices to link various provisions to the appropriate categories of pollutants. Compare, *e.g.*, 42 U.S.C. 7475(a)(4) ("each pollutant subject to regulation" under Act), *id.* 7479(3) (same), *id.* 7475(d)(2)(D)(iii) (applicable only to "sulfur oxides"), *id.* 7479(1) ("any air pollutant"), *id.* 7476(a) & (b) (both addressing hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides), *id.* 7473(a) & (b) (both addressing particulate matter and sulfur dioxide only). As the panel ruled, that *some* PSD provisions apply only to a subset of "air pollutants" is not a basis for grafting those contextual limitations onto the broad statutory language governing application of PSD permitting and BACT, which lack any such limitations. J.A. 251. If a statute establishing various rights of "persons" included some provisions concerning "persons who are pregnant," it would not follow that "persons" throughout the statute means only women of childbearing age—particularly if there were a statute-wide definition stating that "'person' means any human being."

Thus, petitioners' observation that greenhouse gases do not implicate some of the factors required to be analyzed under Section 7475(e), *e.g.*, UARG Br. 26–28; EIMWG Br. 20–21, is no basis for an *exemption* of greenhouse gases from PSD permitting. Nor would petitioners' theory work for other pollutants. For example, Section 7475(e)(3)(B) requires permitting authorities to analyze "visibility"—even though many regulated pollutants (such as carbon monoxide, a NAAQS pollutant) do not affect visibility. The same point holds for other factors set out in Section 7475(e), *e.g.*, climate, meteorology, terrain, soils and vegetation. Further, most sources emit multiple pollutants, and it is common for the statutory factors to be more germane to some emitted pollutants than others.[9]

Equally groundless are claims that BACT is inherently unsuitable for greenhouse gases. EIMWG Br. 23–26, Chamber Br. 18–19; but *cf.* ACC Br. 18 n.7, 29 n.12; Texas Oil & Gas Amicus Br. 8, 22. By specifying that "each pollutant subject to regulation under [the Act]" is subject to BACT, 42 U.S.C. 7475(a)(4), Congress unambiguously rejected such limitations. The encompassing language means that BACT could apply to pollutants initially regulated under programs quite different from PSD and ones whose characteristics (or even existence) were not known in 1977. In fact, BACT has been successfully applied to an eclectic variety of NAAQS and non-NAAQS pollutants, from particulate matter to chlorofluorocarbons to acid gases. *E.g.*, EPA, *RACT-BACT-LAER Clearinghouse*, http://cfpub.epa.gov/rblc/ (last visited Jan. 20, 2014) (searchable permitting database showing more than 550 PSD permits limiting emissions of the non-NAAQS pollutants hydrogen sulfide and sulfuric acid mist, between 1981 and 2013). And nothing in the actual experience of applying BACT to greenhouse gas sources since January 2011 supports petitioners' claims. The efficient production processes commonly specified in greenhouse gas permits are proper measures to include in BACT analyses for all pollutants. See 42 U.S.C. 7479(3) (defining BACT with reference to "production processes," and "available methods, systems, and techniques" for reducing emissions of "each pollutant").

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[9] UARG notes that EPA has confined "any pollutant" in 42 U.S.C. 7491(g)(7)—which requires EPA to regulate pollutants that impair visibility—to any "visibility-impairing" pollutant. UARG Br. 24. The regulation to which UARG refers does not construe the unqualified term "any air pollutant." Instead, it implements a congressional directive to address "any air pollutant *which may reasonably be anticipated to cause or contribute to any impairment of visibility*," 42 U.S.C. 7491(b)(2)(A) (emphasis added). See 40 C.F.R. pt. 51, App Y, III.A.2.

Nor is there any merit to the suggestion that applying BACT to greenhouse gases will not "advance the purposes" of the PSD program. Brief of Coalition for Responsible Regulation, *et al.* 15; see Cert. Pet., No. 12–1253 at 24–29 (same parties' similar claims about Tailpipe Rule). Application of BACT reduces emissions and encourages development of new pollution control technologies. There is no reason to doubt that BACT will prove as effective for greenhouse gases as it has for other pollutants.

The idea (*e.g.*, UARG Br. 22) that the 100/250-ton thresholds represent an instruction from Congress to exclude certain *pollutants* from the program is equally meritless. This would be an oddly indirect way to accomplish what Congress could more readily have done directly. As noted, Congress had no difficulty expressing itself when it wished to limit certain PSD provisions to certain pollutants. In Sections 7479(1) and 7475(a), however, the statute says that PSD permitting and BACT apply to "any" and "each" pollutant, respectively. It does not add any language that excludes certain pollutants or that authorizes EPA to exclude them, whether based on the number of sources that emit them or for any other reason.

Statutory History. That PSD permitting applies to major sources of *all* air pollutants, not just NAAQS pollutants, is verified by the explicit choice Congress made in the 1977 Conference, selecting the Senate's more expansive "major source" definition and PSD permitting provisions over the more restrictive versions that had passed the House. The House bill defined a "major stationary source" subject to the permit obligation as a source emitting sufficient amounts of "any air pollutant for which a national ambient air quality standard is promulgated." Clean Air Act Amendments of 1977, H.R. 6161, 95th Cong., Section 103(f) (1997) (proposing new Section 7402(o)(1)), reprinted in 4 A Legislative History of the Clean Air Act Amendments of 1977, at 2251 (hereinafter cited as "Leg. Hist."). Permitting under that bill was focused on determining the expected effect of the source's emissions on air quality concentrations in affected areas. *Id.* But the Senate bill defined a major source ("major emitting facility") more expansively as one emitting sufficient amounts of "any air pollutant." The Senate bill also required each such source seeking a permit to meet BACT "for each pollutant subject to regulation under the Act." S. 252, 95th Cong., Section 42(a), 3 Leg. Hist. at 1177 (proposing new Section 7402(k)); *id.* Section 7, 3 Leg. Hist. at 1176 (proposing new Section 7410(g)(6)(A)). The conferees adopted the Senate definition, choosing the inclusive "any air pollutant," as in the final 42 U.S.C. 7479(1), over the NAAQS-only term. The conferees also chose the Senate's more expansive permitting provisions, including the BACT requirement, stating that "[t]he conditions of the permit are as in the Senate bill." H.R. Rep. No, 95–564, 3 Leg. Hist. at 532. The legislative history, in short, pointedly confirms that Congress deliberately chose the expansive terms "any air pollutant" and "each pollutant subject to regulation under this Act" over more restrictive provisions that would have limited PSD in the way petitioners now urge.[10]

Settled and Consistent Administrative and Judicial Construction. EPA has revised its PSD regulations several times since 1977, and each time it has provided that PSD permitting is triggered by emissions of any regulated air pollutant and that BACT applies to each such pollutant. See pp. 4-5, *supra*. Moreover, in reviewing EPA's initial 1978 regulations, the D.C. Circuit confirmed that both those features of EPA's rules reflect the statute's express mandates. *Alabama Power*, 636 F.2d at 352 (statutory permit requirement is "not pollutant-specific, but rather identifies sources that emit more than a threshold quantity of any air pollutant"), *id.* at 406 ("plain language" makes it "clear" that BACT requirement applies to all pollutants subject to regulation), *id.* at 370 n.134 (non-NAAQS pollutant subject to PSD permitting requirements). EPA's settled, 35-year-old understanding of how the PSD permit and BACT obligations work belies petitioners' and amici's breathless narratives of self-aggrandizement by an agency overzealously targeting greenhouse gases.

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[10] The 1977 record also attests that, contrary to petitioners' suggestions of narrow and local concern, Congress saw the PSD program as serving to "avoid[] ... unnecessary stratospheric and atmospheric modifications due to air pollution," H.R. Rep. No. 95–294, at 105, 138 (1977), 4 Leg. Hist. at 2572, 2605. The report quoted from a path-breaking National Academy of Sciences study, *Understanding Climate Change*, that called attention to risks of "inadvertent weather modification on a scale large enough to affect man's well-being" due to emissions of carbon dioxide and other pollutants. *Id.* at 138, 4 Leg. Hist. at 2605. Similar concerns about carbon dioxide emissions were expressed in Senate debate. See 6 Leg. Hist. at 5368 (statement of Sen. Bumpers).

These settled administrative and judicial constructions, moreover, formed the background to the comprehensive 1990 Clean Air Act Amendments, which excised a category of non-NAAQS pollutants (hazardous air pollutants regulated under Section 7412) from PSD, but otherwise left in place the prior PSD applicability provisions and EPA's consistent 35-year regulatory interpretation of them. Pub. L. No. 101–549, Section 301, 104 Stat. 2399, 2537 (1990) (codified at 42 U.S.C. 7412(b)(6)); *id.*, 104 Stat. at 2545 (codified at 7412(g)(2)); see also *supra*, p. 5 n.2. "[W]hen Congress revisits a statute giving rise to a longstanding administrative interpretation without pertinent change, the congressional failure to revise or repeal the agency's interpretation is persuasive evidence that the interpretation is the one intended by Congress." *Sebelius v. Auburn Reg'l Med. Ctr.*, 133 S. Ct. 817, 827–28 (2013) (internal quotation marks and citation omitted).

B. ACC's Alternative Argument that the "In Any Area" Language Limits the PSD Permit Trigger to NAAQS Pollutants Is Meritless.

Alone among the petitions, ACC's urges a different argument for exempting greenhouse gases as a PSD trigger based on the phrase "in any area to which this part applies" in 42 U.S.C. 7475(a). According to ACC (Br. 16), "Part C 'applies' to an area only with respect to those pollutants for which the area is in attainment," so that PSD can be triggered only by emissions of a NAAQS pollutant for which the area in question is designated attainment. Notably, ACC does not dispute that BACT applies to each "pollutant subject to regulation" under the Act, and that that category includes greenhouse gases. *Id.* at 29 n.12.

ACC's theory, like the others, conflicts with the statutory text. "[A]ny area to which this Part applies" unambiguously means any attainment area—*i.e.*, an area subject to Part C because air quality in that area satisfies the NAAQS with respect to at least one NAAQS pollutant. "This part" is Part C, and Part C "applies" to all areas that are classified as attainment (or unclassifiable) for at least one NAAQS pollutant. See 42 U.S.C. 7407(d)(1)(A)(ii)-(iii), 7471.

Indeed, in "ordinary" usage, *Schindler Elevator Corp. v. United States ex rel. Kirk*, 131 S. Ct. 1885, 1891 (2011), the "area" something is "in" does not depend on the thing's characteristics; whether a building is "constructed in an agricultural area" does not turn on whether it is a computer store or a barn. But according to ACC, a major emitting facility can be located smack in the middle of an attainment area—and be surrounded on all sides by sources ACC agrees must obtain PSD permits—yet *not* be "in an area to which this part applies," because it does not emit threshold amounts of the particular pollutant for which that area is designated in attainment. The Clean Air Act does not work that way. It defines an "area" not on some facility-by-facility basis but by the area's attainment status, which is determined by the concentrations of pollutants prevailing in that area, regardless of source. See 42 U.S.C. 7407(d)(1); *Alabama Power*, 636 F.2d at 365 (noting that Congress used "precise language" "where its concern was more source (rather than area) specific").

Had Congress really intended to limit PSD in the manner ACC advocates, it would not have followed such an eccentric route, but would have used language *exactly like that in the House bill that Congress rejected*. It would have defined covered sources by reference to emissions of "any air pollutant for which a national ambient air quality standard is promulgated." H.R. 6161, Section 103(f), 4 Leg. Hist. 2251. To adopt petitioners' interpretation would "read back into the Act the very ... [language] that the Senate committee deleted." *Chickasaw Nation v. United States*, 534 U.S. 84, 93 (2001) (citations and internal quotation marks omitted). See also *Doe v. Chao*, 540 U.S. 614, 622–23 (2004).

ACC's theory, first presented and correctly rejected decades ago,[11] rests heavily on the proposition that Congress's purposes in the PSD program were confined to NAAQS pollutants. ACC Br. 22–23. But, as noted above, pp. 14–18, that is manifestly wrong. ACC itself acknowledges (Br. 29 n.12), as it must, that the central substantive requirement, BACT, applies to *all* regulated pollutants, 42 U.S.C. 7475(a)(4), 7479(3). See also 42 U.S.C. 7475(a)(3) (requiring compliance with NSPS), 7479(3).

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[11] After the initial *Alabama Power* decision held that EPA had followed the "clear mandate of the statute" in applying PSD permitting to all regulated pollutants, 606 F.2d 1068, 1085 (D.C. Cir. 1979) (per curiam), parties including ACC's predecessor, the Chemical Manufacturers Association, filed a rehearing petition identifying 10 non-NAAQS pollutants that would trigger PSD under the court's and EPA's construction. Those petitioners cited the example of hydrogen sulfide, complaining that major emitters of the compound would be subject to both permitting and BACT obligations, even though the pollutant had been originally regulated under NSPS only for one narrow source category. See Industry Petitioners' Petition for Rehearing on Application of PSD Requirements to Pollutants Other than Sulfur Dioxide and Particulates in *Alabama Power Co. v. Costle*, D.C. Cir. No. 78-1006 at 15–16 (filed July 19, 1979). In the final *Alabama Power* decision, the D.C. Circuit rejected this position and pointedly reaffirmed that PSD permitting and BACT applies to all regulated air pollutants. 636 F.2d at 352–53, 370 n.134.

ACC claims (Br. 18) that EPA's interpretation renders "in any area to which this Part applies" superfluous because every area in the country attains at least one NAAQS pollutant. But this was not a certainty to the 95th Congress.[12] Further, the phrase has other purposes. First, as *Alabama Power* held, 636 F.2d at 364–67, the phrase distinguishes PSD areas from nonattainment areas, prohibiting EPA from imposing further controls on emissions of nonattainment pollutants due to concerns about downwind attainment areas. Furthermore, the statute divides PSD areas into three classes (I, II, and III), subject to differing requirements, see 42 U.S.C. 7472 (initial classifications), 7474 (reclassifications), 7475(a)(5) (referencing Class I areas), 7475(b) (referencing Class II areas). The "in any area" clause serves to make clear that, unlike some other PSD provisions, the requirement to obtain a pre-construction permit applies in *all* three types of PSD areas. See *United States v. Atl. Research Corp.*, 551

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[12] As the panel noted, J.A. 255, it was unknown in 1977 whether all areas would always meet at least one NAAQS. Indeed, at that time, the available EPA air quality data identified a number of areas (including Los Angeles and New York) that had failed to meet all five of the then NAAQS. See Initial Brief for Intervenors in Support of Respondents in *Am. Chem. Council v. EPA*, D.C. Cir. No. 10-1167, at 23 n.9 (filed July 7, 2011) (citing EPA, Monitoring and Air Quality Trends Report, tbl. 3–5 (1974), attached as Addendum A to that brief). EPA's 1980 preamble reflected this understanding, specifically noting that PSD would not apply if a source is "located in an area which is designated nonattainment for all criteria pollutants." J.A. 1403–04.

U.S. 128, 137 (2007) (language alleged to be surplusage "performs a significant function simply by clarifying").[13]

ACC's effort (Br. 19–21) to transplant the pollutant-specific approach of Part D nonattainment permitting into PSD permitting reflects a fundamental misunderstanding of the two programs. A "nonattainment area" is defined as "for any air pollutant, an area which is designated 'nonattainment' with respect to that pollutant," 42 U.S.C. 7501(2), and Part D has a single-minded focus on eliminating NAAQS violations. See, *e.g.*, *id.* 7501(1) ("reasonable further progress" obligation defined in terms of "reductions in emissions of the relevant air pollutant" and to "ensur[e] attainment of the applicable [NAAQS]"), 7502(a)(2) (deadlines), 7502(c)(1) (first substantive requirement of Part D is to "provide for attainment" of NAAQS), 7503(a)(1)(B) (permit may issue if, inter alia, emissions of "such pollutant ... will not cause or contribute to emissions levels which exceed the allowance permitted for such pollutant for such area"). In contrast to the targeted focus of Part D, permitting under Part C applies in all areas with one exception: Areas with pollutants whose concentrations are so high as to violate the

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[13] ACC claims (Br. 15–17) that the use of the phrase "in any area to which this part applies" in 42 U.S.C. 7473(b)(4) supports its reading of the phrase in Section 7475(a). That provision deals with "maximum allowable concentrations" (which only apply to NAAQS pollutants), and expressly refers to the NAAQS. *Id.* 7473(b)(4). As explained above, the contextually limited scope of particular statutory provisions does not carry over to other provisions for which there are no such limitations, *supra*, pp. 20–22. The "in any area" phrase in Section 7473(b)(4), like that in 7475(a), makes clear that the relevant requirement applies to all attainment areas.

NAAQS, warranting application of the nonattainment requirements and their more stringent LAER standard. *Supra*, pp. 2–3; see also J.A. 1405–1407 (emphasizing different scope of PSD and nonattainment regulations in 1980 preamble).

Finally, ACC suggests (Br. 29 n.12) that its alternative interpretation would (or *might*) still require sources subject to PSD permitting due to threshold emissions of NAAQS pollutants to install BACT for their greenhouse gas emissions—which ACC asserts would bring sources responsible for most greenhouse gas emissions within the scope of PSD. But, while ACC may be commended for yielding (more or less) to the extraordinary clarity of the scope of the BACT provisions, ACC's own position is hardly modest: It would change ground-rules that have governed the Act's PSD program over its entire life, overturning a decades-old regulatory structure that has been revisited and reaffirmed by multiple administrations since 1977, tested in judicial review, and left unchanged by Congress in 1990. See *supra*, pp. 4–5. It would do so for *all* non-NAAQS air pollutants, including many that—as the State Respondents demonstrate—have been subject to PSD permitting for decades. Among these pollutants are ozone-depleting substances, 40 C.F.R. 52.21(b)(50)(iii), and acid gases and hydrogen sulfide, *id.* 51.166(b)(23)(i).

C. *Brown & Williamson* Provides No Authority for a Greenhouse Gas Exemption.

Arguments that *Brown & Williamson* supports exempting greenhouse gases (Chamber Br. 5, 22; Texas Br. 4–7; SELF Br. 17–18) should be rejected, just as they were in *Massachusetts*, 549 U.S. at 530-

31. See J.A. 142 (D.C. Circuit panel opinion respecting denial of en banc review).

First, *Brown & Williamson* pointedly cautioned that, "a reviewing court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." 529 U.S. at 125–26 (quoting *Chevron U.S.A., Inc. v. NRDC*, 467 U.S. 837, 842–43 (1984)). Far from speaking in "cryptic" terms, Texas Br. 7 (quoting *Brown & Williamson*, 529 U.S. at 160), Congress has unambiguously provided that PSD permitting cover sources of "any air pollutant," in part to counteract adverse effects on "climate." 42 U.S.C. 7470(1), 7602(h). EPA's straightforward obedience to that statutory mandate is nothing like the "strained" FDA statutory interpretation at issue in *Brown & Williamson*, 529 U.S. at 160. Second, while FDA regulation would have produced a ban on tobacco products, application of PSD would (as in *Massachusetts*, 549 U.S. at 531) produce only *regulation* of emissions under authority expressly requiring consideration of compliance costs. See 42 U.S.C. 7479(3). Third, *Brown & Williamson* noted that, acting against a long, unbroken background of FDA statements disclaiming authority to regulate tobacco, Congress had "repeatedly acted to preclude any agency from exercising significant policymaking authority in the area" of tobacco regulation. 529 U.S. at 144, 157, 160. No such backdrop of EPA disclaimers exists here either as to greenhouse gases generally or as to PSD's application to that pollutant.

Petitioners (SELF Br. 5, 15–17) also seek support from the introduction of bills that were not enacted. "[P]ostenactment congressional actions and deliberations" cannot alter the unambiguous terms of the Clean Air Act. See *Massachusetts,* 549 U.S. at

529–30; *accord Brown & Williamson,* 529 U.S. at 155. And in any event, in marked contrast to *Brown & Williamson*, Congress has enacted no legislation inconsistent with application of the Clean Air Act permitting programs to greenhouse gases. Indeed, Congress has been fully apprised of EPA's actions on greenhouse gas permitting, and has considered, but declined to adopt, many proposals to eliminate, narrow, or defer EPA's authority to implement greenhouse gas permitting. See, *e.g.*, H.R. 153, 112th Cong. (2011) (proposed funding restrictions); H.R. 910, 112th Cong. (2011) (proposed override of Endangerment Finding and Tailoring Rule); S. Amdt. 236 to S. 493, 112th Cong. (2011) (proposed increase of statutory PSD thresholds for greenhouse gases); S. 3072, 111th Cong. (2010) (proposed suspension of stationary source greenhouse gas permitting for two years); see also Environmental Organizations' Br. in Opp. 28–29 n.12.

D. Petitioners' Arguments Based on "Absurd" Results Provide No Basis for Excluding Greenhouse Gases from the PSD Program.

Having failed to show any basis for excluding greenhouse gases from PSD permitting under ordinary rules of construction, many petitioners argue that the same total exclusion must be adopted to avoid "absurd" results. Petitioners distort EPA's findings in the Tailoring Rule, which were limited to the consequences of *immediately* applying the statutory emissions thresholds without streamlining, into a finding the agency has never made, of permanent and irremediable absurd results. Ignoring unambiguous congressional intent that large sources of any air pollutant should undergo PSD permit review and meet BACT, petitioners try to parlay EPA's limited findings into a total exemption from one of Congress's major anti-pollution programs for even the largest sources of greenhouse gases and other non-NAAQS pollutants.[14]

To begin, petitioners invariably misstate what EPA determined the absurdity to be. The basis for EPA's actions under all three rationales it invoked was "the costs to sources and administrative burdens to permitting authorities" from "application of the PSD and title V programs for [greenhouse gas] emissions at the statutory levels *as of January 2, 2011.*" J.A. 286 (emphasis added). See also J.A. 356–357 (discussing administrative necessity). The agency nowhere determined that those costs and burdens were permanent. To the contrary, the objective of the Tailoring Rule was to begin implementing PSD permitting for the largest greenhouse gas sources first, while allowing EPA to consider further burden-reducing regulatory adjustments and streamlining procedures in order to enable the application of PSD permitting "as close to the statutory levels as possible ... as quickly as possible." J.A. 310. See pp. 7–8 & n.4, *supra*; see also J.A. 507–08. Indeed, EPA determined that it could "craft workable, common-sense solutions" to these implementation challenges. J.A. 594. Thus, the premise of petitioners' argument—that permanent, grave consequences inevitably flow from applying

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[14] Some petitioners (*e.g.*, Texas Br. 17–20) and amici assail the Tailoring Rule itself, claiming that even if PSD permitting applies to greenhouse gases, EPA lacks any authority to adjust the PSD thresholds to limit permitting to large sources. The court of appeals correctly held that no petitioner has standing to challenge the Tailoring Rule, and this Court declined to grant review of either the standing question or the legality of the Rule.

PSD to greenhouse gases—has no foundation in any finding by EPA.

To the extent petitioners invoke absurd consequences to justify a permanent exclusion of greenhouse gases from PSD coverage, the effort is doomed because there is no basis in the text for such an exclusion. As demonstrated above, the encompassing PSD terms "*any* air pollutant" and "*each* air pollutant subject to regulation" unambiguously mandate coverage of greenhouse gases. See pp. 14–26, *supra*. Where an unambiguous statute produces "mischievous, absurd or otherwise objectionable" consequences, "the remedy lies with [Congress]." *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982) (quoting *Crooks v. Harrelson,* 282 U.S. 55, 60 (1930)).[15] Indeed, the Court has twice rejected similar results-based claims for judicial alteration of unambiguous provisions of the Clean Air Act. See *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 466, 471 (2001) (rejecting an invitation to read ambiguity into the Act to avoid assertedly extreme economic burdens because the statute "unambiguously" settled the matter); *Union Elec. Co. v. EPA*, 427 U.S. 247, 265–66 (1976).

Furthermore, the absurd results doctrine does not condone the sweeping exclusion from PSD permitting that petitioners seek. In the limited circumstances where it applies, the doctrine allows only the narrowest deviation necessary to achieve congressional intent. See, *e.g.*, *Green v. Bock Laundry Machine Co.*, 490 U.S. 504, 529 (1989) (Scalia, J., concurring) (approving non-literal interpretation that did the "least violence" to the plain language of the statute); *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998) ("When [an] agency concludes that a literal reading of a statute would thwart the purposes of Congress, it may deviate no further from the statute than is needed to protect congressional intent."). Yet petitioners seek a permanent PSD exemption for all greenhouse gas sources (and many petitioners seek the same for all other non-NAAQS pollutants), including those emitted by large sources for which implementation is immediately feasible in accordance with the statute as written. See J.A. 589–90. Indeed, those are the very sources that petitioners emphasize Congress squarely intended to cover, see ACC Br. 22; EIMWG Br. 21; UARG Br. 21–22, and no credible claim exists that it is absurd, unworkable, or contrary to congressional intent for PSD permitting to apply to them for greenhouse gases. The exclusion of those sources would depart further from unambiguous statutory language than petitioners accuse EPA of doing. The Tailoring Rule alleviates the very burdens and consequences of which petitioners complain, deviating far less from the statute's literal terms and conforming far better to congressional purpose than the relief petitioners seek.[16]

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[15] See also, *e.g.*, *Lamie v. U.S. Trustee*, 540 U.S. 526, 542 (2004) ("If Congress enacted into law something different from what it intended, then it should amend the statute to conform to its intent. ... . This allows both of our branches to adhere to our ... respective ... constitutional roles.") (citing cases); *United States v. Granderson*, 511 U.S. 39, 60 (1994) (Scalia, J., concurring in the judgment); *id.* at 68 (Kennedy, J., concurring in the judgment).

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[16] Even if there were any ambiguity in the PSD triggering provisions, it could not be found in "any" or "each" air pollutant, but only in the possible tension, in the factual context of a high-volume pollutant, between those unambiguously

Some petitioners object that the Tailoring Rule offends separation of powers principles by rewriting the statutory emission thresholds. *E.g.*, SELF Br. 23–28. But EPA is carrying out the statutory permitting programs in a manner that heeds both expressed congressional objectives and the practical realities of implementation. The true affront to separation of powers principles here lies in petitioners' pleas to override Congress's explicit prescriptions concerning the broad applicability of these programs.

II. PETITIONERS' ARGUMENTS FOR EXEMPTING GREENHOUSE GASES FROM TITLE V ARE WAIVED AND, IN ANY EVENT, MERITLESS.

In the D.C. Circuit, petitioners made no serious attempt to support exclusion of sources of greenhouse gases from Title V. Accordingly, the D.C. Circuit held petitioners' Title V claims were waived. J.A. 241. See *Sprietsma v. Mercury Marine, a Div. of Brunswick Corp.*, 537 U.S. 51, 56 n.4 (2002). Even in this Court, petitioners do not make any serious effort to address Title V, and instead recycle flawed arguments against applying the PSD program to greenhouse gas sources.

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inclusive terms and expectations in 1977 that the numerical thresholds would focus permitting on large sources. Any such tension should be resolved by the administering agency through a reasonable accommodation of the text and congressional purposes. See *Chevron*, 467 U.S. at 843. In that event, petitioners' favored options would be impermissible. Petitioners' total exclusion of greenhouse gases would unreasonably forego permitting for even the largest sources, for which applying the statute as written is feasible. Likewise, excluding non-NAAQS pollutants would unreasonably eliminate permitting for sources of a large set of pollutants that raise none of the problems on which petitioners rely.

See UARG Br. 20–21 n.6; Chamber Br. 14, 21, 30; SELF Br. 2, 9–18; Texas Br. 3.

The plain language of Title V provides no grounds for excluding sources that emit greenhouse gases. Congress's decision to predicate Title V obligations on emissions of "any air pollutant" as broadly defined in Section 7602(g) was purposeful and matched to the intended universal scope of the program. See 42 U.S.C. 7661(2)(b), 7661c(a). Indeed, Title V permits cover requirements established under the entirety of the statute, including programs for hazardous pollutants, acid rain, stratospheric ozone protection, and state implementation plan requirements. See *id.* 7661a(a).

Some petitioners repeat their PSD-specific arguments for use against application of Title V to greenhouse gases. Chamber Br. 14, SELF Br. 7–10. These arguments have no relevance beyond that program, as the Title V program contains none of the PSD language on which these arguments are based. Petitioners' assertions that Congress did not intend Title V to apply to greenhouse gases because of the large numbers of sources potentially covered, *e.g.*, UARG Br. 24–25, fail on the same grounds as their similar PSD arguments. See *supra*, pp. 33–37; 74 Fed. Reg. at 55,321, 55,324 (noting that streamlining efforts for Title V are especially promising).

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted,

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ADDENDUM: Glossary of Abbreviations

GLOSSARY OF ABBREVIATIONS

ACC:	American Chemistry Council
Act:	Clean Air Act, 42 U.S.C. 7401-7671q
BACT:	Best available control technology
Chamber:	Chamber of Commerce of the United States of America
CRR:	Coalition for Responsible Regulation
EIMWG:	Energy-Intensive Manufacturers Working Group
Endangerment Finding:	Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009)
End. J.A.:	Joint Appendix in D.C. Cir. No. 09-1322 (Endangerment)
EPA:	Environmental Protection Agency
GHG:	Greenhouse gases
LAER:	Lowest achievable emission rate
NAAQS:	National ambient air quality standard(s)
NSPS:	New source performance standards

Part C:	Clean Air Act, Title I, Part C – Prevention of Significant Deterioration of Air Quality, 42 U.S.C. 7470-7492
Part D:	Clean Air Act, Title I, Part D – Plan Requirements for Nonattainment Areas, 42 U.S.C. 7501-7515
PSD:	Prevention of Significant Deterioration
SELF:	Southeastern Legal Foundation
Tailoring Rule:	Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010)
Tailpipe Rule:	Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards Final Rule, 75 Fed. Reg. 25,324 (May 7, 2010)
Timing Decision:	Reconsideration of Interpretation of Regulations that Determine Pollutants Covered by Clean Air Act Permitting Programs, 75 Fed. Reg. 17,004 (Apr. 2, 2010)
Title V:	Clean Air Act, Title V – Permits, 42 U.S.C. 7661-7661f
UARG:	Utility Air Regulatory Group

RESPONDENT'S BRIEF

Nos. 12-1146, 12-1248, 12-1254, 12-1268, 12-1269, 12-1272

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IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP,
Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent,

and five related cases.

**ON WRITS OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

BRIEF OF RESPONDENTS THE STATES OF NEW YORK, CALIFORNIA, CONNECTICUT, DELAWARE, ILLINOIS, IOWA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW MEXICO, OREGON, RHODE ISLAND, VERMONT, WASHINGTON, AND THE CITY OF NEW YORK

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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STATUTORY AND REGULATORY PROVISIONS INVOLVED

Relevant provisions of the Clean Air Act, 42 U.S.C. § 7401 *et seq.*, and relevant regulations of the U.S. Environmental Protection Agency (EPA) are reprinted in an appendix to the Federal Respondents' brief.

STATEMENT OF THE CASE

1. In 2007, this Court held in *Massachusetts v. EPA* that the Clean Air Act's broad definition of "air pollutant" unambiguously covers greenhouse gases, and that EPA was obliged "to regulate emissions of the deleterious pollutant" if it found that greenhouse-gas emissions posed a threat to public health or welfare. 549 U.S. 497, 528-29, 533 (2007). Following that decision, EPA determined in the Endangerment Finding that six greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) endanger public health and welfare. 74 Fed. Reg. 66,496, 66,497 (Dec. 15, 2009) (J.A. 692). Citing a "very large and comprehensive base of scientific information," *id.* at 66,506 (J.A. 824), EPA found that the increase in solar energy trapped inside the Earth's atmosphere by these gases causes serious harms that are felt on a local level, including more intense, frequent, and long-lasting heat waves; exacerbated smog in cities; longer and more severe droughts; more intense storms; the spread of disease; and a dramatic rise in sea levels. *Id.* at 66,524-25, 66,532-33 (J.A. 902, 905-915). The agency further found that emissions of greenhouse gases from the burning of fossil fuels have already led to structural, permanent changes in

the Earth's weather patterns, including extreme temperatures and erratic precipitation patterns that have led to deforestation, melting snowpacks and glaciers, rising seas, and resulting land use changes. *See id.* at 66,517-18, 66,531-32 (J.A. 873-74, 898-99, 932-44).

2. The Endangerment Finding formed the basis for EPA's subsequent regulation of greenhouse-gas emissions from mobile sources. Title II of the Act obligates EPA to establish motor-vehicle emissions standards for "any air pollutant" that endangers public health or welfare. 42 U.S.C. § 7521(a)(1). Pursuant to that mandate, EPA promulgated the Tailpipe Rule, which establishes greenhouse-gas emissions standards for cars and light trucks for certain model years. *See* 75 Fed. Reg. 25,324 (May 7, 2010) (J.A. 683).

The Tailpipe Rule's regulation of motor vehicles led in turn to regulation by EPA of greenhouse-gas emissions from stationary sources under Title I of the Act.[1] Part C of Title I establishes a permitting

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[1] The Tailpipe Rule also operated to extend the distinct permitting program of Title V of the Clean Air Act to stationary sources emitting greenhouse gases. Title V collects all requirements applicable to a source—including the requirements of the PSD program—in one operating permit. 42 U.S.C. § 7661a(a). The court of appeals found that petitioners had forfeited their arguments against Title V's applicability by focusing solely on the language, structure, and purpose of the PSD program. J.A. 241. Accordingly, although petitioners' arguments here might alter the PSD obligations that Title V incorporates, petitioners have waived any challenge to EPA's determination that Title V may be extended to stationary

(*continues on next page*)

program that requires new and modified construction to employ emission controls to "prevent significant deterioration of air quality." 42 U.S.C. § 7471. This program, known as the PSD program, applies to "any area" of the country that is designated as in "attainment" because it is in compliance with at least one of the EPA-promulgated national ambient air-quality standards (NAAQS) for six defined pollutants, or in "any area" that is "unclassifiable" because it "cannot be classified on the basis of available information as meeting or not meeting" the NAAQS. 42 U.S.C. §§ 7407(d)(1), 7471, 7475(a); 40 C.F.R. §§ 50.4–50.18. In covered areas, PSD permitting requirements extend to all "major emitting facilities," *id.* § 7475(a), defined as either specific types of stationary sources emitting more than 100 tons per year (tpy) of "any air pollutant," or "any other source" emitting more than 250 tpy of "any air pollutant," *id.* § 7479(1).

Because the statute broadly extends the program to major sources of "any air pollutant," for more than three decades EPA has required PSD permits for major emitters of *any* air pollutant regulated by the Act, in any area that has reached attainment for any NAAQS pollutant.[2] Accordingly, once greenhouse-gas emissions became regulated under Title II, major emitters of greenhouse gases became subject to the PSD program's permitting requirements in all such

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sources based on their greenhouse-gas emissions. *See United States v. Jones*, 132 S. Ct. 945, 954 (2012).

[2] *See* 67 Fed. Reg. 80,186, 80,240 (Dec. 31, 2002) (J.A. 1388-89); 45 Fed. Reg. 52,676, 52,710-11 (Aug. 7, 1980) (J.A. 1404-05); 43 Fed. Reg. 26,380, 26,382 (June 19, 1978) (J.A. 1422).

areas. *See* 75 Fed. Reg. 17,004 (Apr. 2, 2010) (J.A. 705).

3. The PSD program is administered largely by the States, and in a few States by EPA itself. Before any facility subject to the program can engage in new construction or modification, it must obtain a PSD permit from the designated state or federal permitting authority. A permit may be issued only if a covered source shows that it has applied the "best available control technology [BACT] for each pollutant subject to regulation" under the Clean Air Act, and demonstrated that the facility complies with emissions standards throughout the Act. 42 U.S.C. § 7475(a)(3),(4). An issued permit authorizes the construction or modification and prescribes, *inter alia*, an emission limit for the amount of air pollution that the source may emit once it begins or resumes operations. *See id.* § 7475(a).

4. Regulating greenhouse-gas emissions under the PSD permitting regime gave rise to certain practical challenges for permitting authorities. Because stationary sources typically emit greenhouse gases (especially carbon dioxide) in greater quantities than other pollutants previously regulated under the Act, traditional methods for calculating emissions for purposes of the PSD provision's 100/250-tpy thresholds would have resulted in large numbers of greenhouse-gas emitters being added to the PSD program (and the Title V program). But neither the States nor EPA had had sufficient time to develop appropriate approaches to address and alleviate the burdens that these increased numbers would have created. *See* 74 Fed. Reg. 55,292, 55,320-21 (Oct. 27, 2009); 75 Fed. Reg. 31,514, 31,540, 31,577 (June 3,

2010) (J.A. 386-390, 549). EPA therefore promulgated the Tailoring Rule to phase in permitting obligations for stationary-source greenhouse-gas emitters under the PSD program over several defined stages. 75 Fed. Reg. at 31,540, 31,522-25 (J.A. 309-319, 549).

The purpose of the Tailoring Rule was to immediately begin regulating greenhouse-gas emissions from the largest stationary sources, while giving the States and EPA additional time to study the practical effects of applying the PSD program (and Title V) to smaller sources' greenhouse-gas emissions. *Id.* at 31,516 (J.A. 283-84); 74 Fed. Reg. at 55,321. Under the Tailoring Rule, EPA began by requiring sources already covered by the PSD program as well as newly built sources that have the potential to emit 100,000 tpy of greenhouse gases and modifications that would increase greenhouse-gas emissions by 75,000 tpy to comply with the PSD requirements for greenhouse gas emissions. 75 Fed. Reg. at 31,523-24 (J.A. 313-315). These large sources produce eighty-six percent of greenhouse-gas emissions from stationary sources above the statutory thresholds. *Id.* at 31,571 (J.A. 523).

At the same time, EPA committed to reassessing this greenhouse-gas permitting approach as States and EPA gain experience regulating larger numbers of greenhouse-gas-emitting sources, and to evaluating the use of streamlining tools to aid in applying the permit program to smaller sources. *Id.* at 31,572-73 (J.A. 525-530). EPA committed to complete a study by April 30, 2015, addressing the permitting obligations of smaller stationary sources, including whether regulatory changes—such as streamlined permitting—might prove successful in reducing permitting workloads. EPA has stated that it will issue a final rule regarding these sources by April 30, 2016. *Id.* at 31,525, 31,571-72, 31,608 (J.A. 319, 523-525); 40 C.F.R. §§ 52.22(b)(2), 70.12(b)(2).

5. EPA's role in regulating stationary sources of greenhouse gases formed a critical part of this Court's analysis in *AEP v. Connecticut*, 131 S. Ct. 2527 (2009). In *Connecticut*, the plaintiff States and others had sought relief from the harms caused by stationary-source greenhouse-gas emissions by bringing federal common-law nuisance claims for injunctive relief against the owners of several power plants. At the time the suit was brought, EPA had expressed the view that greenhouse gases were not subject to its regulation under the Clean Air Act. By the time *Connecticut* reached this Court, *Massachusetts* had held that greenhouse gases are subject to EPA regulation, and EPA had made the Endangerment Finding and finalized the Tailpipe and Tailoring Rules. Relying on *Massachusetts*, this Court held that the Clean Air Act "directly" authorizes EPA regulation of greenhouse gases from stationary sources and that "the Clean Air Act and the EPA actions it authorizes displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants." *Connecticut*, 131 S. Ct. at 2537.

6. Meanwhile, petitioners had filed multiple petitions for review challenging the Endangerment Finding, the Tailpipe Rule, the Tailoring Rule, and the application of the Clean Air Act's PSD permitting requirements to sources that emit substantial amounts of greenhouse-gas pollutants. Respondent States and the City of New York intervened in

support of EPA in these cases because they have a compelling interest in reducing emissions of greenhouse gases that are harming the health and welfare of their residents. In addition, as permitting authorities, respondents are directly affected by EPA's decisions to regulate mobile and stationary sources of greenhouse-gas emissions and to gradually phase in the application of the PSD permitting program to stationary sources.

The court of appeals issued a lengthy *per curiam* decision denying or dismissing all the petitions, and denied a subsequent petition for en banc review. J.A. 191-267, 139-145. The court concluded that the PSD program unambiguously applies to stationary sources that emit greenhouse gases. J.A. 232-241. The court's decision was based on the plain language of 42 U.S.C. § 7479(1), which extends the PSD program to emitters of "any air pollutant" over the statutory threshold of 100/250 tpy, as well as the plain language of § 7475(a)(4), which requires major emitting facilities to apply BACT for "each pollutant subject to regulation" under the Act. J.A. 238-239. The court held that the language in both of these provisions clearly included greenhouse gases in light of this Court's holding in *Massachusetts* that the statutory term "'air pollutant' . . . unambiguously encompasses greenhouse gases." J.A. 237.

Petitioners filed nine petitions for certiorari raising a host of challenges to EPA's findings and regulations. This Court granted certiorari limited to the single question whether EPA permissibly determined that its regulation of greenhouse-gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

SUMMARY OF ARGUMENT

By its plain terms, the Clean Air Act's provisions for preventing the significant deterioration of air quality apply to major stationary emitters of "any air pollutant," 42 U.S.C. § 7479(1). This Court has twice held, in ***Massachusetts*** and ***Connecticut***, that the phrase "air pollutant" in the Act encompasses greenhouse gases, thereby authorizing EPA to regulate emissions of those air pollutants from both motor vehicles and stationary sources. The identical use of this broad language in the PSD program thus compels its application to major emitters of greenhouse gases.

The PSD program's substantive requirements reinforce its broad scope. In particular, stationary sources subject to PSD permitting must apply the best available control technology for "each pollutant subject to regulation" under the Act—language that unambiguously encompasses greenhouse gases. The PSD program's regulation of greenhouse gases at the back end, when imposing actual emissions controls, necessarily requires that greenhouse-gas emissions be taken into account at the front end, when determining which stationary sources should be subject to the PSD program at all. That interpretation of the statute is the most natural reading of its plain language, and it conforms the sources the program covers to the pollution controls it imposes.

Petitioners' contrary arguments engraft limitations found nowhere in the statute to the sweeping language defining the PSD program's scope. For example, certain petitioners argue (as the losing parties did in ***Massachusetts***) that greenhouse gases are somehow unique among air pollutants, and that the PSD program should not be extended to these unusual pollutants. But this Court has already rejected previous attempts to segregate greenhouse gases from the types of pollutants regulated under the Act. Other petitioners assert that the PSD program should apply only to major emitters of one of the six pollutants for which EPA has promulgated a NAAQS. But when Congress intended such a specific limitation, it said so explicitly—as it did with the Clean Air Act's Nonattainment New Source Review program. By contrast, Congress deliberately extended the PSD program to major emitters of "any air pollutant," without limiting that sweeping phrase to the six NAAQS pollutants. Thus, nothing in the statutory language supports petitioners' various attempts to cast greenhouse gases as uniquely exempt from regulation under the PSD program.

EPA's decision to implement PSD permitting for greenhouse-gas emitters through a gradual transition provides no basis for limiting the scope of the PSD program. EPA's transitional approach properly alleviates the burdens that state authorities would face if PSD permitting were precipitously expanded to large numbers of additional sources, while at the same time ensuring that the vast majority of greenhouse-gas emissions will immediately be covered by the PSD program. Moreover, in conjunction with the States, EPA has committed to studying further methods to extend permitting to smaller sources according to a defined timetable. EPA's transitional approach is thus a reasonable and temporary accommodation to certain practical implementation problems, not a concession that the PSD program is categorically incapable of applying to greenhouse-gas emissions.

Although petitioners assert otherwise, EPA's treatment of greenhouse gases under the PSD program is far from unusual. For decades, EPA has extended PSD permitting to a wide variety of additional pollutants whenever they became newly regulated under the Act. Petitioners' challenge to this long-standing framework would undermine not only the regulation of greenhouse gases but also the regulation of many other dangerous pollutants from which EPA and the States protect the public health and welfare under the PSD program.

ARGUMENT

I. The PSD Program Unambiguously Covers Greenhouse Gases.

When Congress enacted the Clean Air Act's PSD provisions in 1977, it deliberately used sweeping language to describe both the stationary sources covered by the PSD program, and the substantive requirements that the program places on those sources. The court of appeals correctly held that this broad language unambiguously includes greenhouse gases. J.A. 144, 237-38.

1. Congress defined the stationary sources regulated by the PSD program using language that this Court has already held encompasses greenhouse gases. The PSD program applies to all stationary

sources in attainment areas (or unclassified areas) that emit or have the potential to emit "any air pollutant" above certain threshold amounts. 42 U.S.C. §§ 7475(a), 7479(1). In *Massachusetts*, this Court held that the Act's general definition of "air pollutant" in Title III encompasses greenhouse gases because those airborne compounds "are without a doubt 'physical [and] chemical . . . substance[s] which [are] emitted into . . . the ambient air.'" 549 U.S. at 529 (quoting 42 U.S.C. § 7602(g)). That definition applies "when used in this chapter"—*i.e.*, throughout the Act. 42 U.S.C. § 7602(g). The Court thus unsurprisingly concluded that this "sweeping definition of 'air pollutant'" applies to Title II, *Massachusetts*, 549 U.S. at 529, which requires EPA to prescribe standards for motor vehicles' emissions of "any air pollutant" that "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1).

Four years later, in *Connecticut*, this Court confirmed that *Massachusetts*' interpretation of the Clean Air Act's term "air pollutant" to include greenhouse gases extended not only to motor vehicles, but also to stationary sources. *See* 131 S. Ct. at 2537. The issue in *Connecticut* was whether a group of States could bring federal common-law nuisance claims against large power plants to abate their greenhouse-gas emissions. This Court held that Congress had displaced any such claims by "delegat[ing] to EPA the decision whether and how to regulate carbon-dioxide emissions from power plants." *Id.* at 2538. As evidence of that delegation, the Court pointed to EPA's authority under the PSD program, including a specific citation to the Tailoring

Rule's "phasing in" of permitting requirements. *Id.* at 2533. And the Court further relied on Title I's New Source Performance Standards (NSPS) program—which, in language analogous to the PSD provisions', applies to stationary sources emitting "any air pollutant," 42 U.S.C. § 7411(a)(3). *See* 131 S. Ct. at 2537-38.[3]

Massachusetts and *Connecticut* thus confirm that Congress's use of the phrase "air pollutant" in the Clean Air Act unambiguously encompasses greenhouse gases—whether in the Act's general definition of "air pollutant," in the Act's provisions requiring regulation of mobile-source emissions of "any air pollutant," 42 U.S.C. § 7521(a)(1), or in the Act's program to set standards for new stationary sources of "any air pollutant," *id.* § 7411(a)(3), (4). The same inclusive language exists in the PSD provision defining the sources covered by that program as sources of "any air pollutant," *id.* § 7479(1), and it should be interpreted the same way. *See Brown v. Gardner*, 513 U.S. 115, 118 (1994).[4]

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[3] Petitioner American Chemistry Council (ACC), appearing as amicus curiae in *Connecticut*, specifically relied on the PSD program as an example of the Clean Air Act's regulation of greenhouse gases, arguing that the PSD and NSPS programs were part of a "comprehensive framework for regulating air pollution" that displaced the States' federal common-law nuisance claims. ACC et al., as Amici Curiae in Support of Pets. at 27-28 & n.9, *Connecticut*, 131 S. Ct. 2527 (No. 10-174). The United States also relied on the PSD program to support displacement. *See* Reply Brief for Tennessee Valley Authority as Resp. Supporting Pets. 17-18, *Connecticut*, 131 S. Ct. 2527 (No. 10-174).

2. The conclusion that *emitters* of greenhouse gases are covered by the PSD program is reinforced by the statutory language concerning the *emissions* covered by the program. Two substantive requirements in particular can only be read to include greenhouse gases. First, to obtain a preconstruction permit, sources subject to the PSD program must apply the best available control technology (BACT) for "each pollutant subject to regulation" under the Act that the source emits (or has the potential to emit) in sufficient quantities. 42 U.S.C. § 7475(a)(4); *see also id.* § 7479(3). Second, the statute requires new or modified facilities to comply with "any other applicable emission standard or standard of performance" under the Act, *id.* § 7475(a)(3)(C), an express reference to standards imposed outside of the PSD program itself.[5]

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[4] Some petitioners rely on *Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), to contest a plain reading of the PSD program's statutory language. *See* Brief for the State Petitioners (Texas Br.) 5; Brief for Petitioners Southeastern Legal Foundation, Inc., et al, No. 12-1268 (SLF Br.), 7. But as this Court squarely recognized in *Massachusetts* when rejecting a near-identical argument, *Brown* is inapplicable because petitioners have "not identified any congressional action that conflicts in any way with the regulation of greenhouse gases" emitted from stationary sources. 549 U.S. at 531.

[5] Petitioners suggest (*see, e.g.*, Brief of Petitioners American Chemistry Council, et al, No. 12-1248 (ACC Br.) 26) that EPA's decision to construe PSD as applicable to emitters of regulated pollutants rather than all pollutants shows that EPA is not bound by the plain text of the statute, but they are mistaken. The substantive requirements of the PSD program

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Both of these substantive obligations require stationary sources to control greenhouse-gas emissions. For the BACT requirement, greenhouse gases indisputably became "subject to regulation" under the Act when EPA promulgated the Tailpipe Rule. *See* 75 Fed. Reg. at 17,007 (J.A. 720). As acknowledged by petitioner ACC (Br. 29 n.12) and one of the judges dissenting from denial of en banc review below (J.A. 177), the Tailpipe Rule thus triggered the PSD program's BACT provision, requiring stationary sources subject to PSD to limit greenhouse-gas emissions from new or modified construction to "the maximum degree" that a permitting authority "determines is achievable." 42 U.S.C. § 7479(3).

Likewise, the requirement that sources subject to PSD permitting comply with "any other . . . standard" under the Act encompasses the standards imposed by the Act's NSPS program, which this Court in *Connecticut* specifically recognized as authorizing EPA to regulate greenhouse-gas emissions from stationary sources. 131 S. Ct. at 2537. EPA has already proposed minimum performance standards for greenhouse-gas emissions from one major source category, power plants, under the NSPS program. 79 Fed. Reg. 1,430 (January 8, 2014). When those standards come into effect, power plants in the PSD program will be required to limit greenhouse-gas emissions in compliance with those NSPS standards.

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confirm that the program is specifically aimed at pollutants that are "subject to regulation" under the Act.

These two substantive provisions thus unambiguously require that stationary sources in the PSD program control their emissions of greenhouse gases. And by extending these control measures to major emitters of "any air pollutant," broadly defined, the PSD program applies its remedies to the harms that it addresses—*i.e.*, the stationary sources of the very air pollutants that PSD permitting is meant to regulate. By contrast, petitioners' attempts to narrow the scope of the PSD program would lead to a mismatch between remedy and harm: major emitters of *other* pollutants would be subject to greenhouse-gas emissions controls, but major emitters only of greenhouse gases would not be. Nothing in the statute suggests that Congress imposed a regulatory regime with such anomalous results.

3. Another indication that PSD applies to sources of greenhouse-gas emissions is that the parallel but less stringent NSPS program also regulates those pollutants. The NSPS program, which predates the PSD program, sets emissions limitations for new and modified stationary sources that operate as a "floor" limitation. *See* S. Rep. No. 95-127, at 31 (1977). But Congress recognized that NSPS "did too little to 'achiev[e] the ambitious goals of the 1970 Amendments.'" *Envtl. Defense v. Duke Energy Corp.*, 549 U.S. 561, 567 (2007) (quoting Roy S. Belden, *Clean Air Act* 7 (2001)). Congress thus enacted the PSD program in 1977 to both preserve and expand the NSPS program's protection of air quality. *Id.* at 567-68. Because the PSD program was intended to improve on the NSPS program, it would make little sense to give PSD a narrower scope than NSPS, which

this Court has already found extends to greenhouse-gas emissions. *See Connecticut*, 131 S. Ct. at 2537-38.

Excluding greenhouse gases from the PSD program would also be inconsistent with this Court's conclusion in *Connecticut*, 131 S. Ct. at 2537, that EPA's authority to regulate greenhouse-gas emissions from stationary sources displaces the States' ability to pursue their own remedies against those sources under federal common law. If, as petitioners contend, EPA had only limited authority to regulate greenhouse-gas emissions from stationary sources under the Clean Air Act, then States would retain federal common-law remedies for global-warming harms in order to fill any gap created by those limits.[6]

4. The history of the PSD provision confirms that Congress meant what it said when it extended PSD permitting broadly to sources of *any* regulated air pollutants, now including greenhouse gases. Congress deliberately chose the sweeping language that defines both the PSD program's scope and its substantive requirements because it determined that preexisting controls were insufficient to limit dangerous emissions from stationary sources. Those preexisting controls included not only the NSPS program, see *supra* at 15, but also the NAAQS program and EPA's then-extant regulatory program

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[6] Moreover, if, as Texas urges (Br. 24-29), this Court were to overrule *Massachusetts* and preclude EPA from addressing greenhouse-gas emissions altogether, it would be necessary to reconsider *Connecticut* as well and revisit the States' historic federal common-law nuisance claims against stationary sources of greenhouse gases.

to prevent significant deterioration, *see* 39 Fed. Reg. 42,510 (Dec. 5, 1974), which was limited to two NAAQS pollutants, sulfur dioxide and particulate matter. *See Alabama Power Co. v. Costle*, 636 F.2d 323, 347 (D.C. Cir. 1980).

Congress enacted the statutory PSD program in a deliberate effort to broaden the pollution controls that would apply to stationary sources. In debate, it noted the health and welfare effects of non-NAAQS pollutants, including carbon dioxide's effect on climate change. *See* 122 Cong. Rec. S25194 (daily ed. Aug. 3, 1976) (statement of Sen. Bumpers) (referencing "trace pollutants" and discussing carbon dioxide and its impact on climate change); S. Rep. No. 95-127, at 30 (directing EPA to "study strategies to prevent significant deterioration for other regulated pollutants" besides sulfur dioxide and particulate matter). And Congress rejected proposed language that would have limited the PSD program solely to major emitters of NAAQS pollutants,[7] adopting instead the unrestricted language in the current statute that extends PSD permitting to major emitters of "any air pollutant." 42 U.S.C. § 7479(1). Congress further adopted the broad language requiring stationary sources to adopt best available control technologies for "each pollutant subject to regulation" under the Act, 42 U.S.C. § 7475(a)(4), reflecting its view "that the best available control technology requirements should be applicable to all pollutants emitted from any new major emitting facility so that the maximum degree of emission reduction would be achieved in order to minimize potential deterioration." 123 Cong. Rec. at S18,021 (daily ed. June 8, 1977) (statement of Sen. Muskie).

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[7] *See* H.R. 6161, 95th Cong., at 33 (as passed by Senate, June 10, 1977) (rejecting House provision); H.R. Rep. No. 95-564, at 149-52 (Aug. 3, 1977) (Conf. Rep.).

Subsequent amendments to the Act confirm that Congress understood the PSD program broadly to encompass sources of any regulated air pollutant. In 1990, after a decade during which EPA and the States had consistently applied PSD permitting to stationary-source emitters of any regulated air pollutant, including "hazardous air pollutants," Congress amended the Act specifically to remove those "hazardous air pollutants" from the PSD program without otherwise limiting EPA's and the States' approach to determining the sources covered by the program.[8] That amendment highlights the PSD program's initial breadth—and demonstrates that, when Congress intended to exempt specific air pollutants from PSD permitting, it knew how to do so and did so expressly.

The PSD provisions' broadly worded language thus shows that Congress was addressing the effects of all air pollutants that EPA has deemed harmful enough to regulate. By extending PSD permitting to major emitters of "any air pollutant," by requiring that new and modified construction use the best available control technology for each such pollutant, and by mandating that such construction comply with every other applicable standard under the Act, Congress ensured that the PSD program would prevent the deterioration of air quality caused by emissions of any harmful pollutants, preserving the gains achieved by the Act's panoply of pollution-control measures. *See* 42 U.S.C. § 7470(1) (declaring that the purpose of PSD is to "protect public health and welfare from any actual or potential adverse effect[s] . . . from air pollution"). Including greenhouse gases in the PSD program's regulatory sweep is thus consistent with both the text of the program and the statute's declaration of purpose.

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[8] *See* S. Rep. 101-228, at 150-51 (1989); 42 U.S.C. § 7412(b)(6). *Compare* 45 Fed. Reg. 52,676, 52, 708-09 (including asbestos in the initial list of regulated pollutant covered by the PSD program), *with* 42 U.S.C. § 7412(b)(1) (listing asbestos as a hazardous pollutant).

II. Petitioners' Alternative Interpretations Find No Support in the PSD Program's Statutory Language.

Petitioners offer various reasons that the Clean Air Act's PSD permitting program should be interpreted to exclude greenhouse gases, but neither the text nor purpose of the PSD provisions supports petitioners' claims.

A. EPA's Decision to Phase in PSD Emissions Thresholds for Greenhouse Gases Does Not Compel the Conclusion that Those Pollutants Should Be Excluded from the PSD Program.

Petitioners argue that because EPA found it prudent to phase in PSD permitting requirements gradually for greenhouse-gas emissions, it follows that greenhouse-gas emissions are categorically unsuited to regulation under the PSD program.[9] That argument confuses temporary implementation problems with irreconcilable statutory conflict.

EPA promulgated the Tailoring Rule to address a practical timing problem with the immediate administrative implementation of PSD permitting to greenhouse-gas emissions.[10] Because greenhouse-gas pollutants are emitted in higher quantities than the pollutants previously covered by the PSD program, EPA's initial analysis concluded that the program's 100/250-tpy thresholds would bring greenhouse-gas emitters into the program in greater numbers than emitters of other regulated pollutants. EPA determined that the immediate application of current PSD requirements to all such stationary sources would be unworkably burdensome on those sources and on the States that issue PSD permits. *See* 75 Fed. Reg. at 31,572 (J.A. 562). EPA thus adopted a provisional, step-by-step approach that limited the initial application of PSD permitting to the largest emitters—a limitation that EPA determined (and no party disputes) was necessary to mitigate significant burdens on state permitting agencies, yet still encompasses eighty-six percent of stationary-source greenhouse-gas emissions. *Id.* at 31,567-72 (J.A. 503-523).

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[9] *See e.g.*, ACC Br. 27; Brief of Petitioners in No. 12-1254, the Energy-Intensive Manufacturers Working Group on Greenhouse Gas Regulation and the Glass Packaging Institute (EIM Br.) 20; Brief of Petitioners Chamber of Commerce of the United States of America, et al, (Chamber Br.) 30-31; Brief of Petitioner Utility Air Regulatory Group (UARG Br.) at 22-23.

[10] The validity of the Tailoring Rule is not at issue here. The court of appeals held that petitioners had no standing to challenge the rule (J.A. 261-262), and this Court did not grant review of that holding.

Contrary to petitioners' characterizations, the impetus for the Tailoring Rule was not an inherent absurdity or permanent conflict between the statute's emissions thresholds and an interpretation of "any air pollutant" that includes greenhouse gases. Rather, the difficulty of immediate application resulted from the particular, preexisting administrative approaches that EPA and the States had adopted for PSD permitting before greenhouse gases became a regulated air pollutant. In the Tailoring Rule, EPA delayed application of the PSD program to smaller emitters in order to consider more streamlined and cost-effective permitting processes for those sources. *Id.* at 31,525, 31,573, 31,608 (J.A. 319-20, 529-532, 675-76); 40 C.F.R. §§ 52.22(b)(2), 70.12(b)(2).

The specific streamlining options discussed in the Tailoring Rule confirm that the issues that led EPA to make this temporary accommodation are administrative rather than statutory in nature, and subject to administrative solutions. For example, state permitting authorities currently evaluate most PSD permits on a case-by-case basis—a process that can be both labor- and time-intensive, and is therefore difficult to extend to large numbers of additional sources. EPA is considering whether, consistent with the statute, such a case-by-case evaluation is required for every application, or whether it may, be equally effective to use general permits to streamline the process for "sources that are similar in terms of operations, emissions units, and applicable requirements," 74 Fed. Reg. at 55,322;

see also 75 Fed. Reg. at 31,524 (J.A. 318-19); 77 Fed. Reg. 41,051, 41,053 (July 12, 2012). General permits have facilitated large-scale permitting in other environmental regulatory schemes, such as the Clean Water Act, 33 U.S.C. § 1251 *et seq.*, *see Dupont v. Train*, 430 U.S. 112, 122-24 (1977), while significantly alleviating the administrative burdens of evaluating large numbers of applications.

Similarly, EPA and the States determine whether a stationary source meets the PSD provision's emissions thresholds under a long-standing methodology that calculates a source's "potential to emit" on the assumption that the source will operate at maximum capacity to the full legal extent possible. *See, e.g.*, 45 Fed. Reg. 52,676, 52,677; 74 Fed. Reg. at 55,320. EPA is considering alternative methods of calculating "potential to emit" under the Act to account for differences in sources and in the maximum use of smaller sources of greenhouse-gas emissions, such as furnaces that only operate on cold days. 74 Fed. Reg. at 55,321. Such approaches could in theory "significantly reduce the number of sources subject to PSD and Title V and thereby significantly ease administrability of those programs." *Id.*; *see also* 75 Fed. Reg. at 31,517.

Thus, the decision by EPA to apply the PSD program first to the largest sources before applying it to all sources covered by the statute is merely a provisional administrative accommodation to the practical need for additional time and study to adapt existing regulatory schemes to newly regulated pollutants. It is far from unusual for an administrative agency to adopt such a step-by-step approach to the transitional task of applying a complex program to new areas. As this Court recognized in *Massachusetts*, EPA need not "resolve massive problems" such as greenhouse-gas emissions "in one fell regulatory swoop," and may "instead whittle away at them over time, refining [its] preferred approach as circumstances change and as [the agency] develop[s] a more nuanced understanding of how best to proceed." 549 U.S. at 524.

The justification for a step-by-step approach is particularly compelling here because the costs of immediately extending the PSD program to all emitters of greenhouse gases would have fallen heavily on the States. The PSD program is implemented in large part by state permitting authorities, and EPA correctly recognized that immediately extending the permitting process to all major sources of greenhouse gases would overtax the States. EPA's decision to phase in PSD permitting for greenhouse-gas emissions appropriately respects the States' distinct sovereign interest in the proper functioning of their environmental oversight role.

Petitioners in effect contend that greenhouse-gas emitters must either be fully covered immediately or permanently excluded from the PSD program. *See, e.g.*, Texas Br. 8. But EPA has the authority to determine how best to protect public health and welfare while devising mechanisms to ease the regulatory burden on the states. *See Massachusetts*, 549 U.S. at 524. As part of that authority, EPA necessarily has the time to consider its approach and the authority to take interim steps before completing that task. *See, e.g.*, *Nat'l Cable & Telecomms. Ass'n. v. Brand X Internet Servs.*, 545 U.S. 967, 1002 (2005). EPA's transitional approach here properly advances the PSD program's core purpose of "protect[ing] public health and welfare from *any* actual or potential adverse effect" from air pollution, 42 U.S.C. § 7470(1) (emphasis added), while at the same time reasonably reducing the burdens on both sources and permitting authorities. *See Permian Basin Area Rate Cases*, 390 U.S. 747, 777 (1968); *Alabama Power Co.*, 636 F.2d at 358. That approach in no way supports petitioners' claim[11] that greenhouse gases should be permanently exempted from the PSD program.

B. The Differences Between Greenhouse Gases and Other Air Pollutants Do Not Support a Blanket Exclusion of Greenhouse Gases from the PSD Program.

Petitioners argue that certain unique features of greenhouse gases preclude the regulation of those air pollutants under the PSD program. Although most petitioners do not seriously contest that the PSD program applies to a broad range of air pollutants extending well beyond the six pollutants for which EPA has established a NAAQS, they nonetheless assert that greenhouse gases are so different from regulated pollutants that they must be excluded from the statute entirely.[12] But petitioners' arguments for excluding greenhouse gases rely on distinctions that cannot be reconciled with the statute.

1. Several petitioners argue that the phrase "air pollutant" in the PSD program is restricted to pollutants that cause local harms through direct

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[11] *See, e.g.*, ACC Br. 24-25; Chamber Br. 31; Texas Br. 21.

[12] *See* EIM Br. 28; UARG Br. 28; SLF Br. 10, 20.

exposure (*e.g.*, Chamber Br. 15; EIM Br. 6; SLF Br. 9-10), rather than pollutants such as greenhouse gases that cause world-wide harm "due to their uniform presence throughout the global atmosphere" (UARG Br. 28). Nothing in the PSD provision affords a principled basis for setting up such a test, for drawing a line between pollutants that cause local harms and those that do not, or for deciding that greenhouse gases do not cause such local harms.

Petitioners' attempts to construct this distinction only highlight the conceptual difficulty of segregating greenhouse gases from other pollutants that are indisputably subject to regulation under the PSD program. Petitioners argue specifically that the PSD program focuses on air pollutants that affect the "ambient air" that people breathe and thus does not apply to greenhouse gases. UARG Br. 28. But this Court recognized in *Massachusetts* that greenhouse gases, like other pollutants, enter the ambient air. *See* 549 U.S. at 529 n.26. And EPA determined in the Endangerment Finding that greenhouse-gas emissions have severe effects felt at the local level: for example, greenhouse gases exacerbate ground-level ozone and smog, which cause "respiratory illnesses and premature death" and have "significant adverse effects on crop yields, pasture and forest growth, and species composition." 74 Fed. Reg. at 66,525 (J.A. 907).

In any event, both the statute's facial command to regulate "any" air pollutant and the legislative history of the PSD provision indicate that Congress was not narrowly concerned only with the local effects of air pollutants. Congress made clear that PSD permitting should protect against the "[w]orldwide weather modification" that certain pollutants threatened. H.R. Rep. No. 95-294, at 138 (J.A. 1554). And it emphasized the importance of adopting a permitting program that would "help reduce possible major weather modifications such as increased acidity of rainfall, changes in amounts of rainfall and temperature changes." *Id.* at 141 (J.A. 1555). Given the PSD program's global rather than purely parochial outlook on the one hand, and greenhouse gases' harmful local effects on the other, there is no principled basis under the statute for distinguishing greenhouse gases from the pollutants that petitioners would consider local enough to be regulated under the PSD program.

2. Several petitioners also argue that the PSD program is limited to those pollutants that are emitted above the statutory thresholds solely by "large industrial facilities" that are "relatively few in number." UARG Br. 15. Petitioners thus contend that greenhouse gases fall outside of the PSD permitting process because they are emitted by many smaller, nonindustrial facilities as well, "such as hospitals [and] universities." ACC Br. 1-2.

Nothing in the PSD provision itself supports petitioners' attempts to distinguish between air pollutants based upon the industrial character of their emitters. When Congress intended to limit the application of a program to certain types of industry, it did so expressly. Indeed, the PSD provision itself contains an example of such a limitation: the lower, 100-tpy emissions threshold applies to a discrete list of large industrial facilities, such as "iron and steel mill plants" and "fossil-fuel fired steam electric plants" above a certain size. 42 U.S.C. § 7479(1).

No similar industrial-character criterion restricts the application of the PSD provision's 250-tpy threshold, which applies by its terms to any emitters of "any air pollutant" above that threshold. *Id.* Rather than categorically exempting sources "which are small and relatively insignificant with respect to air quality," *see* S. Rep. No. 95-127, at 33, Congress instead provided other avenues to relieve such sources from the potential burdens of PSD compliance. In particular, States may exempt "nonprofit health or education institutions" from PSD permitting, 42 U.S.C. § 7479(1). That exemption authority necessarily presupposes that the PSD program could apply to such smaller, non-industrial sources, belying petitioners' incorrect assumption that PSD permitting was never intended to apply to "hospitals [and] universities" at all. ACC Br. 1. In addition, as petitioners have acknowledged (EIM Br. 23), the Act specifically authorizes EPA to "tak[e] into account energy . . . and economic impacts and other costs" in interpreting the PSD program's substantive requirements, 42 U.S.C. § 7479(3), a built-in protection against particularly onerous burdens, if any, that specific smaller sources might face in the future.

The statutory language thus does not support petitioners' attempt to narrow the scope of the PSD program to pollutants uniquely emitted by large industrial sources. To be sure, Congress may not have understood in 1977 the degree to which smaller sources can emit greenhouse gases—just as Congress "might not have appreciated the possibility that burning fossil fuels could lead to global warming." *Massachusetts*, 549 U.S. at 532. But in the PSD provision, as in the Clean Air Act writ large, Congress chose language sufficiently broad "to confer the flexibility necessary to forestall . . . obsolescence." *Id.* It is that language that now governs the scope of the PSD program, not Congress's unenacted expectations about the facilities likely to be regulated by the program. *See Pa. Dep't of Corr. v. Yeskey*, 524 U.S. 206, 212 (1998) (finding "irrelevant" the contention that "Congress did not envision that the [statute in question] would be applied to state prisoners" (quotation marks omitted)); *Lamie v. U.S. Trustee*, 540 U.S. 526, 542 (2004) ("If Congress enacted into law something different from what it intended, then it should amend the statute to conform it to its intent.").

C. The Absence of a NAAQS for Greenhouse Gases Does Not Exclude Emitters of Greenhouse Gases from the PSD Program.

Petitioner ACC argues that a facility can be brought into the PSD permitting program only by the emission of a pollutant subject to a NAAQS, and not by the emission of greenhouse gases, which are not subject to a NAAQS. ACC acknowledges that once a facility is covered, its greenhouse-gas emissions may be regulated under the PSD program (Br. 28-29 & n.12), but contends that it is not covered at all unless it emits a pollutant subject to a NAAQS above the statutory thresholds in an area that is in attainment for that specific pollutant. ACC Br. 3, 13; *see also* Brief for Respondents Coalition for Responsible Regulation, Inc., et al (CRR Br.), at 16-18.

That argument is flatly inconsistent with the PSD provision's broad application to all major emitters of "any air pollutant," 42 U.S.C. §§ 7479(1);

7474(a). *See United States v. Gonzales*, 520 U.S. 1, 5 (1997) ("Read naturally, the word 'any' has an expansive meaning, that is, 'one or some indiscriminately of whatever kind.'"). Nothing in this sweeping language suggests that, when Congress said "any air pollutant," it actually meant "any air pollutant subject to a NAAQS in an attainment area for that pollutant."

When Congress intended to limit a program to emitters of NAAQS pollutants, it knew how to do so—and said so explicitly. For example, the Nonattainment New Source Review (NNSR) program establishes stringent permitting rules for new or modified construction in areas designated by EPA as nonattainment with a NAAQS. *See* 42 U.S.C. §§ 7501-7509. Because the NNSR program is specifically aimed at achieving the NAAQS, the language defining its scope and substantive requirements is expressly aimed at helping to achieve the NAAQS. Thus, NNSR permitting obligations apply to emissions of a particular pollutant only when "an area . . . is designated 'nonattainment' *with respect to that pollutant*." *Id.* § 7501(2) (emphasis added); *id.* § 7502(c)(5). And the NNSR statute requires sources in nonattainment areas to obtain emission offsets only "of the relevant air pollutant," and specifically to "ensur[e] attainment of the applicable" NAAQS. *Id.* § 7501(1). The absence of any similar narrowing language in the PSD program forecloses ACC's attempt to limit the program to major emitters of NAAQS pollutants.

ACC claims to find support for its interpretation in the language of § 7475(a), which provides that PSD permitting applies only to a "major emitting facility . . . in any area to which this part applies . . . ." ACC argues that the PSD provision "'applies' to an area *only* with respect to those pollutants subject to a NAAQS that the area is attaining." ACC Br. 13. But the words of the statute cannot plausibly be read to bear that meaning. Under the plain terms of the PSD program, it applies to "each region" that is "designated pursuant to section 107 [42 U.S.C. § 7407] as attainment or unclassifiable," without reference to any particular pollutant. 42 U.S.C. § 7471. That language unequivocally means that PSD permitting is required in all areas designated as attainment or unclassifiable for any pollutant under the PSD provision.[13] *See* 45 Fed. Reg. 52,676, 52,710-11 (J.A. 1403).

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[13] ACC argues that this straightforward interpretation of "to which this part applies" makes that phrase superfluous because all areas of the country are currently and have always been in attainment for at least one NAAQS. ACC Br. 19. But Congress plainly foresaw that every area of the country would eventually meet all of the NAAQS, and it just as plainly intended for the PSD program to continue notwithstanding such universal attainment. *See* Pub. L. No. 95-95, § 129(b), 91 Stat. 685, 746-47 (1977) (imposing deadlines of 1982 and 1987 for achieving attainment of all NAAQS) (codified as amended in 42 U.S.C. § 7502(a)). In any event, the statutory language does serve a distinct purpose by emphasizing the breadth of the PSD permitting requirement, notwithstanding other PSD provisions that might apply more narrowly. For example, the PSD program allows for classification of three different categories of attainment areas and imposes somewhat distinct requirements for each category. *See* 42 U.S.C. §§ 7472-7476. Section 7475(a)'s language makes clear that the PSD permitting requirement is applicable to all three classes of attainment areas (as well as areas that have not been classified), notwithstanding any other differences between those areas.

III. Petitioners' Proposed Narrowing Interpretations are Inconsistent with the Experience of the States and EPA in Administering the PSD Program Over Many Decades.

For decades, the States and EPA have applied PSD permitting to sources of any air pollutant regulated under the Act. *See Alabama Power Co.*, 636 F.2d at 351-52; 45 Fed. Reg. at 52,710-12. The inclusion of greenhouse gases among the air pollutants regulated under the PSD program is merely the most recent application of this well-understood paradigm. And the States' recent experience with PSD permitting for greenhouse gases has proven to be far from "unworkable" or intrusive in practice, as petitioners incorrectly assert. Chamber Br. 15.

Petitioners' challenge to the inclusion of greenhouse gases does not merely threaten to exclude those specific air pollutants from regulation; it also threatens to upend long-standing programs that have proven important and effective for controlling other serious and dangerous pollutants for years. Petitioners' proposed reworking of the statutory command to regulate "any air pollutant" would far more radically change the PSD program than does EPA's phased approach to implementing the statute.

1. Petitioners' attempts (see *supra* at 24-30) to limit the plain meaning of "any air pollutant" and "each pollutant subject to regulation under [the Act]," 42 U.S.C. § 7479(1), (3), would not only prohibit EPA from regulating greenhouse gases under the PSD program, but also threaten to undermine many other

actions that EPA and the States have taken to regulate a host of other dangerous pollutants through PSD permitting. In particular, both EPA and the States have long followed the statute's unambiguous command that stationary sources in the PSD program apply the best available control technology for *every* pollutant regulated under the Act, including many that are not subject to a NAAQS. Thus, States have required application of BACT to limit emissions of ozone-depleting substances, *see* 53 Fed. Reg. 30,566 (Aug. 12, 1988), as well as fluorides, hydrogen sulfide, metals, municipal-waste combustor organics, solid-waste landfill emissions, sulfuric-acid mist, and total-reduced sulfur, *see* 40 C.F.R. § 52.21(b)(23)(i).

These non-NAAQS pollutants can be acutely harmful. Hydrogen sulfide and sulfuric acid mist, for example, are emitted by a wide range of sources and can rapidly cause serious respiratory or neurological problems or death, even in vanishingly small quantities.[14] The States' application of BACT to just these two non-NAAQS pollutants has been both extensive and crucial to limiting their harmful effects. A review of EPA's PSD-permitting database shows that States have applied BACT to limit emissions of hydrogen sulfide on at least 129 occasions, and to limit emissions of sulfuric acid mist on at least 439 occasions.[15] Examples from across the States demonstrate that sources have been required to apply BACT to their emissions of these pollutants, leading to emissions reductions as high as ninety-nine percent.[16] Limiting the PSD statute's BACT requirement to NAAQS pollutants, as several petitioners urge here, threatens the continuing validity of these essential pollution controls.

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[14] *See* Agency for Toxic Substances & Disease Registry, U.S. Dep't of HHS, Toxicological Profile for Hydrogen Sulfide, at 10-15 (2006), *available at* http://www.atsdr.cdc.gov/toxprofiles/tp114.pdf; Agency for Toxic Substances & Disease Registry, U.S. Dep't of HHS, Sulfur Trioxide and Sulfuric Acid § 1.5 (Dec. 1998), *available at* http://www.atsdr.cdc.gov/ToxProfiles/tp117-c1-b.pdf.

Petitioner ACC acknowledges that the BACT requirement should apply to all pollutants regulated under the Act—including greenhouse gases and non-

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[15] *See* EPA, RACT-BACT-LAER Clearinghouse, *available at* cfpub.epa.gov/rblc/. This database contains permitting information, voluntarily provided to EPA by the States.

[16] Air Contaminant Discharge Permit Review Report 8-9, *for* Portland Ore. General Electric Co., Carty Plant, Permit No. 25-0016-ST-02 (H2SO4 (sulfuric acid) mist), *available at* http://www.deq.state.or.us/aq/permit/tv/er/250016PGEBoardman_STD_RR.pdf; Permit-to-Install Application, vol. 2, at 5, 31-33, *for* American Municipal Power Generating Station (sulfuric acid emissions reduced by about 90 percent), *available at* http://epa.ohio.gov/portals/27/transfer/ptiApplication/amp/VolumeII.pdf; Santa Barbara County (Cal.) Air Pollution Control Dist., Permit No. 5651-R5, at 166, *for* Exxon Las Flores Canyon Oil & Gas Plant (hydrogen sulfide emissions reduced by 99.9 percent), *available at* http://www.sbcapcd.org/eng/titlev/permits/p5651r5.pdf; *see also* Minn. Pollution Control Agency, Permit No. 06100067-004, at att. 1, tbl. 1-7, *for* Essar Steel Minnesota LLC (BACT for emissions of flourides), *available at* http://www.pca.state.mn.us/index.php/view-document.html?gid=17628; Ky. Dep't of Envt'l Protection, Permit No. VF-002-004R1, for Atofina Chemicals, Inc. (hydrochloroflourocarbons (HCFCs), an ozone-depleting substance), *available at*: http://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.PollutantInfo&Facility_ID=26009&Process_ID=103744&Pollutant_ID=95&Per_Control_Equipment_Id=138272 (database summary).

NAAQS pollutants such as hydrogen sulfide and sulfuric acid mist—but urges this Court to limit the application of PSD permitting in the first instance only to emitters of NAAQS pollutants (ACC Br. 3, 29 n.12; *see also* CRR Br. 18). That limitation would still keep the States from preventing emissions of severely harmful pollutants that have long been subject to PSD permitting. Permitting authorities have consistently required PSD permits when sources emit non-NAAQS pollutants above the statutory thresholds. *See, e.g.*, Ala. Admin. Code § 335-3-14-.04(2)(w), (ww) (sources of *any* regulated pollutant are subject to PSD permitting); 6 N.Y.C.R.R. § 231-4.1(b)(44) (sources of "any contaminant that otherwise is subject to regulation under the Clean Air Act" are subject to PSD permitting). Exempting such sources from the PSD program's requirements would call into question a broad range of permits that currently prevent harmful emissions of non-NAAQS pollutants.[17]

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[17] US EPA Permit No. NSR 4-4-2 (SPB 81-03), *for* Pacific Gas & Elec. Co. Geysers Plant (permit required because of hydrogen sulfide), *available at* http://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.ProcessInfo&facility_id=1&PROCESS_ID=1 (database summary); La. Dep't of Envt'l Quality, Permit No. PSD-LA-722, E.I. DuPont de Nemours & Co., Burnside Plant (permit required because of sulfuric acid mist), *available at* http://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.FacilityInfo&facility_ID=26707 (database summary); Ill. Envtl. Prot. Agency, Permit No. 201030AXM, Owens Corning Plant, *available at* http://yosemite.epa.gov/r5/in_permt.nsf/6f1ebc583aad45448625763f0053e08e/7cb5609c389f47d686257c6000549e92/$FILE/ATTX4Z9G/01030029.pdf; Permit No. A859, Universal Urethane, Inc. (permit required because of ozone-depleting substances),

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As a practical matter, the States currently rely on the PSD program in substantial part for essential controls over NAAQS and non-NAAQS pollutants alike. Absent coverage by the PSD statute and the state programs that implement federal requirements, regulation of these dangerous pollutants would rely on a patchwork of state and local regulations, or on individual common-law nuisance actions against particular sources, see *supra* at 16. Substituting state regulation for the PSD program's current requirements could also potentially lead to inconsistent regulatory regimes across different States—contravening Congress's intent that a more uniform PSD program would protect States from "economic-environmental blackmail" resulting from differing state regulation of major air pollution. H.R. Rep. No. 95-294, at 134; *Alaska Dep't of Envtl. Conserv. v. EPA*, 540 U.S. 461, 486 (2004).

2. The States have been administering the PSD permitting program for stationary sources of greenhouse-gas emissions under the Tailoring Rule without substantial difficulties. Greenhouse gases are not the first newly regulated pollutant that States have incorporated into their existing PSD permitting processes. When a new pollutant is regulated under the Act, typically EPA and the state permitting authorities take steps to adjust, as necessary, their respective implementation plans to ensure that they can issue permits for sources of the new pollutant. For example, when EPA issued

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available at http://cfpub.epa.gov/rblc/index.cfm?action=PermitDetail.ProcessInfo&facility_id=3397&PROCESS_ID=1 (database summary).

standards of performance for new municipal solid-waste landfills and emission guidelines for existing landfills, it explained that "PSD rules now apply" to sources of those landfill emissions and set out guidance for permitting those sources. *See* 61 Fed. Reg. 9,905, 9,912 (Mar. 12, 1996). And when ozone-depleting substances were first regulated under the Act, EPA proposed how to calculate the emissions and set the "significance" levels for determining applicability of PSD-permitting requirements, including BACT review. *See e.g.*, 61 Fed. Reg. 38,250, 38,307-08 (Jul. 3, 1996).

When greenhouse gases became regulated pollutants for purposes of the PSD program, EPA and state permitting authorities followed their past practice to adapt permitting processes for greenhouse gases where necessary. States thus promptly amended their regulations and submitted revised state implementation plans to ensure that emitters of greenhouse gases could obtain the appropriate permits.[18] 75 Fed. Reg. 77,698 (Dec. 13, 2010) (SIP Call); 78 Fed. Reg. 63,383 (Oct. 24, 2013) (Rhode Island); Or. Admin. R. 340-224-0010(5) (Oregon); 77 Fed. Reg. 60,907 (Oct. 5, 2012) (Vermont). And States have been working with EPA to ensure that PSD permitting of sources of greenhouse gas emissions proceeds in an orderly fashion, just as they previously have done for the other pollutants covered by the PSD program.[19] *See, e.g.*, 75 Fed. Reg. at 77,710. The States' collective experience demonstrates that permitting of greenhouse-gas emitters (including BACT review) has proceeded without any systemic disruptions or unwarranted delays to permitting.[20]

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[18] Many States' PSD programs automatically update to include newly regulated pollutants, and did so for greenhouse gases. *See* 75 Fed. Reg. at 77,702.

The pollution control measures that have been required by the States' greenhouse-gas PSD permits have also not been unduly disruptive, contrary to petitioners' characterizations (*see, e.g.*, EIM Br. 11-12). Because many pollution controls simultaneously reduce both greenhouse-gas emissions as well as other pollutants already regulated by the PSD program, emitters of greenhouse gases are often able to satisfy their new PSD obligations by applying or strengthening control measures that they would have been required to adopt in any event. For example, in Iowa, a nitric acid plant received a PSD permit after installing a pollution-control system that allowed it to reduce emissions of both nitrous oxide (one of the greenhouse gases) and nitrogen oxide (a NAAQS pollutant).[21]

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[19] *See also* 77 Fed. Reg. at 41,058 (44 PSD permits filed as of May 2012); Office of Air Quality Planning & Stds., U.S. EPA, Greenhouse Gas Permitting Update at 5 (Dec. 12, 2012) (fewer than 200 GHG PSD permits in first two years of program), *available at* http://www.4cleanair.org/Documents/NACAADecember12MeetingGHGPermittingUpdate.pdf.

[20] *See, e.g.*, Nat'l Ass'n of Clean Air Agencies, States Moving Full Speed Ahead on Greenhouse Gas Permitting (Sept. 15, 2010), *available at* http://www.4cleanair.org/Documents/NACAAGHGpermittingimplementationsummarySep2010.pdf.

[21] Ia. Dep't of Natural Res., Envtl. Servs. Div., PSD Permit Review 73, *for* Iowa Fertilizer Co., *available at* https://aqbweb.iowadnr.gov/psd/5610001/PSD_PN_12-219/12-219_fact_sheet.pdf

In addition, the PSD permits issued have focused not on transforming facilities altogether, but rather on improving their efficiency, such as through better quality of combustion or fuel selection.[22] For example, a new natural-gas-fired power plant in Maryland will meet BACT requirement for greenhouse gases by using high-efficiency combined cycle turbines that also reduce the facility's costs.[23] Similarly, two natural-gas-fired steam generators in California will meet BACT for greenhouse gases by installing technology that will improve efficiency up to eighty-eight percent.[24] And the PSD permit for a

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[22] *See* EPA, *Clean Air Act Permitting for Greenhouse Gases*, http://www.epa.gov/nsr/ghgpermitting.html (collecting white papers that describe "readily available information on control techniques and measures to reduce GHG emissions from specific industrial sectors"). Energy efficiency is a long-standing and familiar component of PSD permitting for pollutants other than greenhouse gases. *See, e.g.*, Wash. Dep't of Ecology, Permit No. 2001-01, amend. 3, *for* Grays Harbor Satsop Turbine Combustion Project (new energy-efficient generation of burners installed for carbon monoxide), *available at* http://www.efsec.wa.gov/Satsop/PSD2005/Satsop%20amd%203%20final.pdf; Ore. Dep't of Envtl. Quality, Permit No. 11-0001-ST-02, Standard Air Contaminant Discharge Permit Review Report 14, *for* Columbia Ridge Landfill & Recycling Ctr. (combustion efficiency controls installed for nitrogen oxide emissions), *available at* http://www.deq.state.or.us/aq/permit/tv/er/110001ColumbiaRidgeLandfill_ST_RR.pdf.

[23] *See* Md. Pub. Serv. Comm'n, Envtl. Review of the Proposed Modification to the CPV St. Charles Project (Draft), Case No. 9280, Item 39 (9280-CPVERD) (July 9, 2012), *available at* http://webapp.psc.state.md.us/Intranet/casenum/caseform_new.cfm (search case number).

[24] San Joaquin Valley Air (Calif.) Pollution Control Dist., Notice of Preliminary Decision for the Issuance of Authority to

(continues on next page)

replacement cement kiln in New York requires the facility to optimize the design of the kiln for energy efficiency, cutting greenhouse-gas pollution by forty percent while reducing the facility's cost of energy.[25]

Thus, the States' recent practical experience in applying PSD-permitting requirements to greenhouse-gas emissions belies petitioners' assertions that the extension of the PSD program to greenhouse gases will radically alter the operation of the Act and lead to pollution-control measures "so intrusive . . . [as to] impose almost unlimited costs." EIM Br. 30; *see also* SLF Br. 26. In fact, greenhouse-gas permitting has, like the rest of the PSD program, resulted in more efficient and less polluting industrial processes, delivered at reasonable costs. By contrast, limiting the PSD program to cut out greenhouse gases altogether not only risks disrupting controls for other dangerous pollutants; it also forfeits the public health and welfare benefits associated with applying this well-tested program to greenhouse-gas pollution.

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[25] N.Y. State Dep't of Envtl. Conserv., State Environmental Quality Review (SEQR) Findings Statement 13-14, *for* Lafarge Ravena Plant Modernization, *available at* http://www.dec.ny.gov/docs/permits_ej_operations_pdf/laffindings.pdf.

CONCLUSION

The judgment of the court of appeals should be affirmed.

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RESPONDENT'S BRIEF

12-1272

MAY 9 - 2013

No. 12-1272

In the Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, STATE OF ALASKA, AND AMERICAN FARM BUREAU FEDERATION,
Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents

On Petition for Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

RESPONSE OF PEABODY ENERGY CORPORATION IN SUPPORT OF THE PETITION FOR WRIT OF CERTIORARI OF THE CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA, STATE OF ALASKA, AND AMERICAN FARM BUREAU FEDERATION

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RULE 29.6 DISCLOSURE STATEMENT

Pursuant to Supreme Court Rule 29.6, the undersigned counsel for Peabody Energy Corporation certifies that it is a publicly-traded company on the New York Stock Exchange ("NYSE") under the symbol "BTU." As of December 31, 2012 filings, no holding companies own more than 10% of Peabody Energy Corporation's outstanding shares.

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INTRODUCTION

The Chamber of Commerce of the United States of America, the State of Alaska, and the American Farm Bureau Federation (hereinafter collectively referred to as "Chamber of Commerce") have petitioned this Court for a writ of certiorari in the captioned docket seeking review of the decision of the United States Court of Appeals for the District of Columbia in *Coalition for Responsible Regulation v. EPA*, 684 F.3d 102 (D.C. Cir. 2012) (per curiam) (App. 1a.), *reh'g en banc denied* at 2012 WL 6621785 (D.C. Cir. Dec. 20, 2012) (App. 99a). Pursuant to Rule 12.6 of the Rules of the Supreme Court, Peabody Energy Corporation ("Peabody") responds in support of the Chamber of Commerce's Petition. Peabody was a petitioner below in the petitions for review of the United States Environmental Protection Agency's ("EPA") "Tailpipe," "Tailoring," and "Timing" Rules, as well as its "Endangerment Rule," and is therefore a respondent here under Rule 12.6.

Peabody is the world's largest private-sector coal company and a global leader in sustainable mining and clean coal solutions. The company serves metallurgical and thermal coal customers in nearly thirty countries on six continents. The company shipped 246 million tons of coal in 2010, nearly 80 percent of which came from existing coal mines in the United States, and the company has approximately 9 billion tons of proven and probable coal reserves.

The decision of the court below raises extraordinarily important issues that justify this Court granting the Chamber of Commerce's Petition. The rules at issue constitute EPA's first foray into ("GHG") regulation following this Court's landmark decision in *Massachusetts v. EPA*, 549 U.S. 497 (2012). As stated in the Chamber's Petition, these rules initiate "the costliest, farthest reaching, and most intrusive regulatory apparatus in the history of the American administrative state—regulations ... that could eventually touch practically every aspect of every industry across the entire economy." Chamber of Commerce Petition at 1. Peabody concurs and adds that the effect of EPA regulation of GHG emissions will not just be economic. Under the well-established formula that "wealth=health," the effect of GHG regulation, by increasing costs to society, will be to undermine the health and welfare goals that EPA seeks to achieve through its regulations. These health and welfare effects could be very significant indeed as EPA extends its regulatory reach throughout the economy, but EPA failed to consider them at all in its Endangerment Rule.

ARGUMENT

I. This Case Is Extraordinarily Significant Because EPA Regulation of GHG Emissions Will Endanger the Public Health and Welfare.

Although ostensibly designed to protect the public health and welfare, the rules at issue will have the opposite effect. By raising energy costs and increasing unemployment, the rules will deprive American consumers, particularly low-income, elderly, and minority consumers, of purchasing power they need to acquire the necessities of life, such as shelter, heating and air conditioning, health care, and a nutritious diet. Yet EPA utterly failed to consider these health and welfare disbenefits in its endangerment analysis, resulting in one-sided and biased conclusions as to the effect its GHG regulation will have. The significance of these unexamined and unaccounted for health and welfare disbenefits warrants granting the Chamber's Petition.

A. EPA Failed to Consider the Positive Health and Welfare Impacts that Result from the Use of Fossil Fuels and the Negative Health and Welfare Impacts that Its GHG Regulations Will Create.

As demonstrated in the Chamber Petition, the chain of EPA rulemaking that ended with the Agency rewriting the numerical statutory thresholds under the "PSD" and "Title V" permit programs began with the Agency's Endangerment Rule.[1] In this rule, EPA found that the emission of GHGs "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." *Endangerment and Cause or Contribute Findings*, 74 Fed. Reg. at 66,505. This finding, however, was entirely one-sided in that EPA examined only what it saw as the negative health and welfare effects of emitting GHGs but not the positive health and welfare effects of the processes that create the emissions. Obviously, the emission of GHGs does not occur in a vacuum. GHGs are emitted across the economy for many reasons, the principal of which is that various residential, commercial and industrial processes utilize fossil fuels for energy and because carbon dioxide ("CO_2"), the most ubiquitous GHG, is the inevitable byproduct of combusting such fuels. These processes produce fundamental health and welfare benefits without which modern life would be impossible.

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[1] *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009).

EPA's one-sided analysis caused it to miss an obvious fact. *Although the Agency finds that society's emissions of GHGs pose a health and welfare danger, over the last century, as anthropogenic greenhouse emissions have increased, every relevant indicator of public health and welfare has improved dramatically rather than deteriorated.* This relationship between increasing GHG emissions and improved public health and welfare is not an accident. The direct cause of both the increased emissions and the improvements in health and welfare is society's use of energy, particularly electricity produced through the combustion of fossil fuels. The need to consider the positive as well as negative health and welfare benefits that comes with the use of fossil-fuel energy—and therefore the emission of GHGs—is consistent with the prophylactic purposes of the CAA. As the D.C. Circuit in *Ethyl Corp. v. EPA*, 541 F.2d 1, 13 (D.C. Cir. 1976) (*en banc*), stated, "[a] statute allowing for regulation in the face of danger is, necessarily, a precautionary statute." Similarly, the House Committee that proposed the endangerment finding language now set forth in 42 U.S.C. § 7521(a) also referred to the "preventive or precautionary nature of the [A]ct." H.R. Rep. No. 95-294 at 49, reprinted in 1977 U.S.C.C.A.N. 1077, 1127. But as *Ethyl Corp.* concluded, in exercising precaution in the assessment of possible endangerment, the Administrator must "act, in part on 'factual issues,' but largely 'on choices of policy....'" *Ethyl Corp.*, 541 F.3d at 29. Indeed, the preamble to the proposed Endangerment Rule itself emphasized that:

> [t]hroughout this Notice the judgments on endangerment and cause or contribute are described as a finding or findings. This is for ease of reference and is not intended to imply that the Administrator's exercise of judgment in applying the scientific information to the statutory criteria is solely a factual finding; while grounded squarely in the science of climate change, *these judgments also embody policy considerations*.

Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18,886, 18,892, n.10 (proposed Apr. 24, 2009) (to be codified in 40 C.F.R. Ch. 1) (emphasis supplied).

The necessity for exercising policy judgment in acting in a precautionary fashion reflects the fact that determining the proper quantum of precaution in a particular case requires a balancing of risks and benefits in a broad sense. Obviously, over-caution creates its own health and welfare risks. As Justice Breyer stated in his concurring opinion in *Whitman v. American Trucking Ass'ns,* 531 U.S. 457, 494 (2001) (Breyer, concurring), "a world that is free of all risk – [would be] an impossible and undesirable objective." And as the preamble to the proposed Endangerment Rule stated, the purpose of such a finding is to review "the totality of the circumstances" to determine "whether the emissions '*justify* *regulation*' under the CAA." *Proposed Endangerment and Cause or Contribute Findings*, 74 Fed. Reg. at 18,892 (emphasis supplied). If, as EPA says, the basic purpose of the Endangerment Finding is to assess all risks and benefits of emissions in order to arrive at a policy judgment of the proper amount of precaution that justifies regulation in a particular case, that purpose cannot be fulfilled if EPA only looks at the atmospheric impacts of emissions, and ignores the health and welfare reasons why the emissions occur in the first place. Without a full view of the balance of health and welfare factors that relate to emissions, EPA could find that society would be better off without GHG emissions, when a balanced analysis might yield the opposite conclusion.

The prospect of GHG regulation provides a particularly compelling illustration of the need for a balanced approach in assessing possible endangerment. As the preamble to the proposed Endangerment Rule stated, in somewhat of an understatement, "[t]he Administrator recognizes that the context for this action is unique." *Id.* at 18,890. And, as the Intergovernmental Panel on Climate Change, a source on which EPA relies extensively, has noted, "[e]missions of GHGs are associated with an extraordinary array of human activities."[2] More than eighty percent of energy in the United States is derived from the combustion of fossil fuel.[3] As a result, according to EPA, "[v]irtually every sector of the U.S. economy is either directly or indirectly a source of GHG emissions." *Control of Emissions from New Highway Vehicles and Engines*, 68 Fed. Reg. 52,922, 52,928 (Sept. 8, 2003). Because GHG emissions, particularly CO_2 emissions, are so closely tied with all facets of modern life, a finding that GHG emissions endanger public health and welfare is akin to saying that modern life endangers public health or welfare. That may be true in some sense, but the necessary rejoinder is: compared to what? Certainly not as compared with pre-industrial society with pre-industrial levels of atmospheric GHG concentrations. To again quote Justice Breyer's concurring opinion in *Am. Trucking Ass'ns*, "[p]reindustrial society was not a very healthy society; hence a standard demanding the return of the Stone Age would not prove 'requisite to protect the public health.'" 531 U.S. at 496. Thus, although EPA would presumably conclude that pre-industrial society would not pose a health and welfare danger in terms of GHG emissions, the lack of industrial activity that causes GHG emissions would pose other, almost certainly more serious health and welfare consequences. Yet these impacts remained unexamined by EPA.

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[2] IPCC, *Climate Change 2001*: *Mitigation* ("IPCC 2001"), at 608, *available at* http://www.grida.no/publications/other/ipcc_tar/ (last visited May 7, 2013).

[3] U.S. Energy Information Administration, *EIA's Energy in Brief: What are the major sources and users of energy in the United States*?

B. Using Fossil Fuels Creates Significant Public Health and Welfare Benefits.

Although energy production results in GHG emissions, it also yields significant benefits for the health and welfare of all Americans. The benefits to the United States in fossil fuels usage can be seen by

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http://www.eia.gov/energy_in_brief/article/major_energy_sources_and_users.cfm (last updated May 18, 2012).

comparing energy usage in the developed world with energy usage in the developing world. The disparity and its consequences are alarming. The average consumer in the United States, for example, uses 13,394 kWh of power each year. The average Indian uses just 616 kWh.[4] In India, more than 400 million people have no electricity, 600 million cook with wood or dung and more than 900 million have no refrigeration.[5]

The human and economic consequences of these differences in access to electricity are stark indeed. In the United States, the per capita Gross National Income is $48,620. In India, it is $1,420. In the United States, a new baby can expect to live 79 years, in India only 65. In the United States, there is virtually no serious child malnourishment. In India, about half the children are malnourished and tens of millions are classified as "stunt[ed]."[6]

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[4] The World Bank, Data: Electric power consumption (kWh per capita), http://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC (2010 data).

[5] International Energy Agency, WORLD ENERGY OUTLOOK 574 (2007), http://www.iea.org/publications/freepublications/publications/weo_2007.pdf.

[6] The World Bank, Data: GNI per capita, Atlas method (current US$), http://data.worldbank.org/indicator/NY.GNP.PCAP.CD (2011 data); The World Bank, Data: Life expectancy at birth, total (years), http://data.worldbank.org/indicator/SP.DYN.LE00.IN (2011 data); The World Bank, Data: Malnutrition prevalence, height for age (% of children under 5), http://data.worldbank.org/indicator/SH.STA.STNT.ZS?page=1 (2006 data).

Indeed, energy usage, and in particular electricity usage, is the ***sine qua non*** of modern society. The National Academy of Engineering has identified societal electrification as the most significant "engineering achievement" of the twentieth century—a century that saw population growth of more than four billion people, the rise of the metropolis, dramatic improvements in diet and health, and the emergence of a vast system of electronic communication.[7] In 1936, *The New York Times* stated, "Nothing in modern life so raises the standard of living of high and low income groups as the use of electricity."[8] Energy is a key factor in economic development, transforming agrarian societies to modern industrial ones. This societal transformation driven by the accumulation of income and wealth eliminates many contagious diseases, reduces child mortality, and lengthens adult life expectancy. This virtuous cycle has been demonstrated over the past two centuries in dozens of countries around the world. The emergence from poverty begins as countries develop transportation networks using petroleum and electricity networks, often based upon coal. These systems are capable of achieving massive economies of scale that provide large amounts of energy at low cost. These abundant and reliable supplies of energy spur technological change, productivity growth, and rising living standards.[9]

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[7] *See* Neil A. Armstrong, *The Engineered Century*, THE BRIDGE, Spring 2000, at 18, *available at* http://www.nae.edu/Publications/TheBridge/Archives/V30-1TheVertiginousMarchofTechnology/TheEngineeredCentury.aspx.

[8] Bernhard Ostrolenk, *Conference to Debate Many Power Problems*, N.Y. TIMES, Sept. 6, 1936.

It is no coincidence then that the world energy complex is built upon fossil fuels. Consumers prefer reliable power at a reasonable cost. And producers who provide these services prosper. The fact that the U.S. economy currently derives about 80 percent of its total energy from coal, oil, and natural gas is a testament to the competitive and reliability advantages of fossil fuels. These fuels have empowered modern industrial societies to raise living standards for billions of people.

The benefits of energy usage can be demonstrated graphically in the following satellite picture of the Korean peninsula at night. One part of the peninsula is a modern country and the other part is one of the most underdeveloped countries in the world: the difference is access to electricity and the energy from which the electricity is produced.[10]

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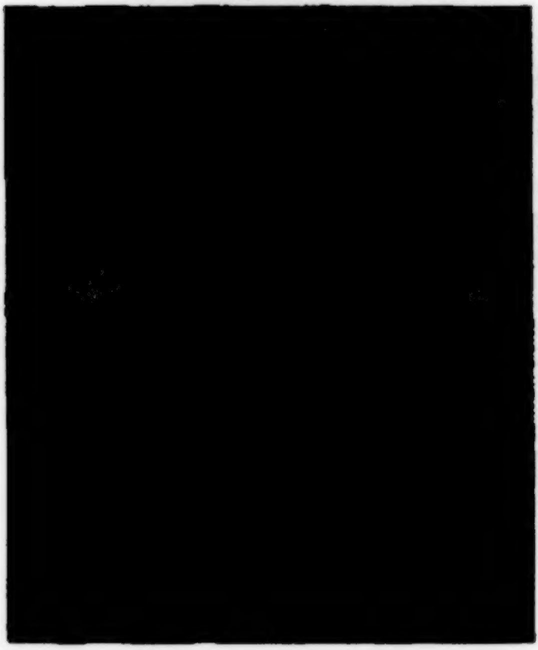
[9] Sam H. Schurr et al., ELECTRICITY IN THE AMERICAN ECONOMY, AGENT OF TECHNOLOGICAL PROGRESS, Greenwood Press, 1990.

[10] *See North Korea is Dark*, http://www.globalsecurity.org/military/world/dprk/dprk-dark.htm (last visited May 7, 2013). The statistics in the above graphic are taken from Daniel Schwekendieka and Sunyoung Pak, *Recent growth of children in the two Koreas: A meta-analysis*, 7 ECONOMICS & HUMAN BIOLOGY 109 (2009); Central Intelligence Agency, THE WORLD FACTBOOK 2009 (2009), *available at* https://www.cia.gov/library/publications/download/download-2009 and UNESCO, *Access to Electricity and Water for Domestic Use*, http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/wwap_wwdr3_10_Annexed_table_access_to_electricity_and_water.pdf *(last visited May 7, 2013).*

Electricity Makes
the Difference: Korea



South Korean preschool children average 3 inches taller and 7 pounds heavier than North Korean Children

The Infant Mortality Rate in North Korea is 12 times higher than South Korea

South Korea ranks 49th in GDP/capita. North Korea Ranks 189th

Only 20% of North Koreans have access to electric power. South Koreans access approaches 100%

With the benefits of modern life so intertwined with abundant and low-cost fossil fuels, it is no surprise that a variety of authorities have concluded that the economic and non-economic costs of reducing GHG emissions would be massive. Regulatory policies that result in the phasing out of the dominant fuel for electric generation cannot help but have serious consequences. Coal has been America's fuel of choice for electric generation for a reason: it has proved over time to be the lowest cost and most reliable fuel, one on which the United States does not need to depend on foreign nations to obtain. Coal is by far America's most abundant energy resource—"making up 92 percent of U.S. fossil energy reserves on a BTU basis."[11] "At current consumption rates, the U.S. has more than 230 years of remaining coal reserves."[12] By the simple law of supply and demand, curtailing the country's use of the dominant fuel for electric generation will cause the price of electricity to rise, and because electricity usage affects virtually everything, the American economy will suffer as a result.

To give this issue some context, it is instructive to understand how substantial the cost burden is of reducing GHG emissions. For instance, in EPA's March 2008 analysis of the Lieberman-Warner cap-and-trade bill, "annual GDP is modeled to be between 0.9% ($238 billion) and 3.8% ($983 billion) lower in 2030 and between 2.4% ($1,012 billion) and 6.9% ($2,856 billion) lower in 2050 than in the Reference Scenario. Consumption is modeled to be between 0.9% ($180 billion) and 1.4% ($233 billion) lower in 2030 and between 2.1% ($670 billion) and 3.3% ($843 billion) lower in 2050 than in the Reference Scenario. The average annual growth rate of consumption is ~0.08 percentage points lower than the reference case. In 2030 per household average annual consumption is ~$1,375 lower and gasoline prices increase ~$0.53 per gallon. In 2050 per household average annual consumption is ~$4,377 lower and gasoline prices increase ~$1.40 per gallon."[13] Other studies have showed even higher costs, some much higher.[14]

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[11] National Mining Association, Coal: America's Power, http://www.nma.org/pdf/fact_sheets/cap.pdf (last visited May 7, 2013).

[12] *Id.*

[13] *See* EPA analysis of the Lieberman-Warner Climate Security Act of 2008, S. 2191 in 110th Congress (March 14, 2008), http://www.epa.gov/climatechange/Downloads/EPAactivities/s2191_EPA_Analysis.pdf.

EPA, of course, is not proposing administrative imposition of the Lieberman-Warner bill. But by initiating GHG regulations, it is putting the Nation on a path towards the use of different and more expensive sources of energy. The cost of those substitutes will be passed on to consumers, and these costs will be substantial because it is demonstrably not possible to achieve significant GHG emission reductions without incurring significant costs. EPA itself estimates that capturing CO_2 from a coal-fueled electric generating plant would increase the cost of the plant's electricity by 80 percent.[15]

Moreover, these costs will fall disproportionately on the poor. As one study has concluded, GHG regulation:

> ...will impact low income groups, the elderly, and minorities disproportionately, both because they have lower incomes to begin with but also because they have to spend proportionately more of their incomes on energy, and rising

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[14] *See, e.g.*, CRA International, Economic Analysis of the Lieberman-Warner Climate Security Act Of 2007 Using CRA's NRA-NEEM model, *Summary of Findings 19-21* (2008), http://www.nma.org/pdf/040808_crai_ presentation.pdf. (4 million jobs will be lost in 2015 alone, and growing on a year-by-year basis to more than 7 million jobs lost in 2050; overall cost of the bill to the average household of 2.6 persons will exceed $2,300 annually in 2015, which approximates the amount households now spend annually on healthcare; large year-over-year losses in GDP accumulating to $5.3 trillion (in 2007 $).

[15] *Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units*, 77 Fed. Reg. 22,392, 22,415 (Apr. 13, 2012).

energy costs inflict great harm on minority families. Lower-incomes families are forced to allocate larger shares of the family budget for energy expenditures, and minority families are significantly more likely to be found among the lower-income brackets. This disparity between racial groups means that rising energy costs have a disproportionately negative effect on the ability of minority families to acquire other necessities such as food, housing, childcare, or healthcare.[16]

Indeed, family incomes are not keeping pace with the rising costs of energy.[17] Approximately one-half of American households have average pre-tax annual incomes below $50,000 and real median household income has declined by eight percent since 2007. *Id.* In 2001, households with gross annual incomes below $50,000 spent an average of 12% of their after-tax income on residential or transportation energy costs. This year, these households are expected to spend an average of 20% of their after-tax income on energy. *Id.* In 2011, nearly one-third of American households had gross annual incomes of less than $30,000 and energy costs accounted for an average of 27 percent of their family budgets, before taking into account any energy assistance. *Id.* at 3. Nearly all of the residential electricity price increases over the past two decades have occurred since 2000. *Id.* at 3.

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[16] Management Information Services, Inc., *Executive Summary: Potential Impact of the EPA Endangerment Finding on Low Income Groups and Minorities,* March 2010 at 2-3, www.misi-net.com/publications/APA-0310.pdf.

[17] American Coalition for Clean Coal Electricity, *Energy Cost Impacts on American Families, 2001-2013,* Jan. 2013 at 2, http://www.americaspower.org/sites/default/files/Trisko%202013.pdf.

The impact of higher energy costs is not just economic, however. As both common sense and a wealth of literature shows, a rise in energy prices, by depriving consumers of purchasing power needed for the necessities of life, will result in a decline in health and welfare. As researchers, Daniel E. Klein and Ralph L. Keeney, explain:

> When regulations are enacted with the intent of reducing certain life threatening risks, we expect to see benefits in the form of safer, healthier, and longer lives. But at the same time, the economic costs of these regulations – particularly the impacts on income and employment – tend to *worsen* individual health or safety and can shorten lifetimes.[18]

Summarizing, a large body of scientific literature, Dr. Harvey Brenner of Johns Hopkins University recently wrote:

> At the individual level of analysis—i.e., in epidemiological studies—individual income is a standard and fundamental inverse predictor of early mortaility (Anderson, Gamborg, Olser, Prescott, Diderichsen 2005; Ecob, Davey Smith, 1999; Ettner, 1996; Kahn, Wise,

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[18] Daniel E. Klein and Ralph L. Keeney, ***Mortality Reductions from Use of Low-Cost-Fueled Power: An Analytical Framework,*** Dec. 2002 at ES-1, *available at* www.coalcandothat.com/images/content/MortalityRed.pdf.

> Kennedy, Kawachi, 2000; Kivimaki, Shipley, Ferrie et al., 2008; Lynch, Smith, Kaplan, House, 2000). In industrialized countries, the higher the level of income of individuals, the lower the illness and mortality rates attributed to the great majority of infections, chronic diseases and mental disturbances....Moving from the individual to the national level, however, real GDP per capita indicates the availability of basic goods and services: nutrition, potable water, sanitary engineering, housing and other means of climate control, transportation and primary health care. At the national level, real GDP per capita—especially for industrialized societies [—]conveys the capacity of society to invest in the development of science and technology, improved working conditions at higher technological levels of safety and health, financing of education at all levels, stabilization of the income of individuals and small businesses, and the many types of social protection: unemployment insurance; active labor market policies; health insurance; social welfare payments to impoverished, frail populations and children; social security and retirement benefits.[19]

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[19] *The Clean Air Act and Public Health,* Before the Senate Committee on Environment and Public Works, 112th Congress (2011) (statement of Dr. Harvey Brenner, Professor, Social and Behavioral Science, University of North Texas,

A wide variety of literature shows that lower-income children are less healthy than other children.[20] And a June 23, 2006 report by Yale researcher Dr. William T. Gallo reported that, "Results suggest that the true costs of late career unemployment exceed financial deprivation, and include substantial health consequences. Physicians who treat individuals who lose jobs as they near retirement should consider the loss of employment a potential risk factor for adverse vascular health changes."[21]

And the positive effects of fossil fuel usage is not just limited to public health but to the environment as well. The use of coal to generate electricity improves the environment by creating an environment where people can work and live and generate sufficient resources to improve the quality of life.

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http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=37188bea-2c5f-4100-a767-f264f1a1ced2.

[20] *See, e.g.*, Jeanne Brooks-Gunn and Greg J. Duncan, *The Effects of Poverty on Children*, THE FUTURE OF CHILDREN, Summer/Fall 1997, *available at* http://www.princeton.edu/futureofchildren/publications/journals/article/index.xml?journalid=53&articleid=287.

[21] W.T. Gallo et al., *The Impact of Late-career Job Loss on Myocardial Infarction and Stroke: A 10-year Follow up Using the Health and Retirement Survey*, 63 OCCUPATIONAL ENVIRONMENTAL MEDICINE 685 (2006).

II. Because Global Demand for Coal Will Continue to Increase, the Significant Health and Welfare Impacts that EPA Will Impose on Society Will Not Affect Purported Climate Change.

EPA's GHG regulation seems particularly targeted at coal, the most carbon-intensive of all the fossil fuels, and the fuels that has powered about fifty percent of the Nation's electric supply for decades. Not surprisingly, the Sierra Club at least sees EPA's GHG emissions regulations as a tool to phase out entirely the nation's coal-fired power plants. The senior director of the Sierra Club's Beyond Coal campaign, Bruce Niles, remarked: "The rules, if perfectly written, would phase out coal over the next one to two decades."[22]

But phasing out coal domestically will have little impact on worldwide usage of coal and therefore on worldwide GHG emissions. The developing world can be expected to continue to seek to rapidly reduce its energy poverty as compared to the developed world and to dramatically increase its production and use of electricity to provide basic necessities such as heat, air conditioning, refrigeration of perishable foods, cooking, as well as heated water. Coal usage will inevitably rise because coal is the lowest-cost, most reliable fuel for electric generation.

This is not speculation. According to William L. Burns, energy analyst with Johnson Rice in New

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[22] Jonathan Crawford, *Sierra Club Eyes Greenhouse Gas Regulations as Tool to Phase out Coal Plants by 2030*, Apr. 26, 2013, http://www.snl.com/InteractiveX/ArticleAbstract.aspx?id=17553374.

Orleans, "[c]oal is the cheapest fuel source [and] [i]f you poke your head outside of the U.S., coal-fired plants are being built left and right."[23] Peabody's own projections are that, within the next five years. the global demand for coal will grow by about 1.4 billion tonnes, which is more than total current U.S. production.[24] Milton Catelin, the chief executive of the World Coal Association in London explained that in 2011, "coal represented 30 percent of world energy, and that's the highest share it has had since 1969."[25] Catelin predicts that "[w]ithin a year or two, coal will surpass oil as the planet's primary fuel."[26]

According to the International Energy Agency ("IEA"), "Coal has met nearly half of the rise in global energy demand over the last decade, growing faster even than total renewables . . . . The policy decisions carrying the most weight for the global coal balance will be taken in Beijing and New Delhi – China and India account for almost three-quarters of projected non-[Organisation for Economic Co-Operation] coal demand growth (OECD coal use declines)." The IEA goes on to say that, "*The growth in China's electricity demand over the period to 2035 is greater than the total current electricity demand in the United States and Japan.* China's coal-fired output increases almost as much as its generation from nuclear, wind and hydropower combined."[27]

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[23] Peter Galuszka, *With China and India Ravenous for Energy, Coal's Future Seems Assured*, N. Y. TIMES, Nov. 12, 2012 at B6.

[24] Peabody Energy, *Life Empowered: Peabody Energy 2012 Annual Report* at 3, http://www.peabodyenergy.com/mm/files/Investors/Annual-Reports/PE-AR2012.pdf.

[25] Galuszka, *supra* note 23.

[26] *Id.*

International GHG emissions will continue to trend upwards as the developing world uses more coal and other fossil resources. In fact, global GHG emissions are projected to increase by 50 percent by 2050, "primarily due to a 70% growth in energy-related CO_2 emissions."[28] On the other hand, domestic energy-related CO_2 emissions are projected to remain below 2005 levels through 2040.[29]

CONCLUSION

Given the dramatic effects EPA's regulation could have on the public health and welfare, the Court should grant the Chamber of Commerce's Petition for a Writ of Certiorari.

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[27] International Energy Agency, *World Energy Outlook 2012, Executive Summary* at 5, 6 (emphasis added), http://www.iea.org/publications/freepublications/publication/English.pdf.

[28] OECD, *Climate Change Chapter of the OECD Environmental Outlook to 2050: The Consequences of Inaction*, http://www.oecd.org/env/indicators-modelling-outlooks/climatechangechapteroftheoecdenvironmentaloutlookto2050theconsequencesofinaction.htm (last visited May 7, 2013).

[29] U.S. Energy Information Administration, *Annual Energy Outlook 2013 Early Release Overview* at 3, http://www.eia.gov/forecasts/aeo/er/pdf/0383er(2013).pdf (last visited May 7, 2013).

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REPLY
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In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *ET AL.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *ET AL.*,
Respondents.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

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INTRODUCTION

The new greenhouse gas permitting programs devised by the Environmental Protection Agency represent one of the boldest seizures of legislative authority by an executive agency in history. EPA has assumed power to rewrite the Clean Air Act in order to establish a permitting regime that nullifies multiple statutory requirements while targeting only those facilities EPA chooses to regulate and proceeding only on the schedule that EPA decides is warranted in its own judgment. In so doing, EPA has exceeded the proper bounds of executive authority and created fundamental separation-of-powers problems.

All sides agree that EPA's construction of the key statutory provisions at issue produced absurd consequences. All sides agree that the CAA's Prevention of Significant Deterioration and Title V programs cannot work as enacted if extended to encompass GHG emissions. Congress designed the PSD program to require case-by-case permitting for a small number of large facilities that emit pollutants that measurably deteriorate air quality in defined geographic regions. Title V, too, is meant for only the largest, most heavily regulated stationary pollutant sources. So confined, these programs have been in place for decades. But if the Court were now to allow EPA to extend the programs to GHG emissions—substances emitted in quantities orders of magnitude greater than conventional pollutants and whose environmental impacts are felt globally, not locally—the programs will break down. EPA has effectively conceded as much by rewriting numerical, statutory, emission thresholds and identifying, in both the rulemakings below and subsequent agency guidance, multiple statutory requirements that must be nullified to hammer the square peg of GHG controls into the round hole of the PSD permitting program.

This case is the first before the Court in which an enormously consequential agency interpretation is admitted by all as leading to absurd results, and in which the disputed question is what the Court should do in response. As petitioners' initial briefing shows, because extending the PSD and Title V programs to encompass GHGs is untenable as an interpretive matter, the Court should respond by overturning EPA's recent extension of those programs. Taking this step will not disrupt the agency's longstanding application of PSD and Title V to conventional pollutants, but it will save the agency, the D.C. Circuit, and eventually this Court from what would otherwise be an ongoing process of "making * * * up" a new version of the Clean Air Act. *Ctr. for Biological Diversity v. EPA*, 722 F.3d 401, 415 (D.C. Cir. 2013) (Kavanaugh, J., concurring).

Respondents' principal contentions are that EPA's statutory construction was compelled by two things, which together induced the agency to believe it had no choice but to apply the PSD and Title V programs to GHGs. The first is the Act-wide definition of "air pollutant," as construed by this Court in *Massachusetts v. EPA*, 549 U.S. 497 (2007). But this argument, among other flaws, proves too much; even EPA concedes that the term "air pollutant" must be interpreted in a particular and restrictive fashion for purposes of the PSD and Title V stationary-source programs. See JA1399-412 (limiting PSD requirements to "regulated [air] pollutants"). The question, then, is not *whether* the term should be limited for purposes of the PSD and Title V programs, but *how* it should be so limited.

Respondents further contend that EPA's extension of PSD controls to GHG emissions merely implements a "longstanding interpretation" of the program. Brief for Federal Respondents (U.S. Br.) 27. But EPA concedes, as it must, that it significantly rewrote its longstanding definition of "a[ir pollutant] 'subject to regulation'" solely for purposes of regulating GHG emissions. *Id.* at 16 n.4, 26 n.6. This change to a core PSD definitional provision belies any notion that PSD controls on GHG emissions can be accommodated within pre-existing—much less "longstanding"—EPA regulations.

This case, importantly, is *not* about whether EPA may regulate GHGs under other CAA programs or whether GHG emissions from stationary sources are "within the agency's purview," as respondents attempt to characterize it. U.S. Br. 39; see also Brief of State Respondents (Resp. States) 10. EPA is, for example, promulgating rules addressing GHG emissions from certain stationary sources under the Act's separate New Source Performance Standards (NSPS) program. 79 Fed. Reg. 1430, 1452-54 & n.90 (Jan. 8, 2014) (citing *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527, 2538 (2011)). The NSPS program provides for nationally uniform emission standards addressing those pollutants from categories of sources that, in the agency's view, endanger the health of the Nation's public as a whole—standards that must take account of the source's contribution to pollution and the overall costs of regulation. See 42 U.S.C. §7411. This case, in contrast, turns on whether GHGs may be regulated under the very different PSD program. Unlike NSPS, the PSD program involves facility-specific mandates for equipment and operational changes, depends on facility-specific determinations of local effects by state permitting authorities, and imposes fixed, 100/250 ton-per-year permitting thresholds. See *id.* §7475(a). These features make PSD permitting extraordinarily ill-suited to regulating GHGs.

Finally, contrary to respondents' suggestions, all petitioners are united in supporting as their primary argument that the PSD and Title V programs cannot and do not extend to encompass GHG emissions. (See Section I, *infra.*) And all petitioners are united in arguing—as a fallback position—that the "in any area" language in Clean Air Act Section 165 should be construed as limiting the facilities subject to PSD permitting. (See Section II, *infra.*) Far from offering "a welter of inconsistent theories," Brief of Environmental Respondents (Envr. Br.) 13; see U.S. Br. 22-23; Resp. States Br. 8-9, petitioners embrace the same primary and alternative contentions. Most important, petitioners all agree that examining the PSD and Title V programs' structure and individual requirements makes clear that those programs cannot extend to encompass controls on GHGs.

Respondents lack good answers for these core contentions. They cannot justify EPA's seizure of authority to rewrite and nullify key parts of the CAA—thus claiming for the agency the very "roving license to ignore the statutory text" that the Court declined to issue in *Massachusetts*. 549 U.S. at 533.

ARGUMENT

I. EPA Improperly Extended The PSD And Title V Programs To Encompass GHGs.

Nothing in respondents' briefs answers petitioners' showing that these rulemakings must be vacated in their entirety. The PSD program does not apply to GHG emissions, and attempting to extend it to cover such emissions produces absurd consequences and nullifies or distorts multiple elements of the Act. (See Section I.A, *infra*.) Moreover, vacating EPA's PSD rulemakings necessarily requires a parallel vacatur of the agency's extension of Title V permitting to GHGs. (See Section I.B, *infra*.)

A. EPA's PSD Interpretation Contravenes Multiple Statutory Provisions and Violates Separation-of-Powers Principles.

No matter how serious the problem, an agency cannot exercise its authority in a manner that is "inconsistent with a statutory mandate." *NLRB v. Brown*, 380 U.S. 278, 291 (1965). Here, EPA's reading—and rewriting—of the CAA violates this elemental precept. If what EPA has done is allowed to stand, it will upend settled understandings of the relationship between congressional enactments and the proper bounds of an executive agency's authority to implement them.

1. EPA Impermissibly Rewrote and Ignored the Plain Terms of the PSD Statute.

Petitioners' initial briefing demonstrates that extending the PSD program to GHGs nullifies and distorts key elements of the statute. See, *e.g.*, Brief of

Chamber of Commerce *et al.* (Chamber Br.) 14-20; Brief of Energy-Intensive Manufacturers Working Group *et al.* (EIM Br.) 20-26; Brief of Utility Air Regulatory Group (UARG Br.) 20-25. By its plain terms, the PSD program regulates pollutants emitted from a small number of large stationary sources that measurably deteriorate local air quality in particular geographic areas. The program thus cannot accommodate the regulation of GHGs, which disperse uniformly throughout the global atmosphere and do not measurably affect local air quality in discrete geographic regions, or cause any exposure-related harms of the sort traditionally associated with conventional pollutants subject to PSD regulation.

The government does not dispute that EPA failed to carefully assess the problems caused by applying the PSD program to GHGs. According to the government, the agency "concluded" long ago that regulation of a substance under any part of the Act automatically triggers PSD regulation, and then, "[a]pplying those principles," further "concluded," in the Triggering Rule, that PSD controls on GHGs were triggered automatically by EPA's mobile source regulation of GHGs. U.S. Br. 5. But this "conclusion" was reached without significant analysis of statutory text or consideration of the regulatory consequences of applying PSD requirements to GHG emissions. Nonetheless, the agency declared in the Tailoring Rule that the question whether PSD applies to GHGs had "already" been "decided" in the Triggering Rule; that the agency would not be "reopen[ing]" the matter, JA420; and that the time for review had passed, JA421 n.32. Only after announcing this *fait accompli* did EPA turn to considering how such regulation would actually work, contending that the program could "readily accommodate" and be "readily applied" to GHGs. *Id.* at 420.

EPA's leap-before-you-look approach to interpretation is deeply flawed. Whether the PSD program can be applied to GHGs—a fundamentally different kind of substance from those heretofore regulated under the program—is a question that requires careful analysis of the statute's text, structure, history, and purpose. As petitioners demonstrated in their opening briefs, a proper statutory analysis shows that the PSD program cannot function as enacted by Congress if extended to GHGs. Indeed, EPA itself concluded that the resulting program would be "unrecognizable to the Congress that designed PSD." JA 454-55. Only by rewriting or nullifying multiple statutory provisions was EPA able to devise a program that, in the agency's view, could "readily accommodate" and be "readily applied" to GHGs. JA420. But the EPA-devised program is simply not what Congress enacted into law. No agency can replace a congressional enactment with a program of its own devising.

i. The incompatibility between the PSD program and regulation of GHG emissions is demonstrated most vividly by EPA's assertion of an unprecedented authority to revise the statute's emission thresholds. As even EPA admits, Congress enacted the PSD's 100/250 tons-per-year coverage thresholds to capture only large emission sources. See, *e.g.*, JA363. Based on its review of the legislative record, JA427-31, EPA concluded—correctly—that Congress "intended that PSD be limited to a relatively small number of large industrial sources," JA455, and "explicitly contemplated [that small sources] would not be included in the PSD program," JA429. Because "major" sources represent the lion's share of pollution problems; because case-by-case permitting analyses are expensive; and because large sources can more readily bear such costs, "Congress paid careful attention to the types and sizes of sources that would be subject to the PSD program and designed the thresholds deliberately to limit the program's scope." JA453-54. These reasons for excluding minor sources from PSD requirements apply with even greater force in the GHG context.

The government recognizes that the PSD program's "legislative history suggests that those thresholds were settled on with a relative handful of known sources and known types of pollutants in mind." U.S. Br. 48 n.14. Hence, setting specific tons-per-year coverage thresholds was not "an oddly indirect way to accomplish what Congress could more readily have done directly." Envr. Br. 23. To the contrary, Congress performed a straightforward cost-benefit determination, enacted a workable, objective line dividing major and minor emitters, and provided that only sources on the large-source side of the line would be subject to PSD controls. Congress labeled these sources "*major* emitting facilities" for a reason—to distinguish them from small sources. Applying the PSD program to GHGs would nullify Congress's choice by sweeping hundreds of thousands of small sources into the program, thus transforming a command *not* to regulate small sources into a command *to* regulate them.

Instead of recognizing the obvious implications of this fact—that regulation of GHG emissions is incompatible with the PSD program—EPA took upon itself the task of rewriting the statutory thresholds. Attempting to defend its overreach, respondents now trumpet EPA's promises eventually to lower the EPA-promulgated coverage thresholds as near as possible to the statutory levels. See U.S. Br. 46-51; Envr. Br. 33-35; Resp. States Br. 21. But these promises do nothing to ameliorate the problem; they exacerbate it. Imposing the PSD program's costly, burdensome requirements on hundreds of thousands of small sources "would be contrary to Congress's careful efforts to confine PSD to large industrial sources that could afford these costs." JA455; see also *id.* (imposing PSD on "small commercial or residential sources" would be "contrary to congressional intent for the PSD program, and in fact would severely undermine what Congress sought to accomplish in the program"); JA449-50, 467-68; Br. of State and Local Chambers of Commerce *et al.* 14-18. Tellingly, none of the response briefs offers any real cure for this problem.

Indeed, EPA's proposed solution—adopting "streamlining" measures to lessen the costs for small sources—entails a distinct and further nullification of statutory requirements. The statute requires individualized, source-by-source consideration as a condition of issuing a PSD permit, including a source-specific public hearing, 42 U.S.C. §7475(a), and a "case-by-case" determination of Best Available Control Technology (BACT), *id.* §7479(3). As EPA admitted, however, permitting authorities could not possibly individually assess and process site-specific applications from each of the thousands of small facilities that would be newly required to apply for permits. In 2009, fewer than 300 sources applied for a PSD permit, 74 Fed. Reg. at 55292, but under the new EPA regime that number could rise to more than 80,000 per year. JA377. Precisely because the statute cannot be applied as written to hundreds of thousands of facilities, EPA proposes, eventually, to replace the unambiguous statutory requirement for case-by-case analysis with "presumptive" standards and "general" permitting. See, *e.g.*, 75 Fed. Reg. 31514, 31526 (June 3, 2010) (JA325). Put simply, EPA hopes to mitigate one statutory violation by committing another.

ii. Nor do respondents adequately address the fact that forcing GHGs into the PSD program cannot be reconciled with the local-impact analysis required "for each pollutant subject to regulation under this chapter." 42 U.S.C. §7475(e)(1). The PSD statute requires a "public hearing" regarding "the ambient air quality *at the proposed site* and *in areas* which may be affected by emissions from such facility for each pollutant subject to regulation under this chapter which will be emitted from such facility." *Id.* §§7475(a)(2), 7475(e)(1) (emphasis added). Likewise, EPA must promulgate regulations requiring an analysis of "the ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility *at the site* of the proposed major emitting facility and *in the area potentially affected* by the emissions from such facility for each pollutant regulated under this [Act]." *Id.* §7475(e)(3)(B) (emphasis added). These provisions dovetail with the more general requirement that the program be implemented through "emission limitations and such other measures" as are "necessary * * * to prevent significant *deterioration of air quality* in *each* [air quality control] *region*." *Id.* §7471 (emphasis added).

This mandatory local-impact analysis cannot be performed for GHGs because, as EPA admits, GHGs have no measurable impact on local air quality in particular areas or regions. See Chamber Br. 17-18; EIM Br. 19; UARG Br. 27-28; see also *PSD and Title V Permitting Guidance for Greenhouse Gases* 42 (EPA 2011) ("*GHG Permitting Guidance*"). The government tries to sidestep this mismatch by asserting that the amount of GHGs emitted is an "appropriate and credible proxy" for the "impact" of GHGs. U.S. Br. 32-33. But the statute does not contemplate assessments of global effects at all, much less the use of "proxies" for such assessments. Instead, the PSD program mandates an assessment of *actual* impacts "on any air quality control region" affected by the facility's emissions. *Id.* at 29. More specifically, it requires assessments based on a region's "ambient air quality, climate and meteorology, terrain, soils and vegetation, and visibility." 42 U.S.C. §7475(e)(3)(B). That is why, for all other pollutants subject to the PSD program, EPA demands an analysis of actual environmental effects, rather than relying on emissions levels as a "proxy" for the analysis specified by statute. See, *e.g.*, 40 C.F.R. §52.21(o). The agency's resort to proxies, uniquely and exclusively for GHGs, is compelling evidence that the PSD program does not apply to emissions of these substances.

Respondents next suggest that exempting GHGs from the statutory analysis of local impacts is permissible because not every potential type of harm will be found in every analysis of local impacts. See Envr. Br. 21-22. But the fact that only certain impacts will be felt in certain situations does not mean that the PSD program's requirement for analysis of local impacts—whatever those might be—may be dispensed with altogether. Here again, EPA can fit GHGs into the PSD program only by nullifying the statute's requirements.

Contrary to respondents' contention, Envr. Br. 19, EPA did not find that a facility's GHG emissions measurably deteriorate "the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility." 42 U.S.C. §7475(e)(1). Rather, EPA stated that "*[c]limate change* is expected to increase regional ozone pollution." JA907 (emphasis added). Any such effect would be an indirect and global phenomenon, not a direct effect on air quality traceable to a particular facility's emissions. But what the statute requires is that permit applicants "determin[e] the effect of emissions from a proposed facility on any air quality control region." *Id.* §7475(e)(3)(B). Without any way to measure the contribution an individual facility's GHG emissions make to global climate change, let alone the contribution they make to any climate-change-mediated effects on ozone concentrations in particular air quality regions, the local-impact analysis demanded by the statute cannot be performed.

Likewise, the ocean acidification cited by respondents is a global—not a local—effect. See Envr. Br. 20. Ocean acidification cannot be traced to any particular facility's GHG emissions; hence, this effect also cannot reasonably be addressed by a statute that calls for case-by-case assessments of local impacts.

Even more fundamentally, respondents' arguments about local impacts cannot be squared with EPA's actual regulations. Those regulations impose controls on an "amalgamation" of six GHGs based on their global-warming potential measured in carbon dioxide equivalents—not on the predicted direct or exposure-related harms caused by particular amounts of emissions of individual GHGs. See U.S. Br. 13 n.3; see also *id.* at 16-18 n.4 (explaining how thresholds were set with no focus on localized effects); *id.* at 26 n.6 (same). EPA may not regulate based on global climate-change effects and then defend its regulations based on unrelated exposure-related effects voiced for the first time on judicial review. See *SEC v. Chenery Corp.*, 332 U.S. 194, 196-97 (1947).

In the end, respondents are left suggesting GHGs are simply different from other pollutants. See U.S. Br. 32 (noting that "the form and degree of analysis * * * will necessarily vary among pollutants"). But that is the whole point. The fact that GHGs are so unlike conventional pollutants that core statutory requirements cannot reasonably be implemented confirms that GHGs are not the sort of "pollutant" that may be regulated under the PSD program.

iii. For related reasons, regulating GHGs under the PSD program also collides with the statute's core substantive requirement—that major sources apply BACT for pollutants subject to regulation under the Act. The statute makes clear that the local-impact analysis is a prerequisite to, and is designed to inform, BACT analysis. See 42 U.S.C. §7475(e)(1) (providing that BACT review "shall be preceded by" the local-impact analysis). Critically, in determining BACT for a particular facility, the permitting authority must weigh the costs of emission reductions against, among other things, the localized "environmental * * * impacts" of reducing the emissions. *Id.* §7479(3); see also, *e.g.*, *Genesee Power Station Ltd. P'ship*, 4 E.A.D. 832, 845-47 (EAB 1993)

(EPA review board upholding decision not to require a particular technology as BACT where technology was "out of proportion to the environmental benefit that would be achieved"). But there is no way to measure any local environmental benefits of reducing GHG emissions from a given facility; hence, there is no way to properly calibrate a BACT analysis for GHGs. See *GHG Permitting Guidance* 41-42 (instructing permitting authorities to ignore "the endpoint impacts of GHGs" because "[q]uantifying these exact impacts attributable to the specific GHG source obtaining a permit in specific places is not currently possible with climate change modeling").

Moreover, a proper BACT analysis requires an assessment of tradeoffs between pollutants. EPA recognizes, for example, that controlling volatile organic compounds generates GHGs. *Id.* Likewise, virtually all control technologies consume energy, which means that reducing emissions of non-GHG pollutants will almost inevitably increase GHG emissions. Without a meaningful way to measure the environmental benefits of GHG emission reductions, there is no principled way to make these tradeoffs.

Because of the lack of proven control technologies for GHGs, regulation of GHGs will operate in practice as regulation of energy efficiency or energy consumption. See, *e.g.*, EIM Br. 23-25. Applying BACT to GHGs would thus grant EPA regulatory authority over the energy and operational efficiency of every significant GHG emitter in the United States—from deciding whether a factory used optimally efficient light bulbs in the cafeteria to specifying its basic industrial processes. See *GHG Permitting Guidance* 21-22, 28-32, 40-46. As a result, BACT for GHGs becomes an unbounded exercise in command-and-control regulation—a form of regulation that virtually all agree is ill-suited for GHG emissions. See, e.g., Brief of Economists Thomas C. Schelling *et al.*

iv. None of respondents' remaining contentions justifies these statutory contraventions. Respondents argue at length that the PSD program's substantive requirements have been applied to more than just NAAQS pollutants. See U.S. Br. 29-33; Envr. Br. 18, 20-21. But that is irrelevant. Petitioners' contention is not that only NAAQS pollutants are subject to regulation under the PSD program. Rather, it is that the PSD program cannot be extended to encompass GHGs in light of the multiple statutory contradictions this extension entails.

Respondents further assert that, in the 1990 CAA amendments, Congress ratified EPA's view that ozone-depleting substances are subject to PSD even though their effects are primarily global. See U.S. Br. 33; Envr. Br. 19. But respondents fail to point to any "longstanding" interpretation that Congress could possibly have ratified. Cf. *Sebelius v. Auburn Reg'l Med. Ctr.*, 133 S. Ct. 817, 827-28 (2013) (approving a prominent and clearly relevant 40-year-old interpretation that Congress had left undisturbed in amending the statute on six occasions). EPA first regulated ozone-depleting substances in 1988, just two years before the 1990 amendments. See 53 Fed. Reg. 30566 (Aug. 12, 1988). The 1988 rule said nothing about the PSD program, and respondents have identified no evidence that Congress was aware that EPA was applying PSD to ozone-depleting substances. Indeed, one of respondents' *amici* stretches so far as to advocate congressional ratification based on a *draft* EPA manual from

October 1990, only one month before the amendments—an even less substantial foundation for ratification. See Brief of Inst. for Policy Integrity 11. That is "at most legislative silence," a "treacherous" basis upon which to find "adoption of a controlling rule of law." *United States v. Wells*, 519 U.S. 482, 496 (1997) (internal quotation omitted). If anything, Congress's silence in the 1990 amendments cuts in the opposite direction, because those amendments added an entirely new title (Title VI) to address ozone-depleting substances, while saying nothing about subjecting those substances to PSD requirements. See 104 Stat. 2649.

Nor is there a basis for contending that Congress ratified EPA's interpretation that the PSD program applies to all pollutants regulated under the Act—regardless of whether they deteriorate local air quality—when it exempted hazardous air pollutants from the PSD program in the 1990 amendments. See U.S. Br. 27-29; Envr. Br. 26. Hazardous air pollutants, unlike GHGs, deteriorate local air quality. See 42 U.S.C. §7412. In the hazardous air pollutant exemption, Congress concluded that an existing class of regulated pollutants, even though they deteriorate local air quality and had previously been thought appropriate for regulation under the statute, should be exempt from PSD controls. This exemption thus says nothing helpful to EPA regarding the distinct issue of whether pollutants that do not deteriorate local air quality, are much more ill-suited for control under the PSD program, and were not even subject to regulation at the time of the 1990 amendments, should be similarly exempt from PSD permitting.

Likewise, the statute's inclusion of "climate" in its general definition of "welfare effects" has no bearing on whether GHGs are subject to regulation under every CAA program. U.S. Br. 26-27; Envr. Br. 18 (citing 42 U.S.C. §7602(h)). Even today, dictionaries define "climate" as "[t]he meteorological conditions, including temperature, precipitation, and wind, that characteristically prevail in *a particular region*." American Heritage Dictionary (5th ed. 2013) (emphasis added). And the CAA's use of the terms "climate" and "weather" date to 1967, see Pub. L. No. 90-148, §2, 81 Stat. 485, 490 (1967), when "climate" was almost certainly understood to refer to weather patterns in particular regions, which can be affected by smog and other conditions caused by conventional pollutants. Regardless of whether "climate" may refer to the global climate for purposes of other CAA programs, that meaning is particularly ill-fitting for the PSD program, with its focus on air quality in defined geographic areas.

v. Finally, the Court should reject EPA's contention that the PSD program can at least be applied to GHG emissions from those sources otherwise subject to PSD based on their non-GHG emissions. See U.S. Br. 33-37. This contention is premised on a false notion that such an interpretation eliminates the absurd consequences that would otherwise arise. *Id.* In fact, the conflicts between the CAA and PSD controls on GHGs extend far beyond the question of which facilities must obtain PSD permits. Even if limited to large facilities, PSD controls on GHG emissions cannot be implemented consistent with the Act.

In any event, this alternative contention is belied by EPA's revision of key statutory language to create a GHG-specific definition of "air pollutant subject to regulation." See U.S. Br. 16 n.4, 26 n.6. Before this rulemaking, the phrase "air pollutant subject to regulation" simply referred to a roster of particular chemical and physical substances that were regulated by the agency under the Clean Air Act. Those substances either were or were not "subject to regulation," regardless of the type of facility from which—or amount in which—they were emitted. Now, however, by incorporating its revisions to the statute's emissions thresholds into the regulatory definition of "subject to regulation" for purposes of GHGs, EPA has redefined "air pollutant subject to regulation" so that it depends on how much of the substance is emitted and from which facilities. See 40 C.F.R. §§51.166(b)(48)(i)-(v), 52.21(b)(49)(i)-(v). Now the same substance, for the first time under the PSD program, is either an "air pollutant subject to regulation" or not, depending on what facility it comes from and what quantity of it is emitted. Indeed, for purposes of some aspects of the PSD program, including the requirement of a local-impacts analysis for "each pollutant subject to regulation," 42 U.S.C. §7475(e)(1), GHGs would under EPA's view never be deemed a relevant "pollutant subject to regulation." U.S. Br. 31-32. These linguistic and conceptual distortions, so clearly in contravention of the statute, are another untenable result of EPA's newly devised GHG regulations.

In sum, even assuming EPA were able to show that applying BACT or other PSD requirements to GHGs is not "absurd," EPA would still need to show that its interpretation is consistent with the statute as a whole. For all the reasons explained above, EPA's approach distorts and nullifies central PSD provisions, quite apart from the agency's rewriting of the tons-per-year coverage thresholds. These nullifications and distortions demonstrate that imposing PSD controls on GHG emissions is incompatible with the statute.

2. This Court's Decisions Confirm that the PSD Program Does Not Apply to GHGs.

The interpretation advanced by petitioners is also confirmed by this Court's decisions—in particular, by *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000).

i. In *Brown & Williamson*, the Court held that, although tobacco products appeared to fall within the literal scope of FDA's regulatory authority under the definitions of "drug" and "device" in the Food, Drug, and Cosmetic Act (FDCA), the agency's interpretation could not be accepted because it would produce results "'inconsistent with the administrative structure that Congress enacted into law.'" 529 U.S. at 125 (quoting *ETSI Pipeline Project v. Missouri*, 484 U.S. 495, 517 (1988)). Tobacco products cannot in any circumstance be deemed "safe" for consumption, given the adverse health effects they cause; accordingly, were they subject to FDCA regulation, FDA would have been required to ban them entirely. *Id.* at 142-43. As FDA conceded, however, it was clear that Congress did not intend that result, as demonstrated, *inter alia*, by other statutes regulating the labeling and advertising of cigarettes. *Id.* at 159-60. The agency attempted to address this problem by regulating more modestly than what the statute called for—in other words, by "tailoring" the statute—such that it merely restricted sales of tobacco products without banning them altogether. *Id.* at 128-129, 133-143. The Court squarely rejected this approach, holding that the conceded fact that the statute's provisions as enacted could not reasonably apply to tobacco products did not authorize the agency to revise statutory provisions. Instead, as the Court made clear, this incompatibility required that the FDCA be interpreted to categorically exclude tobacco products from FDA's regulatory ambit. *Id.*

The same reasoning applies here. Extending the PSD program to GHG emissions would, as EPA concedes, result in a program "unrecognizable" to Congress and "inconsistent with congressional intent." JA1399-412. EPA's attempt to address these problems by nullifying multiple statutory requirements depends on exactly the same approach the Court rejected in *Brown & Williamson*. The only permissible response, in this case as in that one, is to interpret the relevant program so as to avoid results that contravene the statute—here, by interpreting the PSD program not to apply to GHG emissions.

Brown & Williamson cannot be distinguished, as respondents would have it, on grounds that the relevant provisions in the FDCA were more "ambiguous" than those of the CAA. See U.S. Br. 37-38; Envr. Br. 31-33. There was no question in *Brown & Williamson* that tobacco products fell within the literal definition of "drug" and "device." Nonetheless, *Brown & Williamson* held that the statute did not require or even permit FDA to bring those products under its regulatory authority. 529 U.S. at 142-43. Likewise here, while there is no question that the CAA's Act-wide definition of "air pollutant" is flexible and capacious enough to encompass GHGs in some contexts, that definition does not mandate that GHGs be included within its scope for all purposes and in all programs, regardless of statutory context. See, *e.g.*, EIM Br. 16-17.

In both cases, the dispositive interpretive evidence arose, not from the statutory terms themselves, considered in isolation, but from reading those terms "in context," within the statute as a whole. See *Brown & Williamson*, 529 U.S. at 132-33. And in each case, the agency wrongly interpreted the evidence by adopting an "extremely strained" interpretation—here, a bald rewrite of statutory provisions central to the PSD program. *Id.* at 160. As this Court said in *Brown & Williamson*, "[r]egardless of how serious the problem an administrative agency seeks to address, * * * it may not exercise its authority 'in a manner that is inconsistent with the administrative structure that Congress enacted into law.'" *Id.* at 125 (quoting *ETSI Pipeline*, 484 U.S. at 517).

Respondents also argue that *Brown & Williamson* does not control because, in that case, Congress enacted separate "tobacco-specific legislation" demonstrating that tobacco products could not be subject to FDA jurisdiction. See U.S. Br. 38. But this Court cited that legislation (addressed in part II.B of the opinion) not as a *sine qua non* for its holding but only as additional support for its conclusion (already established in part II.A) that regulating tobacco products is inconsistent with the overall FDCA program. See *Brown & Williamson*, 529 U.S. at 142 (concluding that, "[c]onsidering the FDCA as a whole, it is clear that Congress intended to exclude tobacco products from the FDA's jurisdiction," before addressing tobacco-specific legislation).

At bottom, extending PSD emissions controls to GHGs runs headlong into the statutes. The PSD program has long provided effective—albeit painstakingly slow, uncertain, and contentious (see, *e.g.*, EIM Br. 1-2)—regulation of localized, conventional-pollutant emissions from a small number of genuinely "major" sources. If expanded to encompass GHGs, however, the program becomes unmanageable within the terms set by Congress. "The idea that Congress gave [EPA] such broad * * * authority," allowing it to regulate nearly any and all aspects of any industrial or commercial facility that results in the emissions of GHGs, "through an implicit delegation [in the CAA] * * * is not sustainable." *Gonzales v. Oregon*, 546 U.S. 243, 267 (2006); *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 468 (2001) (similar). Without "a clear mandate in the Act, it is unreasonable to assume that Congress intended to give [an agency] unprecedented power over American industry." *Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst.*, 448 U.S. 607, 645 (1980).

ii. Rather than confronting the statutory language Congress enacted, or directly countering *Brown & Williamson*, respondents attempt to characterize two other decisions—*Massachusetts v. EPA*, 549 U.S. 497 (2007), and *American Electric Power v. Connecticut*, 131 S. Ct. 2527 (2011) (*AEP*)—as compelling its conclusion that the PSD program applies to GHGs. But neither case addresses the PSD program at all, much less prospectively blesses EPA's decision to read "250 tons to [mean] 100,000 tons—a 400-fold increase." JA173 (Kavanaugh, J., dissenting). In fact, applying the PSD program to

GHGs produces the very type of "extreme measures" *Massachusetts* condemns. 549 U.S. at 531.

a. *Massachusetts* did not, as respondents suggest, hold that GHGs must be considered an "air pollutant" for all purposes and deemed subject to regulation under all parts of the Clean Air Act simply because they may fall within a literal reading of the Act-wide definition in Section 302(g), 42 U.S.C. §7602. See U.S. Br. 40; Envr. Br. 15-19; Resp. States Br. 10-12. To the contrary, after concluding that GHGs may qualify as an "air pollutant" under that general definition, the Court went on to consider whether applying the particular regulatory program at issue—the mobile source emissions program of Title II—was consistent with the statute and produced no "counterintuitive" consequences. 549 U.S. at 531. The Act-wide definition thus does not constitute the whole of the inquiry into the meaning of "pollutant" for purposes of each of the Act's substantive provisions.

The same analysis applies here. The PSD and Title V programs have their own text, structure, history, and purposes. And it is profound error to conflate the law governing these programs with the distinct questions concerning mobile sources addressed in *Massachusetts*. See, *e.g.*, Chamber Br. 21; EIM Br. 13-17; UARG Br. 24-25. As this Court recognized in *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561 (2007), "the natural presumption that identical words used in different parts of the same act are intended to have the same meaning * * * is not rigid and readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent." *Id.* at 574 (internal quotations omitted).

Duke Energy disposes of respondents' arguments that *Massachusetts* controls this case. *Duke Energy* holds that the statutory term "modification" means different things when used in the NSPS and the PSD programs—despite the fact that both programs explicitly incorporate the same definitional provision and even though the definitional cross-reference to that provision was added by a standalone Clean Air Act amendment. *Id.* at 576. The *Duke Energy* decision carefully explains that the "context" of the statute made clear that the two uses of the term did not have to mean the same thing: "[c]ontext counts." *Id.*; see also *id.* at 574 ("[A] given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies. The point is the same even when the terms share a common statutory definition.").

Indeed, the Court has previously applied this context-sensitive approach to interpreting the meaning of "pollutant." In *Train v. Colorado Public Interest Research Group, Inc.*, 426 U.S. 1 (1976), the Court unanimously held that the term "pollutant" in the Clean Water Act—which, like the Clean Air Act, is defined to include "radioactive materials"—was properly read in the context of multiple relevant statutory provisions to exclude three types of radioactive material. See *id.* at 23-24. Petitioners emphasized *Train*, see Chamber Br. 21; Brief of Southeastern Legal Foundation, Inc., *et al.* (SLF Br.) 19, but respondents offer no answer.

b. Any argument that *Massachusetts* compels EPA's interpretation is further undermined by the fact that EPA itself does not adhere to the broadest definition of "air pollutant" that appears in that opinion. Rather than reading "air pollutant" or "each pollutant" for purposes of the PSD program to mean "all airborne compounds of whatever stripe," as in *Massachusetts*, 549 U.S. at 529, EPA reads those terms to mean "any *regulated* air pollutant," JA236 (emphasis added). Likewise, EPA has adopted other, narrowing interpretations of the definition of "air pollutant" for purposes of other CAA provisions; for instance, by interpreting the term under the visibility protection program of Part C as limited to "visibility-impairing pollutants." 40 C.F.R. pt. 51, app. Y, §III.A.2. That even EPA concedes "air pollutant" does not and cannot sustain its most expansive meaning throughout the Act underscores the inconsistencies of respondents' argument. See JA186 (Kavanaugh, J., dissenting) ("EPA cannot simultaneously latch on to *Massachusetts v. EPA* and reject *Massachusetts v. EPA*.").

Nor would following *Brown & Williamson* here implicitly overrule *Massachusetts*. See U.S. Br. 37-38; Envr. Br. 31-33. *Massachusetts* explained that *Brown & Williamson* did not support a different meaning of "air pollutant" in the context of the Act's Title II because there was nothing "counterintuitive" or problematic about applying mobile source standards to emissions of GHGs from vehicles. 549 U.S. at 531. That is not the case here, where EPA's preferred construction nullifies multiple statutory provisions, and EPA acknowledges that applying PSD requirements to GHG emissions produces absurd consequences.

At base, the critical flaw in EPA's analysis, both here and in *Massachusetts*, is the agency's failure to appreciate that statutory terms like "any air pollutant" and "each pollutant" must be read with care and in context. In *Massachusetts*, instead of considering context-dependent meanings, EPA offered a statute-wide interpretation that categorically *excluded* GHGs. *Id.* at 528. EPA now repeats its error—this time, by offering a statute-wide interpretation that categorically *includes* GHGs. This Court rejected EPA's categorical approach in *Massachusetts* and should do so again here.

c. Respondents also rely on this Court's decision in *AEP*, arguing that it shows that GHGs are subject to regulation under all of the Act's stationary source programs, including PSD. See U.S. Br. 40; Envr. Br. 15-19; Resp. States Br. 10-12. *AEP* says nothing of the sort.

AEP held that "the Clean Air Act and the EPA actions it authorizes displace any federal common law right to seek abatement of [GHG] emissions." 131 S. Ct. at 2537. The Court specifically relied on the NSPS program, which allows EPA to issue through rulemaking national standards of performance for emissions from categories of stationary sources. *Id.* Although the opinion did note, in an earlier section summarizing EPA's regulatory efforts, that the agency had sought to apply PSD to "major" sources of GHG emissions, it conspicuously did not cite or rely on the PSD program in holding that common law actions were displaced.

There is nothing "anomal[ous]," U.S. Br. 45, in concluding that some CAA programs may apply to GHG emissions whereas the PSD program categorically cannot. Standards of performance under the NSPS program are established through notice-and-comment rulemaking, are uniformly applicable nationwide, and may be tailored by EPA to apply only to those sources that most directly contribute to endangerment of health or welfare within the terms of the statute. See 42 U.S.C. §7411. Regulations governing "[d]esign, equipment, [and] work practices," while permitted under the NSPS program, may be promulgated only upon a finding that it would not be "feasible to prescribe or enforce a standard of performance." *Id.* §7411(h)(1). The PSD permitting requirements, by contrast, are not established through rulemaking, but rather by state permitting authorities in light of localized environmental impacts. Moreover, PSD requirements—including BACT—apply in blanket fashion to all facilities that exceed the 100/250 tons-per-year emissions thresholds, with no further distinction based on a facility's type, size, or actual contribution to air pollution. See *id.* §7475(a), (e). It is not "anomal[ous]" to conclude, given all these distinctions, that Congress intended that the NSPS program, and other Clean Air Act programs, would differ in the kind and scope of pollution problems they address as compared to the PSD program. Critically, nothing in petitioners' argument addresses NSPS regulation of GHGs.

3. EPA Far Exceeded the Bounds of Executive Authority By Deploying the Absurdity Doctrine as a Roving License to Rewrite Statutory Text.

Petitioners' opening briefs explain that EPA's invocation of the absurdity doctrine crossed the critical line separating an administrative agency's valid interpretation and implementation of statutory authority from the outright nullification and overriding of a legislative enactment. See Chamber Br. 23-32; SLF Br. 18-27; EIM Br. 29-31. Respondents offer remarkably little in response to these serious separation-of-powers problems.

i. As petitioners explained, the Court's cases recognize just two situations in which the absurdity canon may be deployed consistent with fundamental separation-of-powers principles. *First*, where minor, self-evident, adjustments to literal meaning suggest themselves, the Court has countenanced making those adjustments on authority of the canon. See Chamber Br. 24-25; SLF Br. 18-21. *Second*, where a specific application of a statute, seemingly authorized by the plain text, is manifestly absurd, the Court has been willing to declare that one application to be beyond the statute's proper scope. See *id.*

By so limiting the canon's application to these categories of cases, the Court has ensured that no "unhealthy process of amending the statute by judicial interpretation" arises from its deployment. *Pub. Citizen v. Dep't of Justice*, 491 U.S. 440, 470 (1989) (Kennedy, J., concurring in judgment). Nonetheless, EPA invoked a previously unknown variant of the doctrine below, thus crossing the line and invading the province of Congress. Confronted in its Triggering Rule with a manifestly absurd statutory interpretation, EPA should have closely examined that interpretation, in accordance with the elementary rule that potentially absurd interpretations are best avoided by reading the relevant statute so that "no absurdity arises in the first place." *Kloeckner v. Solis*, 133 S. Ct. 596, 607 (2012). Had EPA revisited its interpretation, it would have found that the absurd consequences the agency identified, far from being compelled, run afoul of the statute in multiple ways.

More fundamentally, EPA should have recognized the unlawfulness of its response to the absurd consequences it correctly identified. Once EPA was unable to find a modest, self-evident correction that would preserve the design of the statute, it should have recognized that the Court's precedents compelled the conclusion that GHGs simply do not fit within the PSD program. See Chamber Br. 30-32; SLF Br. 18-21. Contrary to the government's claims, see U.S. Br. 49, not even the D.C. Circuit's decision in *Mova Pharmaceutical Corp. v. Shalala*, 140 F.3d 1060 (D.C. Cir. 1998), endorses the radical notion that agencies can rewrite statutory provisions to obtain preferred policy outcomes. And even if *Mova* did support such notions, it would remain a court of appeals precedent that would have to give way in view of this Court's extensive absurdity canon jurisprudence—all of which the government, quite tellingly, declines to engage.

ii. Unable to defend EPA's misuse of the absurdity doctrine to expand its regulatory authority, respondents attempt to re-characterize the absurdity found by the agency. According to respondents, regulating GHGs under the PSD program is not *substantively* absurd at all, but is instead only *administratively* burdensome to the extent that it contemplates such regulation to be put in place right away. See, *e.g.*, U.S. Br. 33-34; Resp. States Br. 21; Envr. Br. 8-9. But, while the administrative impossibility of processing thousands of PSD permits was *one* of the reasons why EPA found that applying the PSD program as written to GHGs would be absurd, it was not the only one. The other was that hundreds of thousands of small sources that Congress did not intend to subject to the costs and burdens of PSD permitting would be swept into the program. See, *e.g.*, JA355-56 ("These extraordinary increases in the scope of the permitting programs would mean that the programs would become several hundred-fold larger than what Congress appeared to contemplate. Moreover, the great majority of additional sources * * * would be small sources that Congress did not expect would need to undergo permitting."). Wholly apart from "administrative necessity," EPA concluded that this vast expansion of the program would be "contrary to congressional intent for the PSD program, and in fact would severely undermine what Congress sought to accomplish with the program." JA449; accord JA392-93.

This enormous, substantive expansion of the program—not the administrative burden entailed by it—was the reason why EPA said Congress would have found the resulting program "unrecognizable." JA454-55. Moreover, it is no answer that EPA believes it can ameliorate these absurd results by adopting "streamlining" measures to reduce the costs for small sources. JA325. Those measures contravene the statute's express requirements for individualized, case-by-case review.

Nor is there merit to the contention that EPA's rewriting of the statute's emission thresholds was justified because EPA "confront[ed] conflicting statutory commands." U.S. Br. 49. The choice between a permissible interpretation of one provision and the rewriting or nullification of others is in no sense a choice between "conflicting" commands. The 100 and 250 tons-per-year thresholds are a clear "statutory command." But there is no countervailing statutory command to impose PSD controls on GHG emissions. As noted above, EPA itself concedes that the terms "any air pollutant" and "each pollutant" cannot be given their broadest possible construction and must be read restrictively in the PSD context. JA234, 236 (emphasis omitted). But unlike the statutory text relied on by EPA, "250 tons per year" permits no alternative construction. This unambiguous text ought to have been respected—not rewritten—by being applied in a fashion that excludes GHGs from the PSD statutes.

B. EPA's Title V Regulations Must Also Fall.

If the Court finds that the PSD program does not apply to GHGs, it follows that the Title V program likewise does not apply to GHGs. Those programs have been interpreted by EPA to have the same scope in this regard, 75 Fed. Reg. 31514, 31562, and the agency concedes that its preferred interpretation gives rise to similar absurd results in the Title V context. *Id.* at 31514, 31563, 31596-97. Indeed, these problems are magnified in the Title V area, as the number of facilities swept into the program under

EPA's interpretation rises into the millions. *Id.* Furthermore, just as with the PSD program, EPA has relied on these absurd results—and its adulterated version of the absurdity doctrine—to promulgate new "regulatory" Title V emissions thresholds of the agency's own choosing. *Id.*

Respondents offer no reason to think that Congress expected Title V to apply to sources that are not subject to PSD or other CAA permitting programs. Title V does not itself impose substantive emissions standards or limitations, but instead directs that covered sources certify compliance with all applicable regulatory requirements under other provisions, such as PSD. *Id.* at 31554. This means that a source not subject to PSD or other programs would still be obligated to apply for and obtain a permit, with all attendant expenses, but the permit would set forth no substantive requirements—in EPA's words, it would be an "empty permit." *Id.* at 31563. Nothing in the language or history of Title V suggests that this result was intended or is permissible, particularly given EPA's concession that requiring all facilities covered by its interpretation to obtain permits (even empty permits) would overwhelm permitting authorities. *Id.* at 31551-52, 31562-64, 31573.

Against this backdrop, respondents can only reiterate the D.C. Circuit's erroneous conclusion that petitioners waived their argument. See, *e.g.*, Envr. Br. 37. But that is not true. Petitioners challenged EPA's flawed interpretation of Title V, just as it challenged EPA's flawed interpretation of the PSD program. The initial joint industry brief submitted below, argued, for example, that "[j]ust as Congress never intended the PSD program to reach tens of thousands of small sources, Congress quite clearly never intended that Title V extend to millions of small sources" and that, "as with the PSD definition of 'major emitting facility,' EPA must define the 'pollutants' that trigger Title V in reference to the pollutants Congress intended to be covered." Non-State Petitioners DC Cir. Br. 47. The government responded to this argument, see U.S. DC Cir. Br. 114-15, and the joint industry reply brief reiterated the point, see Non-State Petitioners DC Cir. Reply Br. 36-37. Tellingly, the government does not assert that this argument was waived, but instead addresses it on the merits. See U.S. Br. 55-56. Under any fair reading of the record, petitioners' Title V challenge was fully preserved and should now rise or fall with petitioners' PSD challenge.

II. Alternatively, The Court Should Reverse On The Ground That PSD Permits Are Triggered Only By Emissions Of NAAQS Pollutants For Which An Area Is In Attainment.

All petitioners contend, as their primary argument, that the PSD and Title V programs do not extend in any respect to GHG emissions. That interpretation fully preserves the integrity of all PSD and Title V permitting provisions and avoids all absurd consequences and statutory nullifications that arise from EPA's preferred interpretation. Alternatively, petitioners contend—as a fallback position—that, if the Court should reject the primary argument presented above, then for the reasons given in the opening brief of petitioners American Chemistry Council *et al.* (ACC Br.) the "in any area" language in Section 165, 42 U.S.C. §7475(a), should be construed as limiting the facilities subject to PSD permitting. Specifically, PSD permitting should be limited to facilities that emit major amounts of a NAAQS pollutant in an area that is attaining the NAAQS for that particular pollutant.

For two primary reasons, petitioners' alternative argument should be reached only in the event that petitioners' primary argument is rejected. *First*, deciding whether the PSD and Title V programs extend to GHGs at all is a logically antecedent question to whether the programs apply to GHGs and other pollutants in a particular fashion. *Second*, accepting petitioners' primary argument will grant *all* the relief that *all* petitioners seek from these EPA rulemakings, and resolve *all* of the inconsistencies and absurdities created by applying the PSD program to GHGs. Accepting petitioners' alternative argument, by contrast, would provide only some of that relief and resolve only some of the interpretive disputes in play. Before deciding a fallback issue that resolves only a subset of the questions in issue, the Court should first see whether the fallback issues can be mooted, especially where, as here, the primary argument must be addressed in any event.

i. None of the response briefs makes a serious effort to argue that the key statutory phrase at issue—"in any area to which this part applies"—compels their pollutant-indifferent interpretation. Nor could they. Any such contention is foreclosed by respondents' concession that Congress used that same phrase in Section 163(b)(4), 42 U.S.C. §7473(b)(4), in a pollutant-specific manner. See U.S. Br. 54 n.16. Respondents acknowledge—as did the court below, JA250—that the phrase "in any area to which this part applies" as it appears in Section 163(b)(4) cannot mean "in any area attaining NAAQS for *any* pollutant," and must instead mean "any area attaining NAAQS for *such* pollutant." ACC Br. 17-18.

The only question, then, is whether the phrase can reasonably bear the same pollutant-specific meaning under both Section 163(b)(4) and Section 165(a). See *IBP, Inc.* v. *Alvarez*, 546 U.S. 21, 34 (2005) (discussing presumption that same terms in same statute carry same meaning). On this score, respondents offer nothing to suggest that the statutory context compels the differences in meaning insisted upon by EPA.

The slight textual differences in the provisions respondents identify, see U.S. Br. 54 n.16; Envr. Br. 30 n.13, do not evince such an intent. That the phrase "in any area to which this part applies" modifies different terms in the two provisions—"air pollutant" in Section 163(b)(4) and "major emitting facility" in Section 165(a)—does not require that it *must* be read differently. This is particularly true because the statute expressly defines the term "major emitting facility" as a source of threshold amounts of "any air pollutant." 42 U.S.C. §7479(1). Read in this light, Section 165(a) states, in effect, that permitting obligations will be imposed on the construction of any "facility [that emits major amounts of any air pollutant] * * * in any area to which this part applies." 42 U.S.C. §§7475(a), 7479(1). It is thus not only permissible but reasonable to interpret Section 165(a)'s reference to "in any area to which this part applies" to refer to areas attaining the relevant NAAQS for those NAAQS pollutants that a facility emits in major amounts. Likewise, the mere fact that Section 163(b)(4) addresses concentrations of pollutants in a given area, while Section 165(a) addresses emissions of a pollutant from a facility, see

Envr. Br. 30 n.13, does not suggest that the phrases must be interpreted differently in the two provisions—particularly given that they were enacted at the same time and are part of the same regulatory program.

ii. Respondents nonetheless contend that, even if the phrase "in any area to which this part applies" *can* be given a pollutant-specific meaning (as its usage in Section 163(b)(4) indicates), the "ordinary" usage of the phrase supports a contrary, pollutant-indifferent construction. See U.S. Br. 53; Envr. Br. 27-28. Nothing in "ordinary" linguistic usage, however, compels a single yes-or-no answer to the question whether Part C "applies" to an area. To the contrary, it is perfectly acceptable to say that Part C "applies" to an area for some purposes but not for others. ACC Br. 15-17. That is especially true given that, under the statute, areas are designated as "attainment" or "nonattainment" on a pollutant-specific basis. 42 U.S.C. §7407(d). If, for example, an area were in attainment for particulate matter and nonattainment for sulfur dioxide, and one were to ask whether Part C "applies" to that area, it would be entirely reasonable to answer "only with respect to particulate matter"—as opposed to an unqualified "yes" or "no." Indeed, EPA itself has stated that "[t]he *applicability* of the PSD program to a particular source [in an area] * * * is pollutant-specific." 70 Fed. Reg. 59582, 59583 (Oct. 12, 2005) (emphasis added).

EPA notes that Section 165(a) does not itself explicitly "link[ ] the pollutant for which the source is major and the pollutant for which an area is designated attainment." U.S. Br. 41. But this simply begs the question. The same could be said of the parallel permitting provision in Part D, which requires an NNSR permit "for the construction and operation of new or modified major stationary sources anywhere in the nonattainment area," 42 U.S.C. §7502(c)(5), with "major stationary source" defined to mean any facility that emits 100 tons per year or more of "any air pollutant," *id.* §7602(j). If EPA applied the same interpretation to 42 U.S.C. §7502(c)(5) that it applies to Section 165(a), then a facility that emitted 100 tons per year of any pollutant would be required to obtain an NNSR permit if it was located in an area designated nonattainment for any *other* pollutant, even if the facility did not emit 100 tons per year or more of that pollutant. But even EPA agrees such a reading would misconstrue 42 U.S.C. §7502(c)(5), which requires facilities to obtain an NNSR permit "only if they emit in major amounts the pollutant(s) for which the area is designated nonattainment." JA1406.

There also is no merit to respondents' contention that a more "natural" way for Congress to have achieved a pollutant-specific result would have been to limit "air pollutant" in the definition of "major emitting facility" in 42 U.S.C. §7479(1) to NAAQS pollutants. U.S. Br. 54; Envr. Br. 27-28. Limiting the term "air pollutant" in 42 U.S.C. §7479(1) to NAAQS pollutants would *not* have achieved the same result as the pollutant-specific interpretation of Section 165(a) because the pollutant-indifferent and pollutant-specific interpretations produce different results, even when dealing only with NAAQS pollutants. For example, if a facility emits major amounts of particulate matter but not sulfur dioxide and is located in an area that is in attainment for sulfur dioxide only, the facility would not be subject to PSD at all under a pollutant-specific interpretation, but it would be subject to PSD under EPA's pollutant-indifferent interpretation. JA1407.

EPA's purported concern (not mentioned in the rulemakings) that a pollutant-specific interpretation would open the door to "regulatory arbitrage," by offering incentives for sources to locate in areas that are in nonattainment for the pollutants they emit in major amounts, is entirely unrealistic. U.S. Br. 55. By locating in an area in nonattainment for the pollutant it emits in major amounts, a facility would subject itself to Part D's *more* burdensome technology and emission offset requirements than would apply under the analogous Part C requirements. See JA1405. The Part D requirements for nonattainment areas demand, for example, that facilities comply with the "lowest achievable emission rate"; that is, with the "*most* stringent emission limitation" required or achieved in practice by similar sources anywhere in the country, 42 U.S.C. §7501(3) (emphasis added). The Part D requirements also obligate many facility owners to offset emissions increases with equivalent reductions from other sources of the same pollutant in the same area—a requirement that, in certain circumstances, may effectively preclude construction of the source. *Id.* §7503(c).

Moreover, a pollutant-specific interpretation of Section 165(a) avoids rendering core aspects of the statute superfluous in practice. EPA acknowledges that, under its interpretation, the PSD program has applied "in practice" to facilities located "anywhere in the Nation" from the day of its enactment to today; hence, the phrase "any area to which this part applies" has never served any real limiting function.

U.S. Br. 55-56. Other respondents attempt to explain away this anomaly by contending that the phrase has other purposes, but these explanations are unconvincing. The phrase does not, even under EPA's interpretation, "distinguish[] PSD areas from nonattainment areas." Envr. Br. 29. This is because EPA reads the phrase as subjecting facilities to PSD review even when the only pollutants they emit in major amounts are ones for which the area is in nonattainment. JA1407. Nor was the phrase necessary to make clear that PSD permitting "applies in *all* * * * PSD areas." Envr. Br. 29; Resp. States Br. 30 n.13. That would have been clear had Congress omitted the phrase entirely or said simply "in any area." Only the pollutant-specific interpretation gives the full phrase—"in any area *to which this part applies*"—any practical force and effect.

iii. Respondents, moreover, offer no persuasive reason why Congress would have designed the PSD trigger to be pollutant-indifferent but the NNSR trigger to be pollutant-specific, even though the two programs are designed to work in tandem. Indeed, EPA recognizes that, in order to harmonize Parts C and D, Part C must apply in a pollutant-specific way at least to some degree because it is "implicit in * * * the structure of the Act" that NNSR requirements, and not PSD requirements, apply to pollutants for which the area is in nonattainment. JA1405.

It is no answer to say that the definition of "nonattainment area" in Part D is by its terms pollutant-specific in character. See Envr. Br. 30. As petitioners explained in their opening brief—without any answer from respondents—the provisions of Parts C and D each refer to precisely the same provision, 42 U.S.C. §7407(d), in defining areas as either in attainment or nonattainment, *id.* §§7471, 7501(2), and, furthermore, 42 U.S.C. §7407(d) defines attainment and nonattainment in parallel fashion as area designations that are both made "for the pollutant," *id.* §7407(d)(1)(A)(i), (ii). This parallelism further indicates that *both* attainment area and nonattainment area designations are pollutant-specific; the limiting language in Part D simply confirms the point. See ACC Br. 21-22.

Respondents are further mistaken in suggesting that Part D, unlike Part C, exhibits a "single-minded focus on eliminating NAAQS violations." Envr. Br. 30. To obtain Part D NNSR permits, facility owners must demonstrate that all major stationary sources they own or operate in the relevant state comply "with all applicable emission limitations and standards under this chapter." 42 U.S.C. §7503(a)(3). That Part C's and Part D's substantive requirements *both* in certain respects go beyond attaining and maintaining NAAQS provides no basis for construing *either* program's triggering provision to be pollutant-indifferent, but rather confirms that the two provisions should be construed harmoniously.

In sum, given that all agree the PSD and NNSR programs were designed to complement one another, and absent any indication that the applicability provisions of the two programs must be interpreted differently, the same pollutant-specific meaning applied to Part D should be applied to Part C.

iv. Finally, if the issue were to be reached by the Court (in the event the Court rejects the argument presented in Part I, *supra*), then the pollutant-specific interpretation of 42 U.S.C. §7475(a) is definitively confirmed by the fact that EPA's preferred construction admittedly produces absurd consequences. A pollutant-indifferent construction, for instance, requires a facility to obtain a PSD permit if it emits major amounts of a harmless air pollutant such as water vapor. See ACC Br. 25-26. And it sweeps hundreds of thousands of small sources into PSD, resulting in a program that by EPA's own estimation "would have been unrecognizable to the Congress that designed PSD." JA454-55; cf. Br. Tex. Oil & Gas Ass'n, *et al.* 22, 28. Only by rewriting the statutory definition of "major emitting facility," adding the words "regulated under this chapter" to "air pollutant," and increasing by many magnitudes the statutorily prescribed emission thresholds, can EPA avoid some (but by no means all) of the statutory nullifications entailed by its preferred interpretation.

EPA's interpretation is, for this reason and many others, entitled to no deference. In adopting the pollutant-indifferent interpretation, EPA did not purport to be exercising policymaking discretion to adopt a reasonable interpretation of an ambiguous provision. Rather, it claimed the pollutant-indifferent interpretation was unambiguously "required" by the statute, JA1404—even to the point of producing admittedly absurd consequences and even though the agency itself once proposed a pollutant-specific interpretation, *id.* at 1415. That is a conclusion under the first step of *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837 (1984), as to which EPA receives no deference. *Id.* at 842. In all events, EPA cannot now claim that this interpretation—which it concedes produces a regulatory regime "unrecognizable" to the Congress that enacted it—is a reasonable statutory construction entitled to deference under the second step of *Chevron*.

CONCLUSION

The decision of the court of appeals should be reversed.

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REPLY
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In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, ET AL.,
Petitioners,

v.

U.S. ENVIRONMENTAL
PROTECTION AGENCY, ET AL.,
Respondents.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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ARGUMENT

Massachusetts v. EPA interpreted "air pollutant" to include "all airborne compounds of whatever stripe." 549 U.S. 497, 529 (2007). EPA agrees that extending this understanding of "air pollutant" into PSD and Title V produces numerous absurdities. Its proposed solution is to re-write the unambiguous statutory language of those programs. The proper response is to cabin *Massachusetts*'s understanding of "air pollutant" to Title II and NSPS. *See Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011) ("*AEP*"). The statutory definition of "air pollutant" is capable of sustaining a more narrow construction in the context of PSD and Title V. *See* 42 U.S.C. § 7602(g); *Envtl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 575-76 (2007) (allowing defined statutory terms to be interpreted differently in different provisions of a statute). Agencies and courts must first construe *ambiguous* statutory language to avoid absurdity, before re-writing *unambiguous* statutory language to avoid that absurdity.

I. THE CLEAN AIR ACT DOES NOT AUTHORIZE EPA TO REGULATE GHGS UNDER PSD OR TITLE V.

EPA's construction of "air pollutant" has produced at least three absurdities in the PSD and Title V programs. EPA's attempts to avoid these absurdities are foreclosed by the unambiguous language of the Act.

First, PSD and Title V require permits if a source emits more than 100 or 250 tons per year ("tpy") of "*any* air pollutant." 42 U.S.C. §§ 7475(a), 7479(1), 7602(j), 7661(2), 7661a(a) (emphasis added). By equating "air pollutant" with "all airborne compounds of whatever stripe," EPA is left with a statute that requires permits from entities that emit harmless or beneficial substances such as oxygen. EPA purports to have "solved" this problem by rewriting the statutory language. Rather than requiring permits for entities that emit threshold amounts of "any air pollutant," as the statute commands, EPA instead imposes these requirements only on sources that emit air pollutants subject to regulation under the Act. *See* EPA Br. 43.

None of the respondents explains how "*any* air pollutant" can refer only to a *regulated* air pollutant. Nor do they explain how EPA can sustain this construction when a separate statutory provision requires "the best available control technology for each pollutant *subject to regulation under this chapter*." 42 U.S.C. § 7475(a)(4) (emphasis added). When Congress wanted to refer only to *regulated* air pollutants, it knew how to do so. Yet the qualification that appears in section 7475(a)(4) is conspicuously absent from the permitting triggers for the PSD and Title V programs. *See id.* §§ 7479(1), 7602(j), 7661(2); *see also Russello v. United States*, 464 U.S. 16, 22–23 (1983) ("'[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.'" (alteration in original) (citation omitted)).

EPA claims that the "relevant statutory context" supports its atextual construction because "[t]he requirements of the PSD program address only pollutants that are regulated in some way under the Act." EPA Br. 43. That only strengthens the contrast with the statute's definition of "major emitting facility," which uses the phrase "any air pollutant" without qualification. And in all events, EPA's reliance on these PSD provisions does nothing to support its atextual construction of Title V, whose permitting requirements extend to sources that emit more than 100 tpy of "any air pollutant." *Compare* 42 U.S.C. §§ 7602(j), 7661(2), 7661a(a), *with* EPA Br. at 55-56.

The second absurdity created by EPA's interpretation of "air pollutant" arises from the unambiguous 100/250 tpy permitting thresholds of the PSD and Title V programs, which are set far too low to allow for rational regulation of GHGs. *See* J.A. 381-88.[1] And the third absurdity comes from section 7475(a)(4)'s requirement to impose the "best available control technology," which as applied to GHGs would not only empower but *require* EPA to micromanage every aspect of energy consumption in EPA-regulated buildings. *See* Joint Industry Reply Br. Here, too, EPA re-writes unambiguous statutory requirements, by scratching out the legislatively enacted permitting thresholds, and by excluding from the BACT requirement entities that emit GHGs in amounts below EPA-concocted thresholds. *See* EPA Br. 17 n.4; J.A. 506-09.

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[1] As EPA recognizes, the States' reliance on *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), and their argument for a narrow construction of "air pollutant" are equally applicable to PSD and Title V. *See* EPA Br. 56. The State petitioners preserved these arguments and they have not

The only way the statute can be construed (rather than re-written) to avoid these absurdities is to narrow EPA's interpretation of "air pollutant" in the PSD and Title V programs. The Clean Air Act defines "air pollutant" as:

> any air pollution agent or combination of such agents, including

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been forfeited. *See* Final Brief of State Petitioners and Supporting Intervenor at 59, *Coal. for Responsible Reg., Inc. v. EPA*, 684 F.3d 102 (D.C. Cir. 2012) (No. 10-1073) ("The low, mass-based permitting thresholds established by the PSD *and Title V* provisions simply do not fit with a world in which EPA treats greenhouse-gas emissions as air pollutants under those programs. EPA must therefore obtain more specific authorization from Congress before asserting a prerogative to regulate greenhouse-gas emissions under either the PSD *or Title V* programs." (emphases added)). The D.C. Circuit's claim that the petitioners "forfeited" their challenge to EPA's interpretation of Title V is indefensible, and EPA does not rely on it. J.A. 241; EPA Br. 55-56.

> any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.

42 U.S.C. § 7602(g). On its face, it is possible to construe this language as extending only to "air pollution agents," *i.e.*, substances that "pollute" the air by rendering it "impure or unclean." WEBSTER'S NEW INTERNATIONAL DICTIONARY 1910 (2d ed. 1949) (defining "pollute" as "[t]o make or render impure or unclean"); *Massachusetts*, 549 U.S. at 559 (Scalia, J., dissenting). EPA's all-things-airborne view leaves the phrase "air pollution agent" without any work to do, and renders superfluous the entire second sentence of section 7602(g). It is also possible to interpret "air pollution agent" to exclude GHGs. Heat-trapping gases are not inherently harmful; to the contrary, *some* presence of GHGs is not only beneficial but necessary to keep the Earth's climate from slipping into another ice age. Whether we have reached the point at which GHG emissions should be

deemed harmful is a highly subjective question, which requires a theory of optimal climate and involves picking winners and losers across the globe.

EPA says that any such narrowing construction of "air pollutant" is foreclosed by *Massachusetts*, and EPA implies (though it does not explicitly argue) that "air pollutant" must have a uniform meaning throughout the Act. *See* EPA Br. 45-46. EPA is mistaken on both counts. Although EPA correctly observes that *Massachusetts* equated "air pollutant" with "all airborne compounds of whatever stripe" in the context of Title II, this Court has also held on multiple occasions that statutory terms—even defined statutory terms—need not be given uniform interpretations throughout an act. *See, e.g.*, *Duke Energy*, 549 U.S. at 575-76 ("There is, then, no effectively irrebuttable presumption that the same defined term in different provisions of the same statute must be interpreted identically. Context counts." (citations and internal quotation marks omitted)); *Robinson v. Shell Oil Co.*, 519 U.S. 337, 343-44 (1997); *see also* EPA Br. 46 n.12 (acknowledging that EPA "has interpreted the term 'any pollutant,' within the definition of 'major stationary source' that appears in the CAA provision addressing visibility protection, as including only 'visibility-impairing pollutants'"). It is not only permissible but imperative to adopt differing constructions of a statutory term when that is the only way to satisfy the competing demands of avoiding absurdity, preventing agencies from rewriting unambiguous statutory language, and accommodating *stare decisis* considerations. Section 7602(g)'s definition of "air pollutant" is ambiguous on its face, and EPA cannot pretend that its hands are tied by *Massachusetts* when *Duke Energy* and other rulings of this Court allow defined statutory terms to carry different meanings in different surrounding contexts.[2]

II. IF THE COURT CONCLUDES THAT THE CLEAN AIR ACT AUTHORIZES EPA TO REGULATE GHGS UNDER PSD AND TITLE V, THEN THE COURT SHOULD ENFORCE THE STATUTORY PERMITTING THRESHOLDS AND DISAPPROVE THE TAILORING RULE.

EPA tries to pass off its "Tailoring Rule," 75 Fed. Reg. 31,514 (June 3, 2010), as akin to an act of prosecutorial discretion. *See* EPA Br. 49 (claiming that the Tailoring Rule falls within EPA's "broad discretion to choose how best to marshal its limited resources and personnel to carry out its delegated responsibilities" (quoting *Massachusetts*, 549 U.S. at 527)); *cf. Heckler v. Chaney*, 470 U.S. 821 (1985).

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[2] The American Chemistry Council offers a way to avoid the absurdity of imposing PSD permitting on entities that emit more than 250 tpy of GHGs, but that does not prevent the absurdities of imposing Title V permitting on sources that emit more than 100 tpy of "any air pollutant," nor does it address the fact EPA's approach would result in nullifying or distorting central PSD provisions such as the BACT requirement and the mandatory local-impact analysis.

The problem with this argument is that the statute specifically defines the scope of EPA's discretion to exempt sources from the permitting requirements of PSD and Title V, and it expressly withholds the "discretion" that EPA has claimed for itself. Title V, for example, grants EPA discretion to "exempt one or more source categories (in whole or in part)" from its permitting regime if EPA "finds that compliance with such requirements is impracticable, infeasible, or unnecessarily burdensome on such categories," but it goes on to say that EPA "*may not exempt any major source* from such requirements." 42 U.S.C. § 7661a(a) (emphasis added); *see also id.* § 7479(1) (authorizing States to exempt "nonprofit health or education institutions," but nothing else, from the "major emitting facilit[ies]" subject to PSD). To allow an agency to invoke "discretion" in the teeth of these statutory provisions would effectively give the executive a dispensing power over the Clean Air Act.[3]

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[3] EPA denies that it has "flatly exempt[ed]" sources from PSD or Title V because the Tailoring Rule contains aspirational statements that EPA *might*, at some unknown point in the future, impose Title V permitting on all sources emitting more than 100 tpy of CO_2. *See* EPA Br. at 16-18; J.A. 497 ("With the tailoring approach, over time, more sources *may* be included in title V, consistent with those provisions and legislative history." (emphasis added)). *But see* J.A. 498 ("However, as part of the tailoring approach, we recognize that we may at some point

The respondents also suggest that the legality of the Tailoring Rule is outside the question presented. *See* N.Y. Br. 20 n.10. But "[t]he statement of any question presented is deemed to comprise every subsidiary question fairly included therein." SUP. CT. R. 14(a). The task of resolving whether EPA "permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases" fairly encompasses disputes regarding the scope of those "permitting requirements," as well as the substantive obligations imposed on entities subjected to PSD permitting. *See, e.g.*, 42 U.S.C. § 7475(a)(4); EPA Br. 6, 24 (acknowledging that disagreements over the scope of section 7475(a)(4) are within the question presented).

The legality of the Tailoring Rule is also relevant to whether EPA lawfully asserted jurisdiction over GHGs in the PSD and Title V programs, which is undoubtedly within the scope of the question presented. If EPA's Tailoring Rule is unlawful, as the States maintain, then it is more difficult to

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determine that it is appropriate to exclude certain sources, such as the smallest of the GHG sources."). Apparently EPA believes that temporary exemptions are not "exemptions" under section 7661a(a), even when indefinite in duration and when the agency has made no commitment to enforce Title V against all major sources in the future. That is not a tenable argument.

justify a construction of the statute that treats GHGs as "air pollutants" under PSD and Title V.

III. *MASSACHUSETTS* SHOULD BE RECONSIDERED OR OVERRULED IF IT COMPELS EPA TO REGULATE GHGS UNDER PSD OR TITLE V.

The Court need not reconsider or overrule *Massachusetts* unless it rejects the States' reliance on *Duke Energy* and concludes that "air pollutant" must have the same meaning in PSD and Title V that it has in Title II. If (and only if) this Court decides that "air pollutant" must have a uniform interpretation throughout the Act, then the States respectfully ask this Court to reconsider *Massachusetts*'s holding that "air pollutant" unambiguously includes "all airborne compounds of whatever stripe." Forcing EPA to treat *every* airborne substance as an "air pollutant" is demonstrably untenable in light of the provisions in the PSD and Title V programs.

EPA purports to rely on *Massachusetts*'s definition of "air pollutant," yet EPA refuses to impose Title V or PSD permitting requirements on sources that emit more than 100 or 250 tpy of unregulated airborne substances—even though the statute requires permits for entities emitting more than 100 or 250 tpy of "*any* air pollutant." The only way EPA can defend its interpretation of the PSD and Title V permitting triggers is for this Court either to cabin *Massachusetts*'s holding so that its all-encompassing definition of "air pollutant" does not carry over to PSD and Title V, or overrule it. Otherwise EPA is left to claim that statutes do not mean what they say—that the word "any" can somehow be construed to mean "a subset of."

The respondents contend that limiting or overruling *Massachusetts* would undercut *AEP*, as well as EPA's decision to regulate mobile-source GHGs under Title II. *See* EPA Br. 35-36; N.Y. Br. 16 n.6. Not so. The States are not asking this Court to hold that section 7602(g)'s definition of "air pollutant" unambiguously excludes GHGs. They are asking this Court to recognize only that section 7602(g)'s definition is flexible enough on its face to accommodate either a GHG-inclusive or a GHG-exclusive reading. Whether that definition can or should be construed to include GHGs (or everything airborne) depends on the context provided by surrounding statutory provisions. *See Duke Energy*, 549 U.S. at 575-76; *see also Chevron, USA, Inc. v. Natural Res. Def. Council*, 467 U.S. 837, 843 n.9 (1984) (holding that courts should employ all "traditional tools of statutory construction" at *Chevron* step one).

Massachusetts's construction of "air pollutant" was plausible in the context of Title II, because Title II does not permit regulation of "air pollutants" until EPA issues an endangerment finding, and construing "air pollutant" broadly to include GHGs would not trigger "extreme" or absurd results in Title II. *See Massachusetts*, 549 U.S. at 531. The same is true of the NSPS program at issue in *AEP*. *See* 42 U.S.C. § 7411(b)(1)(A) (limiting NSPS regulations to sources that contribute to "air pollution which may reasonably be anticipated to endanger public health or welfare"). By contrast, Title V and PSD require permits for every source emitting more than 100 or 250 tpy of "*any* air pollutant"—regardless of whether the pollutant is regulated or harmful. It is absurd to impose this requirement on every entity that emits threshold amounts of CO_2 or harmless substances such as oxygen. In the context of these two programs, "air pollutant" cannot reasonably be construed to include "all airborne compounds of whatever stripe."

Massachusetts never considered the implications of its holding for PSD and Title V, and none of the 30 briefs in that case alerted the Court to the problems that would arise under those programs if "air pollutant" means "all airborne compounds of whatever stripe." EPA parrots the D.C. Circuit panel's statement that the *Massachusetts* briefs "explicitly raised the argument that interpreting 'air pollutant' to include greenhouse gases could have tremendous consequences for stationary-source regulation." EPA Br. 35 n.8 (quoting J.A. 142 (Sentelle, C.J., Rogers and Tatel, JJ., concurring in the denials of rehearing en banc)). But the panel cited only one brief to support that claim—a brief that never so much as mentions Title V and whose sole discussion of PSD appears in the following passage:

> In addition to imposing controls on existing sources through SIPs or FIPs, state and EPA regulatory authorities also are directed to impose requirements on the construction of new major sources of air pollution and the modification of existing major sources. CAA §§ 160-169, 42 U.S.C. §§ 7470-7479 (Prevention of Significant Deterioration ("PSD") requirements for areas attaining NAAQS); and CAA section 173, 42 U.S.C. § 7503 (new source review ("NSR") requirements for areas not attaining NAAQS). Among other things, these preconstruction permitting programs required by the Act mandate that new or modified sources utilize the Best Available Control Technology (in attainment areas), CAA §§ 165(a)(4), 169(3), 42 U.S.C. §§ 7475(a)(4), 7479(3), or meet even more stringent Lowest Achievable Emission Rates (in non-attainment areas), CAA §§ 171(3), 173(a)(2), 42 U.S.C. §§ 7501(3), 7503(a)(2).

Brief of Respondent CO_2 Litigation Group, *Massachusetts v. EPA*, 549 U.S. 497 (2007) (No. 05-1120), 2006 WL 3043971, at *19. There is no mention of the fact that the 100/250 tpy permitting thresholds in PSD and Title V are set too low for CO_2 emissions. Nor does the brief point out that PSD and Title V permitting requirements are triggered by the emission of "*any* air pollutant"—which cuts strongly against the notion that "air pollutant" *must* be construed to encompass "all airborne compounds of whatever stripe." There was no reason for the Court to consider these implications for the PSD and Title V programs.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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UTILITY AIR REGULATORY GROUP,
Petitioner,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY,
Respondent.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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CORPORATE DISCLOSURE STATEMENT

The Utility Air Regulatory Group (UARG) is a not-for-profit association of individual electric utilities and electric generating companies and national trade associations that participates on behalf of its members collectively in administrative proceedings under the Clean Air Act, and in litigation arising from those proceedings, that affect electric generators. UARG has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in UARG.

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INTRODUCTION

The Court has asked whether the United States Environmental Protection Agency (EPA) permissibly determined that regulation of greenhouse gas (GHG) emissions from new motor vehicles under Title II of the Clean Air Act (CAA), 42 U.S.C. § 7521(a)(1), triggered permitting requirements under the Prevention of Significant Deterioration (PSD) and Title V programs.[1] That question must be answered in the negative.

The PSD program is designed to prevent deterioration of "air quality," 42 U.S.C. § 7471, a term used throughout Title I of the CAA to focus regulation on a particular kind of air pollution. The key to that term's meaning is found in 42 U.S.C. § 7408(a)(2), which defines the "criteria" for "air quality" in terms of the degree to which the "presence of ... [a] pollutant in the ambient air" has "identifiable effects on public health or welfare." While the term "air pollution" can cover health and welfare effects that result from the presence of a pollutant anywhere in the atmosphere, see, *e.g.*, *id.* § 7521(a)(1) (addressing "air pollution which may ... endanger public health or welfare"); ***Massachusetts*** v. ***EPA***, 549 U.S. 497, 529 n.26 (2007), "ambient air" is only that portion of the atmosphere to which the general public has access.[2]

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[1] As UARG's opening brief and Industry Petitioners' Joint Reply explain, GHGs should not trigger Title V permitting.

[2] EPA in 1971 adopted a CAA legislative rule defining "[a]mbient air" as only "*that portion* of the atmosphere, external to buildings, to which the general public has access." 40 C.F.R. § 50.1(e) (emphasis added); see also *Train* v. *Natural Res. Def.*

(Continued . . . .)

Accordingly, a program to "prevent significant deterioration of air quality" focuses on emissions that change the quality of the air people breathe. See also 42 U.S.C. § 7407(d) ("ambient air quality" and "air quality" used interchangeably to describe pollutant concentrations governing designation of "air quality control regions").

From the PSD program's inception, large facilities that emit regulated pollutants that deteriorate air quality have been required to obtain preconstruction permits. Over the years, new pollutants regulated under the CAA were included in PSD without changing the nature of the pollution being addressed or the permit program's source coverage. When EPA adopted the Motor Vehicle Rule regulating GHGs, however, EPA had to confront the fundamental differences between GHGs and all previously regulated pollutants.

If EPA were to treat carbon dioxide as it has treated every previously regulated pollutant, the program's source coverage would expand to tens of thousands of small emitters never previously subject to PSD. Moreover, unlike emissions of every previously regulated PSD pollutant, carbon dioxide emissions do not deteriorate air quality. See JA 915. Accordingly, if EPA were to treat GHGs the same as every other regulated pollutant, the PSD program's nature and coverage would have fundamentally changed without any revision to EPA's PSD regulations. EPA there-

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Council, 421 U.S. 60, 65 (1975). That regulation is binding on EPA, the public, and courts. See also *infra* note 4.

fore had to treat GHGs differently from every previously regulated pollutant under PSD.[3]

For the reasons given herein, in UARG's opening brief, and in Industry Petitioners' Joint Reply (which UARG incorporates by reference to avoid duplication), it was incumbent on EPA to revise its regulations to exclude GHGs from the PSD program. A pollutant that does not deteriorate air quality, and is emitted by innumerable small, non-industrial sources in amounts exceeding 250 tpy, is not the type of "air pollutant" Congress intended be regulated under PSD.

ARGUMENT

1. EPA identifies as "[t]he central PSD program requirement at issue here ... the requirement that facilities subject to the PSD program limit their emissions based on BACT [Best Available Control Technology] 'for each pollutant subject to regulation under [the CAA] emitted from, or which results from, such facility.'" EPA Br. 25-26 (quoting 42 U.S.C. § 7475(a)(4)). EPA argues that because GHGs "are an

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[3] EPA defines GHGs to include carbon dioxide and five other substances collectively. JA 290. The record established that carbon dioxide (which dominates this group of substances) is emitted by myriad small sources in amounts exceeding 250 tons per year (tpy) and that stationary source emissions of carbon dioxide do not deteriorate ambient air. *Id.* at 355-56, 915. EPA did not resolve in this rulemaking whether each (or any) of the other GHG substances individually deteriorates ambient air or would bring very small sources into the PSD program; these questions were irrelevant to EPA's "automatic trigger" interpretation.

'air pollutant' as that term is defined in the CAA" and are "'subject to regulation under [the CAA]'" due to EPA's Motor Vehicle Rule, "'it is crystal clear that PSD permittees must install BACT for [GHGs].'" *Id.* at 26 (quoting JA 242). This argument underpins EPA's entire response to the petitions.

EPA's argument ignores that the BACT requirement's purpose is to protect ambient air from significant deterioration. PSD program elements, including BACT requirements, are "determined under regulations" promulgated by EPA that require that "each ... implementation plan ... contain *emission limitations* and such other measures *as may be necessary* ... to *prevent significant deterioration of air quality*" in specific geographically defined areas within a state. 42 U.S.C. § 7471 (emphases added). BACT is "an *emission limitation*" for "pollutant[s] subject to regulation under" the CAA that the permitting authority establishes for each PSD facility based on site-specific factors. *Id.* § 7479(3) (emphasis added).

Because, as EPA has never disputed, carbon dioxide emissions do not deteriorate air quality in the vicinity of a stationary source, see UARG Br. 2-3; JA 915, a BACT "emission limitation" for carbon dioxide cannot be "*necessary* ... to prevent significant deterioration of air quality," 42 U.S.C. §§ 7471, 7479(3). Given the statute's language and context, the "pollutant[s] subject to regulation" for which BACT is established must potentially deteriorate air quality due to their presence in the ambient air.[4] The legislative

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[4] "Air quality" and "ambient air quality" are used interchangeably in CAA Title I. See, *e.g.*, 42 U.S.C. § 7407(d). Since 1971,

(Continued . . . .)

history that respondents cite affirms this conclusion. States Br. 17-18 ("'the [BACT] requirements should be applicable to all pollutants emitted from any new major emitting facility so that the maximum degree of emission reduction would be achieved *in order to minimize potential deterioration*'" (quoting 123 Cong. Rec. at S18,021 (daily ed. June 8, 1977) (statement of Sen. Muskie) (emphasis added)); see also *Alabama Power Co.* v. *Costle*, 636 F.2d 323, 406-07 n.81 (D.C. Cir. 1979).

2. The States and NRDC (but not EPA) argue that regulating GHGs under PSD is permissible be-

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EPA's regulations have defined "ambient air" as the air at the earth's surface "to which the general public has access." *Supra* at 1-2 & note 1. EPA relies on footnote 26 in *Massachusetts* to assert that "'ambient air' refers ... to outdoor air that exists throughout the atmosphere." EPA Br. 31. But that is not what the Court said. Footnote 26 addressed the term "air pollution agent," explaining that, to be an "air pollutant," an "air pollution agent" need only be "'*any* ... substance ... which is emitted into or otherwise enters the ambient air.'" *Massachusetts*, 549 U.S. at 529 n.26 (quoting 42 U.S.C. § 7602(g)) (emphasis in original). According to the Court, in defining "air pollutant," "the text ... *uses* the phrase 'the ambient air'" to identify – "without distinguishing between atmospheric layers" – the air into which an "air pollution agent" must be released. *Id.* (emphasis added). Although the reference to "ambient air" in 42 U.S.C. § 7602(g) may not "distinguish[] between atmospheric layers," neither does it define the term "ambient air." The footnote simply does not say that "ambient air" exists throughout the entire atmospheric column, as EPA would have it. Had footnote 26 defined "ambient air" as spanning the troposphere (beginning on earth's surface) to the exosphere (over 6,000 miles aloft), that definition would have been dicta that was contravened by a binding EPA legislative rule.

cause GHGs *do* deteriorate air quality. NRDC asserts that "greenhouse gas pollution exacerbates local smog problems." NRDC Br. 19 (citing EPA's Endangerment Finding, JA 803); see also States Br. 25. But EPA did not attribute "local smog problems" to air quality deterioration caused by local or regional GHG emissions. Instead, increases in "ozone levels ... over broad areas of the country" were, according to EPA, related to increases in temperatures from GHGs entering the worldwide atmosphere and dispersing globally. JA 907-08.

As EPA explained, "[a]ll of the[] ... effects on human health" that served as a basis for its Endangerment Finding are those "associated with *the effect on climate* from elevated atmospheric concentrations of [GHGs]." *Id.* at 915 (emphasis added). "None of these human health effects," EPA acknowledged, "are associated with direct [ambient] exposure to greenhouse gases." *Id.* Thus, no basis exists in the record for arguing that any major emitting facility's GHG emissions are responsible for deteriorating ambient air quality in any PSD area affected by any such facility.

3. As UARG's opening brief explains, 42 U.S.C. § 7475(e) underscores that "each pollutant subject to regulation" cannot be construed to include GHGs such as carbon dioxide. To do so would compel the conclusion that Congress intended that PSD permit applicants undertake a wholly useless air quality analysis to identify carbon dioxide concentrations everywhere in the country. UARG Br. 26-28. EPA conceded there is no feasible way to "evaluat[e] or quantify[] end-point impacts [that are] attributable to

the emissions of GHGs from a single source," even though that is the express point and purpose of a PSD air quality analysis. *Id.* at 27 (internal quotation omitted). GHGs do not – and cannot be made to – "fit" within the PSD program's regulatory parameters, as EPA has acknowledged. 73 Fed. Reg. 44,354, 44,501 (July 30, 2008) ("The PSD program is designed to provide a detailed case-by-case review for the sources it covers, and that review is *customized to account for the individual characteristics of each source and the air quality in the particular area where the source will be located.*") (emphasis added).

EPA argues that "even if [UARG] were correct that the analysis provisions [of § 7475(e)] impliedly exclude greenhouse-gas emissions, that would provide no reason to exclude greenhouse-gas emissions from the coverage of PSD program requirements (like the BACT requirement) that are both literally *and* practically applicable." EPA Br. 32-33 (emphasis in original). But § 7475(e)(1), by its express terms, requires an air quality analysis "for each pollutant subject to regulation under [the CAA]" – i.e., the identical phrase that, according to EPA, when used in the § 7475(a)(4) BACT provision can *only* be construed as embracing GHGs. In light of the purpose of the air quality analyses and the use of the same phrase in § 7475(a)(4), GHGs must be excluded from BACT's scope. Because BACT is an "emission limitation[]" that is to be imposed only "as may be necessary ... to prevent significant deterioration of air quality," 42 U.S.C. § 7471, context compels exclusion of GHGs that do not deteriorate air quality.

NRDC concedes GHGs "do not implicate some of the factors required to be analyzed under Section 7475(e)" but argues this is "no basis for an *exemption* of greenhouse gases from PSD permitting." NRDC Br. 21 (emphasis in original). This misses the point. The *reason* GHGs do not implicate those factors is that the purpose of PSD air quality analyses is to evaluate the effect that a source's emissions may have on the quality of ambient air in impacted PSD areas. Because carbon dioxide emissions from a stationary source will not have deleterious effects on – will not "deteriorate" – the ambient air in PSD areas, the reference in § 7475(e) to "each pollutant subject to regulation under" the CAA must be construed to refer to regulated pollutants that deteriorate ambient air quality.[5]

4. Respondents cite § 7475(a)(3)(C) – which requires that the proposed facility "demonstrate[] ... that emissions from ... such facility will not cause [an exceedance] ... of any ... applicable emission standard or standard of performance under" the CAA – to argue that GHGs must be deemed the sort of "air pollutant" Congress intended to regulate under PSD. States Br. 13; see also EPA Br. 30; NRDC Br. 15.

To be sure, a proposed PSD source must demonstrate it would satisfy any "applicable" NSPS, including any applicable NSPS limiting GHG emissions.

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[5] Thus, just as the visibility program references "any pollutant" but limits program coverage *only* to "visibility-impairing pollutants," EPA Br. 46 n.12, PSD applies only to ambient-air-quality "deterioration" pollutants, 42 U.S.C. § 7471; see also UARG Br. 24.

But determining whether there would be compliance with an NSPS for GHGs does not entail any regulation of GHGs *under the PSD program*. This is illustrated by the facts that § 7475(a)(3)(C) also applies to any "applicable emission standard" for hazardous air pollutants under 42 U.S.C. § 7412 and that those pollutants are exempted from PSD regulation, 42 U.S.C. § 7412(b)(6). A demonstration of compliance with standards established under other, non-PSD CAA programs begins and ends with the degree of pollutant regulation provided for in *those* standards. No more, no less.

5. From Congress's complete silence in 1990 about ozone-depleting substances and the PSD program, EPA infers congressional design. EPA Br. 33. It vanishes with analysis. Before and after the 1990 CAA amendments, man-made chemicals that affect stratospheric ozone were regulated by EPA and, as regulated pollutants, were also subject to PSD. By their nature, these man-made chemicals, which include air toxics such as carbon tetrachloride, were no different in kind from other PSD-regulated pollutants. They deteriorated air quality in the affected PSD areas. Nothing in the language of Title VI (addressing stratospheric ozone) or its legislative history suggests Congress was even aware that ozone-depleting substances were PSD-regulated pollutants, much less decided that every regulated pollutant belongs in the PSD program irrespective of whether it deteriorates ambient air quality. Similarly, Congress's removal of hazardous air pollutants – pollutants that clearly deteriorate air quality – from the PSD program is irrelevant to whether carbon dioxide,

a gas that occurs naturally in ambient air and does not deteriorate air quality, can be a PSD pollutant.[6]

6. Limiting PSD to pollutants that deteriorate ambient air will ensure that PSD permitting applies only to the relatively small number of large sources that Congress identified as "major emitting facilit[ies]." 42 U.S.C. § 7479(1); JA 454-55. Before 1977, PSD permitting applied to listed industrial source categories, regardless of whether they emitted ten tpy of a pollutant or a thousand. 39 Fed. Reg. 42,510, 42,514 (Dec. 5, 1974). In the 1977 CAA amendments, Congress listed "major emitting facilities" and added the 100- and 250-tpy thresholds that Congress understood would limit permitting to large facilities that, "due to their size," could "bear the substantial regulatory costs imposed by ... PSD." *Alabama Power*, 636 F.2d at 353.

The numerical thresholds established in 1977 – based on annual emissions of pollutants like sulfur dioxide, particulate matter, nitrogen oxides, and other pollutants regulated in 1977 – drew a bright line separating major emitting facilities from small sources that did not threaten local air quality. These major facilities could be asked to cope with the complex, costly pre-construction permit program that was needed to address the significant threat to air quality the facilities posed. Inclusion of small sources with insignificant emissions simply could not be justified. That line is obliterated if a "major emitting facility" includes thousands of apartment buildings, schools, and other non-industrial sources that in 1977 and today do not even approach emitting 250 tpy of the pollutants known to Congress when it enacted the thresholds. The line between "major" and "small" was drawn in 1977 and did not change when EPA addressed a new pollutant, GHGs, over 30 years later.[7]

---

[6] Whether EPA must exclude from PSD any pollutant regulated for atmospheric effects regardless of whether the pollutant deteriorates air quality need not be resolved to reject EPA's inclusion of carbon dioxide in PSD.

7. As EPA recognizes, PSD has been implemented through legislative rules at Congress's direction. 42 U.S.C. § 7471; see EPA Br. 11-12. When newly regulated pollutants could be folded into PSD permitting without expanding or otherwise changing the program, no PSD rule revisions were required. This has been the case for over 30 years.

GHGs demanded a departure from EPA's pollutant coverage rules. EPA agreed, responded, and got it wrong. As EPA explains in a lengthy footnote, because GHGs do not fit the existing PSD rules, it undertook rulemaking to address what GHGs are regulated under PSD and how. EPA Br. 16-18 n.4. But, because adding GHGs would expand PSD permitting coverage to small sources and would extend PSD coverage to pollutants that do not deteriorate ambient air, the statute required that EPA's rules exclude GHGs like carbon dioxide from PSD.

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[7] NRDC observes "possible tension" between the "unambiguous[]" statutory thresholds and congressional "expectations in 1977." NRDC Br. 36-37 n.16. The tension is of EPA's creation. An interpretation that any source of GHGs over 250 tpy triggers PSD permitting is flatly inconsistent with congressional "expectations in 1977" that PSD be limited to "major" sources and that "small" sources be left to other, less demanding programs. *Cf.* 42 U.S.C. § 7602(x) (definition of "small source").

Finally, for reasons discussed above and in Industry Petitioners' Joint Reply, excluding GHGs from PSD neither prevents regulation of GHG emissions (including stationary-source GHG emissions) under other CAA programs (e.g., § 7411), provided statutory prerequisites for regulation are met, see *Am. Elec. Power Co.* v. *Connecticut*, 131 S. Ct. 2527, 2537 (2011), nor requires EPA to "abandon[]" its longstanding PSD rules, EPA Br. 39 (emphasis omitted). By contrast, EPA's "automatic trigger" interpretation creates "anomalies," *id.* at 45, by: (i) subjecting, "one step at a time," innumerable small sources to PSD; (ii) regulating pollutants that do not deteriorate the quality of ambient air; and (iii) ignoring statutory and regulatory limits on PSD's reach. These anomalies are avoided only if GHGs are excluded from PSD.

CONCLUSION

The judgment below should be reversed.

Respectfully submitted,

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AMICUS
CURIAE
BRIEF

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In the
Supreme Court of the United States

CHAMBER OF COMMERCE
OF THE UNITED STATES, ET AL.,
PETITIONERS,
v.
ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
RESPONDENTS.

On Writ of Certiorari to the United States Court of Appeals for the D.C. Circuit

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BRIEF OF ADMINISTRATIVE LAW PROFESSORS AND THE JUDICIAL EDUCATION PROJECT AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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INTEREST OF *AMICI CURIAE*[1]

The disposition of this case requires a careful analysis of this Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007). Everyone, including the parties and the court below, recognizes the momentous economic consequences at stake, as well as the difficult statutory and separation-of-powers questions that have arisen over EPA's interpretation of *Massachusetts*. The policy questions stir passionate interest on all sides. At its heart, however, *Massachusetts* was not a "global warming case"; it was an administrative law case. The disposition of this case may depend in no small part on what *Massachusetts* did and did not say on questions of administrative law.

Amici law professors (listed in Appendix A) have taught and written extensively on administrative law as well as constitutional and environmental law. The Judicial Education Project is a non-profit educational organization in Washington, D.C., dedicated to defending the Constitution as envisioned by its Framers—a federal government of enumerated, limited powers. Through this brief, they seek to inform the Court of the exceptionally important administrative law questions at issue in this extraordinary case.

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[1] The parties have consented to the filing of this brief in letters on file in the Clerk's office. Pursuant to S. Ct. R. 37.6, *amici* state that no counsel for any party authored this brief in whole or in part, and no person or entity, other than *amici*, their members, or their counsel, made a monetary contribution intended to fund the preparation or submission of this brief. *Amici* law professors received no compensation for offering the views reflected herein. Counsel of record represented certain petitioners in the proceedings below, but is solely representing *amici* before this Court.

Amici file this brief in support of petitioners the Chamber of Commerce, the State of Alaska, and the American Farm Bureau Federation (Case No. 12-1272). In *amici*'s judgment, those petitioners provide the most comprehensive discussion of the key issues in this case: the proper reading of *Massachusetts*; the correct interpretation of the Clean Air Act; and EPA's deployment of an "absurdity doctrine" that would permit agencies to rewrite congressional statutes and thus violate foundational separation-of-powers principles.

INTRODUCTION AND SUMMARY OF ARGUMENT

This case is the Court's third encounter with global warming and government policies on greenhouse gases. In its previous rulings, the Court held that EPA has authority to regulate greenhouse gas emissions under the Clean Air Act's "capacious" Act-wide definition of "air pollutant," *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007), and that the agency "must ground its reasons for action or inaction in the statute," *id.* at 535. The Court also held that the congressional grant of authority displaces any claim arising under the federal common law of (interstate) nuisance, regardless of whether EPA actually exercises that authority. *American Elec. Power v. Connecticut,* 131 S. Ct. 2527, 2538–39 (2011).

This third encounter with global warming regulation is of a very different kind. It is the Court's first review of EPA's actual exercise of authority to issue binding greenhouse gas regulations, as distinct from the potential existence and displacement effect of that authority *vel non*. That exercise, all parties agree, is of breathtaking proportion, potentially covering millions of heretofore unregulated stationary emission sources with a highly prescriptive, detailed regime of permitting and compliance obligations. JA259–60. All parties also agree that the administration of that regime—the Prevention of Significant Deterioration ("PSD"), 42 U.S.C. §§ 7501 *et seq.*, and Title V, 42 U.S.C. §§ 7661 *et seq.*, programs of the Clean Air Act—would, with respect to greenhouse gases, entail "absurd" consequences that Congress cannot conceivably have intended. *See* 73 Fed. Reg. 44,354, 44,503 (July 30, 2008) (JA1271–73), *id.* at 44,512 (JA1309–10); 75 Fed. Reg. 31,514, 31,597 (June 3, 2010) (JA632–34); *see also* 74 Fed. Reg. 55,292, 55,306–11 (Oct. 27, 2009). For precisely that reason, EPA claims unprecedented authority to re-write, unilaterally, the numerical permitting thresholds contained in those programs, and to revise the rewritten thresholds whenever it chooses. *See* JA268.

The decisions of EPA and the court below rest on an aggressive interpretation of this Court's decision in *Massachusetts*. *See, e.g.*, JA973, JA236–37 (the Act's "plain[] language" is "buttressed" by *Massachusetts*' interpretation of section 302(g), 42 U.S.C. § 7602(g)); *cf.* JA180 (Kavanaugh, J., dissenting from denial of rehearing en banc) (the panel's "conclusion [that 'air pollutant' must include greenhouse gases for PSD purposes] appears to have been heavily if not dispositively influenced by *Massachusetts v. EPA*."). Upon casual reading, that understanding may appear to find support in *Massachusetts*' *dicta*, stripped from the context in which they appear and without accounting for the case's unusual posture. But it is important to determine with greater care what exactly this Court has and has not held with respect to EPA's authority and obligations to regulate greenhouse gases. That examination counsels a far more nuanced analysis than the broad-brush reading adopted by EPA and by the court below. Most critically with respect to the question presented here, and contrary to EPA's contention, *Massachusetts* did *not* hold that greenhouse gases must be "air pollutants" *for all purposes* of the Clean Air Act. This brief addresses three sets of concerns arising over EPA's misinterpretation.

First, *Massachusetts* should be understood in the context of the posture in which the case arrived at the Court—EPA's denial of a rulemaking petition under section 202(a), 42 U.S.C. § 7521(a), governing emissions from new motor vehicles. While the Court's opinion contains broad (and occasionally ambiguous) pronouncements, its explicit holdings, as well as the relief granted, addressed the questions arising from the specific, discrete agency action under review. The Court's *dicta* provide no warrant for the agency's unprecedented assertion of regulatory authority in this case. (*See* Section I, below.)

Second, EPA's overreading of *Massachusetts* upends familiar *Chevron* canons. *See Chevron USA Inc. v. Natural Res. Defense Council, Inc.*, 467 U.S. 837, 842–43 (1984). On its migration from an "endangerment finding" to the comprehensive regulation of stationary sources, EPA employs the *Chevron* "step one" inquiry not as a comprehensive interpretive endeavor but as a simplistic "magic word" canon: so far as greenhouse gases are concerned, "air pollutant" must have the same meaning throughout the entire Clean Air Act. Confronted with the absurd consequences of that approach, EPA then claims authority to re-write unambiguous, numerical emission thresholds that govern the coverage of stationary sources under the PSD and Title V programs. In this deployment, *Chevron* canons *produce* the separation-of-powers problems that those canons, properly applied, serve to contain. (*See* Section II, below.)

Third, in an administrative law context, the overreading of this Court's decisions poses special and particularly acute dangers. Separation-of-powers problems are never far afield, and agencies have powerful incentives to seize on judicial pronouncements as a warrant to expand their authority. This case poses those problems in spades. (*See* Section III, below.)

ARGUMENT

I. This Court's Decisions Do Not Command EPA's Position Or The Ruling Below.

EPA and the court below overread *Massachusetts* in three key respects. *First*, *Massachusetts* did *not* directly impose any affirmative regulatory obligations on EPA. In fact, the Court specifically disavowed any such holding. *Second*, *Massachusetts* did *not* hold that the generic Act-wide definition of "air pollutant" requires that the term have the identical meaning for all purposes and programs throughout the statute. The contrary interpretation puts *Massachusetts* on a collision course with *Environmental Defense v. Duke Energy Corp.*, 549 U.S. 561 (2007). In that case, the Court held that EPA had discretion to interpret the term "modification" of a stationary emission source differently for different parts of the Act—despite an explicit statutory cross-reference that, on its face, appeared to mandate an identical construction. *Id.* at 576; *see id.* at 574 ("A given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies."). *Third, Massachusetts* did *not* eliminate EPA's discretion with respect to regulating greenhouse gases; rather, it exhorted EPA "to exercise discretion within defined statutory limits." 549 U.S. at 533.

A. *Massachusetts* Imposed No Direct Regulatory Obligations On EPA.

In EPA's rendition, *Massachusetts* assumes the air of a *mandamus* ruling or, perhaps more modestly, a case compelling agency action unlawfully withheld. 5 U.S.C. § 706(1); *see, e.g.*, JA295, 1072–73; JA195 (*Massachusetts* "held that EPA had a 'statutory obligation' to regulate harmful greenhouse gases"). In truth, *Massachusetts* presented no such scenario and imposed no such obligation.

There was nothing to compel or mandate in *Massachusetts*—other than agency compliance with the correct legal standard—because EPA *had* taken a final action: it had denied a petition for rulemaking under section 202(a)(1). The review of that final action was an "arbitrary and capricious" case. *Massachusetts*, 549 U.S. at 505; *cf. American Elec.*, 131 S. Ct. at 2533 (summarizing *Massachusetts*' holding). This Court deemed the agency's action reviewable under the deferential standard applicable to denials of petitions for rulemaking (as distinct from full notice-and-comment rules). *Massachusetts*, 549 U.S. at 527 (citing *American Horse Protection Ass'n, Inc. v. Lyng*, 812 F.2d 1, 3–4 (D.C. Cir. 1987)).

From beginning to end, from the questions presented to the relief granted, *Massachusetts* addresses the agency's reasons for its final action and the statutory provisions bearing on the adequacy of those reasons. The Court's opinion begins with a precise statement of petitioners' "two questions concerning the meaning of 202(a)(1)" of the Clean Air Act:

> whether EPA has the statutory authority to regulate greenhouse gas emissions from new motor vehicles; and if so, whether its stated reasons for refusing to do so are consistent with the statute.

Massachusetts, 549 U.S. at 505. The Court's opinion answers the first question in the affirmative and the second in the negative. Admittedly, neither part of the opinion is free from ambiguity. The difficulties arise from the peculiar posture of the case.

As to petitioners' first question, the Court rejected the categorical position, then advanced by EPA, that greenhouse gases cannot be "air pollutants" for purposes of the Clean Air Act—not ever, not for any regulatory program. *Massachusetts*, 549 U.S. at 513 (stating the agency's position). While proffered in response to a rulemaking petition under a specific section (§ 202(a)(1)) of the Act, EPA's position could not and did not rest on an interpretation of *that* section. Instead, the agency maintained that greenhouse gases did not fall under the Act-wide definition of "air pollutant" in section 302(g). Repeatedly emphasizing the "broad," "sweeping," and "capacious" language of that provision, *Massachusetts* held that EPA's position was foreclosed: Section 302(g) "unambiguous[ly]" includes greenhouse gases. *Massachusetts*, 549 U.S. at 529.

So far as *amici* are aware, no petitioner contests that holding. The far more difficult question is whether including greenhouse gases within section 302(g)'s "capacious" definition compels the same conclusion with respect to all of the Clean Air Act's other provisions. A few sentences in the Court's opinion, ripped out of context, may seem to suggest an affirmative answer. *E.g., Massachusetts*, 549 U.S. at 532 ("Because greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,' we hold that EPA has statutory authority to regulate the emission of such gases from new motor vehicles."). But the Court's contemporaneous decision in *Duke Energy Corp.* held that "a given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies." 549 U.S. at 574. A more careful reading of *Massachusetts* dispels the notion that the term "any air pollutant" must have the same meaning for all statutory purposes.

Petitioners' second question concerned the agency's claimed discretion to decline to exercise regulatory authority. The Court held that the agency had "offered no reasoned explanation," only "a laundry list of [policy] reasons not to regulate." *Massachusetts*, 549 U.S. at 533–34. And it held that "EPA must ground its reasons for action or inaction in the statute." *Id.* at 535. Legal scholars and lower courts have struggled to discern the Court's precise holding on this point. The discretion-limiting language may refer to the agency's determination of whether an air pollutant meets section 202(a)(1)'s "endangerment" standard or (also) to the agency's decision about whether to make that judgment in the first instance. *See, e.g.*, Jody Freeman & Adrian Vermeule, *Massachusetts v. EPA: From Politics to Expertise*, 2007 Sup. Ct. Rev. 51, 78–80, 83–87 (2007) (discussing the ambiguity in detail). In *amici*'s estimation, *Massachusetts* is best read for the more limited proposition that "*once EPA has responded to a petition for rulemaking*, its reasons for action must conform to the authorizing statute." *Massachusetts*, 549 U.S. at 533 (emphasis added).[2] Both EPA and the D.C. Circuit have adopted that reading. JA194–95; JA1072–73; *but see Natural Res. Defense Council v. FDA*, 872 F. Supp. 2d 318, 333–34 (S.D.N.Y. 2012). Either way, *Massachusetts* channels *but does not erase* EPA's discretion to take *or decline* to take action on an endangerment finding under section 202, let alone other regulatory programs.

The Court's opinion in *Massachusetts* powerfully supports a circumspect interpretation. It ends, in its last sentences, with a concise statement of the relief granted, tailored to the questions presented:

> We need not and do not reach the question whether on remand EPA must make an

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[2] On a more aggressive interpretation, *Massachusetts* might be read as holding that EPA *must* make an "endangerment finding" whenever it receives a petition to that effect. *Cf. Massachusetts*, 549 U.S. at 549 (Scalia, J. dissenting). For reasons stated in the text, *Massachusetts* ought not be read in such a novel construction.

> endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding. We hold only that EPA must ground its reason for action or inaction in the statute.

Massachusetts, 549 U.S. at 534–35 (citation omitted); *see also* S. Ct. R. 14.1(a).

Put politely, it is a stretch to convert this summary of the Court's holding—which disclaims any judicially imposed agency obligation to make an endangerment finding, let alone to regulate—into an affirmative "'statutory obligation' to regulate." JA195.[3] Even if *Massachusetts* made it likely that some federal regulation of greenhouse gas emissions would follow, the Court's holding imposed no legal obligation even with respect to the mobile source program at issue in the case, not to mention the Clean Air Act at large.

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[3] The "statutory obligation" quoted by the court below appears in the following sentence: "Nor can EPA avoid its statutory obligation by noting the uncertainty surrounding various features of climate change and concluding that it would therefore be better not to regulate at this time." *Massachusetts*, 549 U.S. at 534 (citing 68 Fed. Reg. at 52,930–31). The sentence summarizes the agency's position at the time. It cannot plausibly be read as an affirmative judicial command to regulate; rather, it simply says that scientific uncertainty is not a sufficient reason for inaction. In the two-page section containing the quoted language, *Massachusetts* repeatedly declined to decide whether EPA must act even by making an endangerment finding under section 202(a), let alone regulate. *Id.* at 533; *id.* at 534 ("We need not and do not reach the question whether on remand EPA must make an endangerment finding . . . .").

And yet: overreading *Massachusetts*, EPA has constructed, and the court below has upheld, the propositions that (1) an air pollutant that "fit[s] well" under a "capacious," statute-wide definition *must* be an "air pollutant" for all purposes of that Act; and (2) a ruling that limits an agency's discretionary authority to reasons grounded "in the statute" eliminates agency discretion altogether. JA201–05, 221–22, 236–38. Both propositions suffer from a common fallacy, that of the excluded "third" or "middle." Both reach far beyond the limited holdings of *Massachusetts*. Both run up hard against bedrock tenets of administrative law. Both should be rejected.

B. *Massachusetts* Did Not Hold That Greenhouse Gases Are "Air Pollutants" For All Purposes Of The Act.

EPA's "Triggering Rule," which is also referred to as its "Timing Rule," 75 Fed. Reg. 17,004 (Apr. 2, 2010) (JA705), is a critical step in a sequence of rulemaking proceedings orchestrated by EPA in the wake of *Massachusetts*. EPA made an "Endangerment Finding" under section 202(a), which in turn prompted the imposition of greenhouse gas emission standards for new motor vehicles. *See* 74 Fed. Reg. 66,496 (Dec. 15, 2009) (JA793); 75 Fed. Reg. 25,324 (May 7, 2010) (JA683). EPA then issued its Triggering Rule, prompting the imposition of greenhouse gas emission standards for stationary sources under the Clean Air Act's PSD and Title V programs—which, if administered in accordance with the Act's unambiguous terms, would extend the expensive, cumbersome PSD permitting requirements to even very small sources and render both programs unworkable by overwhelming the capacity of state and federal permitting authorities. EPA failed to properly consider that statutory absurdity in its Triggering Rule. JA705. Instead, it issued a "Tailoring Rule," effectively rewriting the statutory emission standards. *See* 75 Fed. Reg. 31,514 (June 3, 2010) (JA268). EPA's central defense of this remarkable assertion of authority, and the holding of the decision below, is that *Massachusetts* compelled the result.

EPA determined that the statutory "permit triggers" of sections 165(a) and 169(1), 42 U.S.C. §§ 7475(a), 7479(1), *required* the imposition of PSD requirements for "major" greenhouse gas emission sources. Section 169(1), the agency noted, governs sources that (potentially) emit in excess of specified amounts of "any air pollutant." Thus, in the agency's view, once it classified greenhouse gases as regulated pollutants under section 202(a), the statute's plain language compelled the regulation of those pollutants under the PSD program. JA333–36. The court below did not deem that determination merely "permissible"; it held that the agency *had no other choice.* JA236 ("[W]e agree with EPA that its longstanding interpretation of the PSD permitting trigger is statutorily compelled."). In support of that conclusion, the court cited the Act's "plain language" and this Court's ruling in *Massachusetts*. *Id.*

Strikingly, however, the court below in fact disavowed the proposition that the statute's "plain language" means, literally, *any* air pollutant. The phrase, the court explained (agreeing with EPA's position) must in this context mean any *regulated* air pollutant: any other interpretation would be "absurd." JA237–38. Similarly, EPA has in several other instances adopted a narrowing definition, where adherence to an "any means any" position would render statutory provisions and programs senseless. *See, e.g.*, 40 C.F.R. pt. 51, App. Y, sec. II.A. (in the context of the Act's visibility program, 91 Stat. 685, "any pollutant" means "any visibility-impairing pollutant").[4]

Under this interpretation, "any air pollutant" thus means each and every pollutant in any statutory context—except when it doesn't. And both the ironclad rule ("any means each and every") *and* the exception ("any pollutant" means "any regulated pollutant") are supposedly commanded by the statute. Manifestly, a "plain language" analysis cannot yield such a result. JA175–79 (Kavanaugh, J., dissenting from denial of rehearing en banc). *Massachusetts*—and the perceived gloss it put on the statute—is the *only* basis for EPA's and the lower court's "must regulate" interpretation of the permit triggers. Yet the agency's interpretation of *Massachusetts* merits no *Chevron* deference, *see*

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[4] The court below provided an extended statutory interpretation purporting to explain why "any pollutant" in that context must be understood in a narrower sense. JA238–41. Regardless of what one makes of the discussion, it confirms that statutory interpretation requires close attention to the context, not a mechanical importation of terms from one portion of a statute into another. *Duke Energy*, 549 U.S. at 574–76.

Negusie v. Holder, 555 U.S. 511 (2009) and, in any event, the agency misreads ***Massachusetts***.

Upon casual reading, ***Massachusetts*** may seem to permit or perhaps even encourage EPA's expansive reading. *See, e.g.*, *Massachusetts*, 549 U.S. at 528 (emphasizing the "sweeping definition of 'air pollutants'" in section 302(g)); *id.* at 529 ("On its face, the definition [of air pollutants in section 302(g)] embraces all airborne compounds of whatever stripe, and underscores that intent through the repeated use of the word 'any.'"); *id.* at 532 (greenhouse gases "fit well within" the definition); *id.* at 531 ("[T]here is nothing counterintuitive to the notion that EPA can curtail the emission of substances that are putting the global climate out of kilter."); *id.* at 529 ("The statute is unambiguous."). The lower court laid great stress on these pronouncements and, in particular, *Massachusetts*'s suggestion that the statute is unambiguous. JA237 ("Crucially for purposes of the issue before us [the interpretation of the section 165(a) and section 169(1) permit triggers], the Court concluded that 'the statute is unambiguous.'" (quoting *Massachusetts*, 549 U.S. at 529)). Respectfully, that inference is unwarranted.

Each and every one of the just-quoted, broad and inclusive formulations appears in the Court's analysis of the meaning *of section 302(g)*. The Court's references to "the statute" must be understood in that context, lest they become meaningless: it is difficult to imagine an entire statute that is unambiguous *per se*, across the board, and in every respect. The precise question before the Court was whether EPA was right in insisting "that carbon dioxide is not an 'air pollutant' within the meaning of [section 302(g)]," and the Court's answer was that "[t]he statutory text forecloses EPA's reading." *Massachusetts*, 549 U.S. at 528. The statutory text is section 302(g), as distinct from section 202(a) or, for that matter, the PSD permitting triggers. Whether a particular statutory phrase like "any air pollutant" is unambiguous in any given regulatory context or necessarily imported into that context is a separate question; it remains a matter of statutory interpretation.

Unlike EPA's and the lower court's attempt to read *Massachusetts* as a mandate for a-contextual literalism, the reading just described renders *Massachusetts* consistent with the Court's holding and opinion in *Duke Energy*—decided the same day, under the same statute. The Court held in that case that EPA had discretion to interpret the term "modification" of a stationary emission source differently for different parts of the Act—despite an explicit statutory cross-reference (added by a standalone technical amendment) that, on its face, appeared to mandate an identical construction. *Duke Energy*, 549 U.S. at 576. Even in that context, the Court held that "[a] given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies." *Id.* at 574; *see also id.* at 575-76 ("There is, then, no 'effectively irrebuttable' presumption that the same defined term in different provisions of the same statute must 'be interpreted identically.' Context counts." (citation omitted)). If an explicit cross-reference from one program to another cannot strictly command an identical interpretation, a statute-wide definition of "air pollutant" cannot do so either—least of all when an agency's insistence to the contrary produces a statutory "absurdity" and a corresponding claim of authority to rewrite the statute.

To put the point directly: while *Massachusetts* unequivocally rejected EPA's categorical contention that greenhouse gases *could not* be "air pollutants" for any purposes of the Act, *Massachusetts*, 549 U.S. at 528, the Court did not thereby embrace EPA's current, equally categorical position that greenhouse gases *must* be air pollutants for all purposes and programs of the Clean Air Act without regard to the statutory or real-world consequences of such an interpretation. To spell out the omitted "third" in EPA's analysis: It is entirely possible and plausible that an air pollutant that is *included* by the capacious definition of section 302(g) is an air pollutant for some *but not all* purposes of the Act. Section 302(g) unambiguously embraces greenhouse gases within the Act-wide pollutant definition. EPA's statutory authority, much less its statutory obligation, to regulated greenhouse gases under any particular Clean Air Act program is a very different question—which the Court left explicitly undecided even with respect to section 202(a), let alone other programs. *Id.* at 535. The Court's decision in *American Electric Power* likewise assumed EPA's potential *authority* to regulate greenhouse gas emissions from fossil-fuel fired power plants (rather than motor vehicles) but explicitly contemplated the possibility that EPA might lawfully "decline to regulate carbon-dioxide emissions altogether at the conclusion of its [pending] rulemaking." 131 S. Ct. at 253[illegible]39.

To be sure, *Massachusetts* rejected the notion that EPA has "authority to narrow that definition [of section 302(g)] whenever expedient by asserting that a particular substance is not an [air pollution] 'agent.'" 549 U.S. at 529 n.26. And while a "whenever expedient" prohibition is not much of a restraint on an agency's discretion, the Court rejected several of EPA's proffered reasons for declining jurisdiction over greenhouse gases. Crucially, however, that discussion focuses not on regulation under the Clean Air Act at large but on regulation *under section 202(a)*. Nothing in *Massachusetts* suggests that EPA would be foreclosed from ever applying a narrowing construction when necessary to harmonize the Clean Air Act's provisions and avoid results that Congress could not have intended.

Significantly, the Court rejected EPA's reliance on *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120 (2000), on two grounds. *First*, the Court concluded that unlike an FDA ban on tobacco products, "EPA jurisdiction would lead to no such extreme measures." *Massachusetts*, 549 U.S. at 531. That determination is readily explained by the posture of the case. The *Massachusetts* petitioners solemnly averred that they were seeking no relief beyond a reconsideration of the rulemaking petition. *See* Br. for Petitioner at 3, *Massachusetts*, 549 U.S. 497, 2006 WL 2563378. The Court awarded only that limited relief, *Massachusetts*, 549 U.S. at 534–35, and it carefully noted EPA's discretion to delay action and to consider compliance costs *under section*

202(a)(2). *Id.* at 531. *Second*, the Court observed that, in contrast to congressional actions suggesting that FDA lacked authority to regulate tobacco, "EPA has not identified any congressional action that conflicts in any way with the regulation of greenhouse gases *from new motor vehicles*." *Id.* (emphasis added). Moreover, the Court rejected EPA's contention that EPA regulation of greenhouse gases might conflict with the authority of the Department of Transportation to set mileage standards, a consideration that is obviously irrelevant outside the context of regulating mobile sources. *Id.* at 531–32. The discussion strongly suggests that the unambiguous, statute-wide definition of "air pollutant" does not compel EPA to regulate merely because the same term appears in another operative provision.

As a technical matter of administrative law, it is arguable that *Massachusetts* leaves the question of whether greenhouse gases must be regulated as air pollutants open even with respect to new motor vehicle emissions under section 202(a). What is not arguable is that *Massachusetts* emphasized that neither "extreme measures" and "counterintuitive" results nor statutory conflicts would ensue from regulating "greenhouse gases from new motor vehicles." *Id.* at 531. In sharp contrast, everyone agrees that applying the numerical emission thresholds in the PSD and Title V programs to stationary source greenhouse gas emissions *would* entail "extreme measures" and directly conflict with Congress's intent.

The numerical statutory thresholds are not only completely unambiguous; they also reflect a deliberate and careful legislative compromise. *See Alabama Power Co. v. Costle*, 636 F.2d 323, 350, 353–54 (D.C. Cir. 1979) (per curiam). Congress carefully structured the PSD and Title V programs to "minimize disruption," *id.* at 350, and carefully selected the numerical thresholds to "identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emission of the deleterious pollutants that befoul our nation's air." *Id.* EPA does not dispute that the statutory thresholds, as applied to greenhouse gases, would entail precisely the disruption that Congress sought to avoid. The agency's response—an exemption for smaller emitters in the form of a statutory rewrite, subject to future upward revision, *see* JA268—conflicts not only with the plain language of the statute but also with the legislature's unmistakable intent. Congress designed the statutory thresholds as a safe harbor for smaller emitters, not an EPA-administered holding pen.

The short of it is that *Massachusetts* does not impose a generalized "'statutory obligation' to regulate" greenhouse gases, least of all by means of an administrative rewrite of the statutory language. And because the confessedly "extreme measures" and the "absurdity" that attend the regulation of stationary sources were neither presented nor considered in *Massachusetts*, it is pure speculation what the Court *might* have said about those matters.[5] In this very different case and context, reliance on *Massachusetts* beyond its specific holding is misplaced. *See Cohens v. Virginia*, 19 U.S. (6 Wheat.) 264, 399 (1821) ("general expressions, in every opinion, are to be taken in connection with the case in which those expressions are used," and "[i]f they go beyond the case, they may be respected, but ought not to control the judgment in a subsequent suit when the very point is presented for decision").

C. *Massachusetts* Directed EPA To Exercise Discretion In Accordance With The Statute.

The same misreading of *Massachusetts* characterizes the agency's and the lower court's discussion of whether EPA must act in the first instance. It is uncontested that EPA's interpretation of *Massachusetts* would produce "absurd" consequences: EPA not only admitted but affirmatively relied on that absurdity in defense of its Tailoring Rule. JA286. And yet on EPA's account and that of the court below, agency discretion to take that statutory absurdity into account disappears at each critical juncture. Just as EPA supposedly lacked discretion to give a narrowing construction to the statutory term "air pollutant," so too it supposedly was barred from considering statutory absurdity in conducting its endangerment finding and in deciding whether to make such a finding.

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[5] Responding to Judge Brown's dissent from the denial of rehearing *en banc*, the panel disputes this characterization, observing that a respondent's brief adverted to the potential consequences for stationary source regulation. JA142–43. Respectfully, that is exceedingly thin gruel. Not one word in *Massachusetts* discusses the question. Whether individual justices considered the consequences *in foro interno* is haruspicy, not legal argument. *Cf. City of Arlington v. FCC*, 133 S. Ct. 1863, 1871 (2013).

The court below described the absurdity as a scarecrow of petitioners' imagination. *See, e.g.*, JA205 ("However absurd Petitioners consider [EPA's re-write of the PSD emission thresholds] . . . it is still irrelevant to the endangerment inquiry."); *cf.* JA144 (ascribing "what he considers absurd results" to "Judge Kavanaugh"). The court ignored that EPA itself admitted that its decision to trigger regulation under the PSD and Title V programs produced absurd results. JA286. Instead, the court again rested on what it viewed as *Massachusetts*' interpretation of the statute. Thus, an endangerment finding requires "scientific judgment," "not policy discussions." JA202 (citing *Massachusetts*, 549 U.S. at 534); JA204 ("The statute speaks in terms of endangerment, not in terms of policy . . . ."). In the court's opinion, petitioners' arguments concerning the statutory absurdity that would result from an "any means any" interpretation of the permit triggers were merely additions to the "laundry list" of policy reasons already rejected in *Massachusetts*. JA204.

To be sure, *Massachusetts* did limit EPA's discretion in responding to a rulemaking petition and rejected the agency's "laundry list of reasons not to regulate." 549 U.S. at 533. And it is fair to say that this Court's discussion is in some tension with the pronouncement earlier in the opinion that agency denials of rulemaking petitions are subject to a deferential standard of review: the Court's dismissal and rejection of the agency's prudential reasons to defer regulation has a "hard look"-ish flavor. *See id.* at 532–34; *cf.* Freeman & Vermeule, 2007 Sup. Ct. Rev. at 97–98. Even so, *Massachusetts* did not erase EPA's discretion. Rather, it exhorted the agency "to exercise discretion within defined statutory limits." *Massachusetts*, 549 U.S. at 533.

Again, the lower court's interpretation commits the fallacy of the excluded "third." A consideration of statutory absurdity is not a "scientific" inquiry or judgment. But it is not a mere "policy discussion" either; it is a matter of statutory interpretation. Even the hardest of looks cannot be viewed as a command to drive an agency into statutory absurdity, and nothing in *Massachusetts* dictates that result. In fact, EPA's failure to consider absurdity at each stage of the rulemaking process is an abuse of the discretion *Massachusetts* affirmatively preserved and commanded. 549 U.S. at 533; *id.* at 535 ("EPA must ground its reasons for action or inaction in the statute.").

II. Under *Chevron*, Statutes Should Be Interpreted To Avoid Separation-Of-Powers Problems.

In an administrative law context, the reasons for strict adherence to Supreme Court holdings and conventional canons of law—rather than the tenor or atmospherics of the Court's decisions—are particularly compelling. Separation-of-powers concerns are never far afield. False steps may put post-*Chevron* administrative law and the separation-of-powers doctrine in conflict, and both at risk. The panel's curt response to Judge Kavanaugh's and Judge Brown's dissents from the denial of rehearing *en banc* suggests the gravity of the problem.

The dissenting judges stressed the profound implications of allowing EPA to seize authority to revise statutory thresholds and decide when to regulate greenhouse gas emissions from stationary sources. Surely, both urged, a decision of that import must be decided by Congress, not judges; and *Massachusetts* should not be read to hold otherwise. JA168 (Brown, J., dissenting) ("the matter properly belongs before Congress, not courts or agencies"); JA188 (Kavanaugh, J., dissenting) ("the bedrock underpinnings of our system of separation of powers are at stake"). The panel agreed that the "underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance." JA145. And it agreed that "'the question here is: Who Decides?'" *Id.* (quoting JA187 (Kavanagh, J., dissenting)).

But the panel failed to afford those questions the careful consideration they deserve. Instead, according to the panel, "Congress spoke clearly, EPA fulfilled its statutory responsibilities, and the panel, playing its limited role, gave effect to the statute's plain meaning." *Id.* Cite to *Chevron*, *id.*, and to all a good night. With respect, that reply falls far short of engaging with the dissenters' arguments and the real stakes in this case. And it is not consistent with *Chevron*.

A. *Chevron* Is A Doctrine Of Statutory Interpretation, Not Of "Magic Words."

Time and again, EPA and the court below rely on *Massachusetts'* averment that "[t]he statute"—*i.e.* the definition of "air pollutant" in section 302(g)—is "unambiguous." *E.g.*, JA194, 237, 240, 241, 959, 973, 1163 n.230.

"Unambiguous" is shorthand for the question whether Congress "has directly spoken to the precise question at issue." *Chevron*, 467 U.S. at 842–43. Still, "unambiguous" in this sense is, well, ambiguous. *See, e.g.*, Gary Lawson, Federal Administrative Law 608–10, 640 (6th ed. 2013). It may mean "obvious and indisputable," as when a statute says that it applies to anyone who emits in excess of, say, 250 tons per year of some pollutant. Or, "unambiguous" may mean a high degree of confidence: it's the meaning of the legal term that we (judges) can be sure of, once we have applied and exhausted traditional tools of statutory construction. *See, e.g., United States v. Home Concrete & Supply, LLC*, 132 S. Ct. 1836, 1843–44 (2012); *see also Dole v. United Steelworkers*, 494 U.S. 26, 35–40 (1990) (applying traditional tools of statutory construction and examining the statute as a whole to avoid a "counterintuitive" statutory interpretation).

EPA is of three minds on the subject. It maintains that it may re-write a numerical statutory standard—an *obviously, indisputably* "unambiguous" term—in its own discretion, based on interpretive canons. JA285–88. On the other hand, the agency insists that it cannot and must not do any interpretive work on the term "air pollutant" in the statutory permit triggers—supposedly because the statutory language is "plain" and *Massachusetts* says so. On the third hand, the agency says that the very same term, in the very same provisions, may and must be read in a narrowed sense ("any *regulated* pollutant").

The agency cannot have it all three ways. The better understanding of *Massachusetts* is that section 302(g) unambiguously includes greenhouse gases. What the term means in any given regulatory context remains a matter of statutory construction in accordance with conventional canons. Among those canons are the propositions that agencies must construe their organic statutes so as to avoid resort to extravagant canons, *Duke Energy*, 549 U.S. at 576; that their duty extends to interpreting the statute as a whole, *Pilot Life Ins. Co. v. Dedeaux*, 481 U.S. 41, 51 (1987); and that an interpretation of an individual clause that produces absurdity in another part of the statute is not a permissible interpretation, *Kloeckner v. Solis*, 133 S. Ct. 596, 606–07 (2012). In neglecting to apply any of these canons, EPA failed to ground its reasons for action in the statute.

B. EPA's Position Up-Ends *Chevron*'s Rationale.

Chevron is rooted in concerns about delegation. Cass R. Sunstein, *Nondelegation Canons*, 67 U. Chi. L. Rev. 315, 329 (2000); John F. Manning, *The Non-Delegation Doctrine as a Canon of Avoidance*, 2000 Sup. Ct. Rev. 223 (2000). *Massachusetts*, fairly read, is entirely consistent with that orientation. EPA may not categorically and arbitrarily decline to exercise jurisdiction conveyed by a carefully worded, "capacious" statutory term, or turn a blind eye to statutory provisions that deliberately signal "breadth" and a congressional intent to permit agency adjustments to new evidence and circumstances. *Massachusetts*, 549 U.S. at 532. But the actual exercise of that broad authority remains subject to ordinary demands of statutory interpretation.

In the interpretation of EPA and the court below, *Massachusetts* upended this constitutionally grounded regime. Once it is determined that a broad term ("air pollutant") *authorizes* the agency to regulate greenhouse gases, the agency *must* do so—even when the regulatory enterprise is confessedly absurd and in conflict with Congress's plain intent. On the basis of that reading, the agency has taken a plain-vanilla *Chevron* ruling to produce, rather than avoid, a separation-of-powers problem.

The problem, moreover, is not a mirage or 2L AdLaw puzzle; it is real. For example, EPA has claimed authority to exempt biogenic sources of greenhouse gases from regulation, on the theory that, while such emissions are unambiguously subject to regulation, actual regulation would be "absurd" and excessively burdensome for the agency. *Center for Biological Diversity v. EPA*, 722 F.3d 401 (D.C. Cir. 2013) (rejecting EPA's position). And there is method to this madness: while EPA's Tailoring Rule, for now, exempts smallish greenhouse gas emitters from regulation on the grounds of "absurdity" and "administrative necessity," the agency explicitly reserves authority to regulate those sources at some future point, in some way, in conformity with the statute or maybe not: absurdity, "one step at a time." JA403. In feigned obeisance to what it claims to be the unambiguous commands of the Clean Air Act and *Massachusetts*, the agency is simply "making it up as it goes along. That is not how the administrative process is supposed to work." *Center for Biological Diversity*, 722 F.3d at 415 (Kavanaugh, J., concurring).

Massachusetts provides no warrant for any of this. The decision did not settle the vexing, perplexing question of fitting an unanticipated "air pollutant" (greenhouse gases) into a statute built for different purposes. Rather, it commanded EPA to be serious—to "ground its reasons for action *or inaction* in the statute." *Massachusetts*, 549 U.S. at 535 (emphasis added). Precisely when and where the regulatory grant is broad (and where the structure of the statute does not easily accommodate, in all contexts, an unanticipated problem), an agency must take special care to conform its programs to the operative terms of the statute, to respect its unmistakable commands, and to make sense of the statute as a whole. *Kloeckner*, 133 S. Ct. at 596; *Duke Energy*, 549 U.S. at 576; *Pilot Life Ins. Co.*, 481 U.S. at 51.

III. No Agency Has Authority To Rewrite Unambiguous Statutory Requirements.

This case presents a recurrent problem—that of a Supreme Court of unquestioned authority but limited capacity to "say what the law is," *Marbury v. Madison*, 5 U.S. (1 Cranch) 137, 177 (1803), and to make its rulings "stick" throughout a vast judicial system in competition with institutions that may have very different ideas and incentives. Constitutional commands, professional norms, and Supreme Court decisions ameliorate the difficulty to some extent. Lower courts and administrative agencies are supposed to discern, fairly construe, and then follow this Court's *holdings*—as opposed to *dicta*, atmospherics, or the perceived trajectory of the Court's jurisprudence. *See, e.g.*, *Kokkonen v. Guardian of Life Ins. Co.*, 511 U.S. 375, 379 (1994); *Rodriguez de Quijas v. Shearson/Am. Express, Inc.*, 490 U.S. 477, 484 (1989). Invariably, however, agencies and lower courts will look for "signals" beyond the Court's strict holdings. In light of the sheer mass of government business and lower court decisions on one hand and the Court's limited capacity to exercise review in all but a handful of administrative law cases on the other, it is entirely predictable that agencies and lower courts will look for such signals—and that this Court should economize on its monitoring function by sending them. *Massachusetts* has been widely understood in that light. Freeman & Vermeule, 2007 Sup. Ct. Rev. at 51–52.

Alas, the enterprise carries a grave risk that the signals may be misunderstood. In the administrative context, that risk often becomes a separation-of-powers risk. It is particularly severe in politically charged cases where the Court's decisions are of an action- or agency-forcing nature, as opposed to a decision that limits agencies or lower courts. In the vernacular, a "cut it out" command can be disobeyed only at some peril of discovery. In contrast, a "get going" command is not readily distinguishable from a "the sky is the limit" signal of encouragement. It can be invoked as authority from here to eternity, barring only congressional intervention or a further Supreme Court ruling, to the effect of "that is not what we meant."

This Court is hardly unfamiliar with "go ahead" rulings that, under the force of bureaucratic empire-building, mushroomed into regulatory regimes far beyond the Court's intent or imagination. Most instructive perhaps in the present (environmental) context is the Court's decision in *United States v. Riverview Bayside Homes*, 474 U.S. 121 (1985). In that case, the Court upheld a regulation by the U.S. Army Corps of Engineers that, in a departure from the agency's earlier position, interpreted the statutory term "waters of the United States," contained in the Clean Water Act, to cover not only navigable waters but also certain wetlands connected to those waters. Predictably, government agencies (the Corps as well as EPA) relied on the decision to further expand their jurisdiction over wetlands that, though unconnected to waters of the United States, were said to have a migratory bird "nexus." The Court resolutely rejected that step. *Solid Waste Agency of N. Cook County v. U.S. Army Corps of Eng'rs* ("*SWANCC*"), 531 U.S. 159, 171 (2001) ("We thus decline respondents' invitation to take what they see as the next ineluctable step after *Riverside Bayview Homes*."). Even after that decision, lower courts continued to uphold the Corps' sweeping assertions of jurisdiction over ephemeral channels and drains. Five years later, the Court again rejected the government's essentially boundless view of its jurisdiction. *Rapanos v. United States*, 547 U.S. 715 (2006); *id.* at 779 (Kennedy, J., concurring in judgment); *cf. id.* at 758 (Roberts, C.J., concurring) ("Rather than refining its view of its authority in light of our decision in *SWANCC*, and providing guidance meriting deference under our generous standards, the Corps chose to adhere to its essentially boundless view of the scope of its power."); *see also Sackett v. EPA*, 132 S. Ct. 1367, 1375 (2012) (Alito, J., concurring) ("Unsurprisingly, the EPA and the Army Corps of Engineers interpreted the phrase as an essentially limitless grant of authority. We rejected that boundless view." (citing *Rapanos* and *SWANCC*)).

The precise legal questions in this case differ from those at issue in *SWANCC* and *Rapanos*. Still, the parallels are instructive. Here as there, the starting point is a generous judicial interpretation of a statute-wide term defining the scope of the agency's jurisdiction. Here as there, the agency has seized on the Court's initial holding and perceived signal as an "essentially limitless grant of authority." Here as there, the agency has refused to give reasonable meaning to its organic statute and instead claimed authority to decide in its own discretion whom and what it will regulate, in what way. Here as there, an administrative agency has been and will be careful not to push its authority to the point of triggering congressional intervention.

Here, however, unlike there, the agency has mobilized this Court's ruling not simply to expand its authority but to re-write the statute; and the stakes are infinitely higher. This Court's administrative law cases—from *Chevron* to *Mead* to *City of Arlington*, and every decision in between—are grounded in the premise that any exercise of agency authority is to be constrained by and assessed in light of "the statute's text, its context, the structure of the statutory scheme, and canons of textual construction." *City of Arlington v. FCC*, 133 S. Ct. 1863, 1876 (2013) (Breyer, J., concurring). As this Court has explained, these principles of administrative law establish "a stable background rule against which Congress can legislate." *Id.* at 1868 (majority opinion). "Congress knows to speak in plain terms when it wishes to circumscribe, and in capacious terms when it wishes to enlarge, agency discretion." *Id.*

The entire edifice collapses if, as EPA maintains, administrative agencies have free rein to unilaterally rewrite unambiguous statutory text whenever their preferred policies require an interpretation that results in absurd consequences. *See, e.g.*, *Public Citizen v. U.S. Dep't of Justice*, 491 U.S. 440, 470 (1989) (Kennedy, J., concurring in judgment) (construing statutes to avoid absurd results "demonstrates a respect for the coequal Legislative Branch, which we assume would not act in an absurd way"). When an agency interprets a statute at war with the statutory text in a fashion that leads to absurd results and nullifies central statutory provisions, the only permissible answer is that the agency's interpretation must be wrong and that some other interpretation is required. *Cf. National Ass'n of Home Builders v. Defenders of Wildlife*, 551 U.S. 644, 666 (2007) (accepting interpretation that harmonizes statutory provisions but "does not override express statutory mandates").

The Court should firmly reject EPA's extraordinary attempt to dismantle basic safeguards of administrative law and claim authority to rewrite statutory text. Instead, the Court should clarify that EPA must heed *Massachusetts'* holding and comply with settled principles of administrative law.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted,

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APPENDIX

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AMICUS
CURIAE
BRIEF

Nos. 12-1146 and Consolidated Cases

IN THE
Supreme Court of the United States

UTILITY AIR REGULATORY GROUP,
Petitioner,
v.
UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia

AMICUS CURIAE BRIEF OF THE AMERICAN CIVIL RIGHTS UNION IN SUPPORT OF PETITIONER UNITED AIR REGULATORY GROUP

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INTEREST OF THE *AMICUS CURIAE*[1]

The American Civil Rights Union is a non-partisan, non-profit, 501(c)(3), legal/educational policy organization dedicated to defending all of our constitutional rights, not just those that might be politically correct or fit a particular ideology. It was founded in 1998 by long time policy advisor to President Reagan, and the architect of modern welfare reform, Robert B. Carleson. Carleson served as President Reagan's chief domestic policy advisor on federalism, and originated the concept of ending the federal entitlement to welfare by giving the responsibility for those programs to the states through finite block grants. Since its founding, the ACRU has filed *amicus curiae* briefs on constitutional law issues in cases nationwide.

Those setting the organization's policy as members of the Policy Board are former U.S. Attorney General, Edwin Meese III; former Assistant Attorney General for Civil Rights, William Bradford Reynolds; former Assistant Attorney General for the Office of Legal Counsel, Charles J. Cooper; John M. Olin Distinguished Professor of Economics at George Mason University, Walter E. Williams; former Ambassador Curtin Winsor, Jr.; former Assistant Attorney General for Justice Programs, Richard

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[1] Peter J. Ferrara authored this brief for the American Civil Rights Union (ACRU). No counsel for either party authored the brief in whole or in part and no one apart from the ACRU made a monetary contribution to the preparation or submission of this brief. All parties were timely notified and have consented to the filing of this brief.

Bender Abell and former Ohio Secretary of State J. Kenneth Blackwell.

This case is of interest to the ACRU because we are concerned to ensure that the President of the United States is subject to the rule of law.

STATEMENT OF THE CASE

After issuing an endangerment finding that carbon dioxide and other supposed greenhouse gas emissions threatened the public health by causing potentially catastrophic global warming, the U.S. Environmental Protection Agency issued motor vehicle emission standards for such supposed greenhouse gas emissions under Title II of the Clean Air Act (CAA). This Court's decision in ***Massachusetts v. EPA***, 549 U.S. 497 (2007) involved the authority of the EPA to issue such vehicle emission standards under Title II of the CAA.

The EPA then concluded that once it began to regulate carbon dioxide and greenhouse gas emissions from motor vehicles under Title II of the CAA, Title I and Title V of the Act not only authorized it but compelled it to regulate stationary source emissions under those Titles. JA 771 at 283-84; EPA, ***Prevention of Significant Deterioration and Title V GHG Tailoring Rule: EPA's Response to Public Comments*** (May 2010).

EPA reached this conclusion even though it recognized that this would not be "consistent with other provisions of the [Title I] PSD [Prevention of Significant Deterioration] and title V requirements, and inconsistent with – and, indeed, undermine – congressional purposes for the PSD and title V provisions." JA 418-19. The EPA itself also recognized that "applying PSD requirements literally to [greenhouse gas] sources...would result in a program that would have been unrecognizable to the Congress that designed PSD." *Id.* at 454-55. The EPA itself further recognized that the same was true in regulating carbon dioxide and greenhouse gas emissions from stationary sources under Title V. *Id.* at 485.

The court below nevertheless upheld this EPA conclusion and regulatory extension. Rehearing *en banc* was denied, Judges Brown and Kavanaugh dissenting in separate opinions.

SUMMARY OF ARGUMENT

Our Constitution's fundamental framework provides for the people's elected representatives in Congress to set policy by legislative action, and for the Executive to execute it as enacted. It does not provide for the Executive to bypass the will of the Legislative branch in effective abuse of the delegated authority that this Court has allowed. But this is precisely what is happening today, on precisely the policy now before this Court in the present case.

President Obama repeatedly taunts the Congress, the people's elected representatives, collectively representing the broad geography and complex economic interests of this most advanced of all nations, with the threat, "If the Congress doesn't act, I will." Nowhere in our Constitution is there any executive power for the Executive to bypass the intent of Congress in this way.

But this is not what is happening with the EPA regulating supposed greenhouse gas emissions. The EPA is being used by the Administration as a vehicle to circumvent the will of Congress, and for the Executive to set the policy on supposed greenhouse gases on its own. The Administration is consequently at present taking this nation back before the Magna Carta.

This present case reflects one legal challenge to the Administration's abuse of our fundamental Constitutional framework. The EPA itself has recognized and publicly admitted that it is acting contrary to the will of Congress.

What this case makes plain is that the Administration is trying to shoehorn its global warming regulatory agenda into a Clean Air Act that was never intended, and so is not suited, to carrying this freight. The regulation of carbon dioxide emissions from stationary sources are consequently contrary to the admitted intent of Congress, and the actual express language of the CAA. Rather than being compelled by operation of law, the regulation of carbon dioxide emissions at issue in this case is actually prohibited by operation of law.

Because federal law requires public policy to be based on sound science, we submit that the published record of peer reviewed literature, including *Climate Change Reconsidered II*, and the heavy politicization of self-intersted, government sponsored science, warrants judicial inquiry on remand of whether the applicable legal standards have been met.

We further submit that given more recent experience with the growing breakdown of the fundamental framework of our Constitution, the increasing usurpation of the Constitutional role of the Legislative Branch by the Executive Branch, and the increasing awareness that Congress never intended for the CAA to regulate carbon dioxide emissions and the admitted unworkability of such regulation, that this Court revisit *Massachusetts v. EPA.* If the EPA is being used not only to bypass the Constitutional role of Congress, but to rewrite the Clean Air Act as passed by Congress, another usurpation of the Legislative Branch by the Executive Branch, we submit that it is time for this Court to save our nation's Constitution, and the rule of law.

But at a minimum, we urge the Court not to approve the expansion of EPA regulatory authority over carbon dioxide to stationary sources, which even the EPA admits cannot practically be done without the EPA rewriting the CAA as passed by Congress.

ARGUMENT

I. THE CONSTITUTION PROVIDES FOR CONGRESS TO SET POLICY AND THE EXECUTIVE TO EXECUTE IT

Our Constitution's fundamental framework provides for the people's elected representatives in Congress to set policy by legislative action, and for the

Executive to execute it as enacted. It does not provide for the Executive to bypass the will of the Legislative branch in effective abuse of the delegated authority that this Court has allowed. But this is precisely what is happening today, on precisely the policy now before this Court in the present case.

President Obama repeatedly taunts the Congress, the people's elected representatives, collectively representing the broad geography and complex economic interests of this most advanced of all nations, with the threat, "If the Congress doesn't act, I will." Nowhere in our Constitution is there any executive power for the Executive to bypass the intent of Congress in this way. The framers provided for the Legislative branch to set the policy by legislation, with all of the wrangling and compromises that may take, representing all of the diverse interests, and then for the Executive to execute that policy, as legislatively enacted.

But this is not what is happening with the EPA regulating supposed greenhouse gas emissions. The EPA is being used by the Administration as a vehicle to circumvent the will of Congress, and for the Executive to set the policy on supposed greenhouse gases on its own. The Administration is consequently at present taking this nation back before the Magna Carta. Call it the Julius Ceaser option.

Everybody paying attention knows that the Congress even when it was overwhelmingly controlled by the President's own party in the first two years of this President's first term rejected the policies the EPA is now implementing. The President and

Congressional leaders of the President's own party tried to pass legislation to authorize the EPA to regulate carbon dioxide and other supposed greenhouse gas emissions. The President's own party reflected a rising tidal wave of well grounded public opposition in failing to pass that proposed legislation.

This present case reflects one legal challenge to the Administration's abuse of our fundamental Constitutional framework. The EPA itself has recognized and publicly admitted that it is acting contrary to the will of Congress. The EPA itself has said that the very regulations under challenge in this case would not be "consistent with other provisions of the [Title I] PSD [Prevention of Significant Deterioration] and title V requirements, and inconsistent with – and, indeed, undermine – congressional purposes for the PSD and title V provisions." JA 418-19. The EPA itself has also recognized that "applying PSD requirements literally to [greenhouse gas] sources...would result in a program that would have been unrecognizable to the Congress that designed PSD." *Id.* at 454-55.

What this case makes plain is that the Administration is trying to shoehorn its global warming regulatory agenda into a Clean Air Act that was never intended, and so is not suited, to carrying this freight. In regard to stationary sources in particular, the CAA is focused on localized, ambient air quality. "Ambient" air refers to the air that people are exposed to, and which they breathe. *Train v. Natural Res. Def. Council,* 421 U.S. 60, 65 (1975); 40 C.F.R. Section 50.1(e). That is the proper focus for actual pollutants that threaten the public health and welfare like sulfuric acid, benzene, sulfer dioxide, and nitrogen dioxide, where localized emissions and sources have localized and regional effects.

But the effects and sources of so-called greenhouse gases are not localized or regional, but global. In regard to the traditional, actual pollutants, the regulatory focus is on varying localized or regional concentrations of the pollutants, which are determined primarily by localized and regional emissions from major localized or regional sources. The EPA itself has recognized, however, that so-called greenhouse gas concentrations "tend to be relatively uniform around the world," J.A. 1091.

Moreover, the globalized concentration of the primary so-called greenhouse gas, carbon dioxide, has natural causes that result in natural global concentations of CO2. In addition, the relatively uniform global concentrations of CO2 have global sources well beyond the jurisdiction of even the EPA, or the Administration. As a result, the localized or regional sources of carbon dioxide emissions that are the subject of CAA regulation are not directly responsible for any localized or regional effects of global CO2 concentrations, and those localized or regional effects of global CO2 concentrations cannot be controlled by regulation of localized or regional sources of carbon dioxide emissions. As the EPA itself has again realized, "[c]urrent and projected levels of ambient concentrations" of so-called greenhouse gases are not responsible for any direct adverse effects locally and regionally. J.A. 1091 at 1145.

CAA regulation of localized and regional sources and effects of traditional, actual pollutants consequently quite rightly begins with state regulatory implementation plans (State Implementation Plans (SIPs)) for those localized and regional sources. 42 U.S.C. Sections 7407, 7410. But effective regulation of the sources and effects of the relatively uniform, global concentrations of carbon dioxide and other so-called greenhouse gases requires cooperative *international and global* regulation. Traditional CAA regulation for this concern consequently only distracts from any possibly necessary international and global regulation.

Moreover, CAA regulation is focused on major local sources of the regulated emissions, at emission levels suited to the traditional, actual pollutants, but not to carbon dioxide and other so-called greenhouse gases. Regulation of stationary sources begins at annual emissions of "any air pollutant" at 100 tons per year (tpy) for Title I, 42 U.S.C. Sections, 7602(j), 7661(2)(B), and 100 or 250 tpy for PSD depending on the source. *Id.*, Section 7479(1). Sources emitting any of the traditional, actual pollutants at these threshold levels are all major industrial facilities, which is what Congress intended to regulate under the CAA, as the EPA itself has recognized as indicated above. But sources emitting 250 tpy of carbon dioxide include hospitals, schools, apartment buildings, and literally millions of other small, non-industrial sources. JA 283-284.

Such regulation of these innumerable smaller institutions is what the EPA itself is referring to when it says, "applying PSD requirements literally to [greenhouse gas] sources...would result in a program that would have been unrecognizable to the Congress that designed PSD." *Id.* at 454-55. As this Court recognized in ***Alabama Power Co. v. Costle,*** 636 F. 2d 323 (D.C. Cir. 1979), "Congress was concerned with large industrial enterprises – major actual emitters of air pollution" and it intended to exclude from such regulation "small industrial facilities within these categories [that] might actually and potentially emit less than the threshold." *Id.* at 354. This Court went on in ***Alabama Power*** to explain that it had

> "no reason to believe that Congress intended [the term 'major emitting facility"] to define such obviously minor sources [as] the heating plant operating in a large high school or in a small community college, [as] 'major' for the purposes of the PSD provision."

Id. Yet that is exactly what the EPA is now seeking to regulate that is under challenge today in the present case.

Because EPA recognizes that applying CAA regulation to all these sources would be politically, economically and practically intractable, it is busily rewriting the Clean Air Act it is supposed to be implementing as enacted, another practice that violates the fundamental framework of our Constitution, and that is becoming all too common in this unprecedented Administration. See, e.g., the Affordable Care Act. Can all these stationary sources for CO2 emissions possibly be subject to requirements for pre-construction and operating permits, as would be required by the terms of the Title I PSD and Title V, as enacted?

The EPA itself recognizes quite clearly no. That is reflected in the EPA's very own so-called Tailoring Rule, in which it purports to rewrite rather than execute the CAA as passed by Congress to raise the statutory thresholds for carbon dioxide regulation for stationary sources from 100 tpy under the Title I PSD and 250 tpy under Title V to 100,000 tpy. J.A. 453, 674, 677-78. But the admitted unworkability of applying CAA regulation to stationary sources of carbon dioxide should have told the EPA that Congress never intended such regulation in enacting the CAA, and that the CAA consequently not only did not compel such regulation, it did not even authorize it.

The EPA did explicitly recognize that "Congress, focused as it was on sources of conventional pollutants and not global warming pollutants, expected that the 100/250 tpy applicability thresholds would limit PSD to larger sources." JA 355-56, 486-87; 74 Fed. Reg. at 55,304. But the EPA, somehow, instead interpreted this admitted Congressional intent not to regulate carbon dioxide under the CAA for supposed global warming as authorizing it to throw out the fundamental framework of our Constitution, and for the Executive Branch to bypass and usurp the Constitutional role of the Legislative Branch, setting policy itself rather than executing the policy established by Congress.

The present case consequenty provides a vehicle for this Court to restore the Magna Carta and the fundamental framework of our Constitution to American government. That can begin most fundamentally by recognizing that contrary to urban legend, the science regarding possible catastrophic anthropogenic global warming is hotly contested. A recent comprensive report (993 8½ by 11 pages) by one body of top flight international climate scientists concludes that global temperature variations in the past 100 years were predominantly determined by natural causes, such as long term ocean current cycles and solar activity cycles. Nongovernmental International Panel on Climate Change (NIPCC), *Climate Change Reconsidered II* (Chicago: Heartland Institute, 2012). The high tone nature of the true scientific debate is further demonstrated by Patrick J. Michaels, Paul C. Knappenberger, Robert C. Balling, Mary J. Hutzler & Craig D. Idso, The Missing Science from the Draft National Assessment on Climate Change, Center for the Study of Science, Cato Institute, Washington, DC, 2012.

Because federal law requires public policy to be based on sound science, we submit that the published record of peer reviewed literature, including *Climate Change Reconsidered II*, and the heavy politicization of self-intersted, government sponsored science, warrants judicial inquiry on remand of whether the applicable legal standards have been met. We submit that much is to be learned on the issue from testimony from such eminent scientists as Richard Lindzen, long time Alfred P. Sloan Professor of Atmospheric Sciences at the Massachusetts Institute of Technology, William Happer, Cyrus Fogg Brackett Professor of Physics at Princeton University, Roy Spencer, a leader of the NASA satellite global temperature monitoring team and Principal Research Scientist at the University of Alabama at Huntsville, Fred Singer, Professor Emeritus of Environmental Science at the University of Virginia, and the founder and first Director of the National Weather Satellite Service; Patrick Michaels, Research Professor of Environmental Sciences at the University of Virginia, and past President of the American Association of State Climatologists, and dozens of others.

But even the heavily politicized Intergovernmental Panel on Climate Change (IPCC) of the United Nations tells us in a recent publication that carbon dioxide is a natural, trace gas (0.038%) in the atmosphere essential to all life on the planet, odorless, colorless and harmless as a direct matter to humans and animals, whose own breathing is a source of carbon dioxide emissions, and highly beneficial to plant and agricultural growth. IPCC Special Report, Carbon Dioxide Capture and Storage, Annex 1, at 385 (2005).

We further submit that given more recent experience with the growing breakdown of the fundamental framework of our Constitution, the increasing usurpation of the Constitutional role of the Legislative Branch by the Executive Branch, and the increasing awareness that Congress never intended for the CAA to regulate carbon dioxide emissions and the admitted unworkability of such regulation, that this Court revisit *Massachusetts v. EPA*. If the EPA is being used not only to bypass the Constitutional role of Congress, but to rewrite the Clean Air Act as passed by Congress, another usurpation of the Legislative Branch by the Executive Branch, we submit that it is time for this Court to save our nation's Constitution, and the rule of law.

But at a minimum, we urge the Court not to approve the expansion of EPA regulatory authority over carbon dioxide to stationary sources, which even the EPA admits cannot practically be done without the EPA rewriting the CAA as passed by Congress.

II. CARBON DIOXIDE EMISSIONS FROM STATIONARY SOURCES CANNOT BE A POLLUTANT SUBJECT TO REGULATION UNDER THE EXPRESS TERMS OF THE CAA'S PSD AND TITLE V PROVISIONS.

The broad language in Section 7521(a)(1) of Title II of the CAA that this Court found in *Massachusetts v. EPA* as authorizing the EPA to regulate carbon dioxide emissions from motor vehicles is not remotely found in Title I and Title V relating to regulation of emissions from stationary sources. 42 U.S.C. Section 7521(a)(1). So nothing in *Massachusetts v. EPA* compels the regulation of carbon dioxide emissions from stationary sources as a matter of law.

Nothing in Title I and Title V of the CAA mentions carbon dioxide emissions at all. Rather they provide for regulation of "any air pollutant" from "major emitting facilities" defined as those emitting more than 100 tpy in 28 named industrial categories and 250 tpy from any other source. 42 U.S.C. Sections 7479(1), 7602(j), and 7661(2)(B).

This Court recognized in *Alabama Power*, 636 F. 2d at 353, that Congress intended with this language to limit regulation to "facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emissions" that pollute ambient air. JA 453 ("Congress...designed the thresholds deliberately to limit the program's scope" of regulation).

The EPA itself explicitly recognized this limitation on regulation of emissions from stationary sources, saying, "Congress intended to limit the PSD program to large industrial sources because it was those sources that were the primary cause of the pollution problems in question and because those sources would have the resources to comply with the PSD requirements." JA 453. The EPA added, "Congress intended that PSD be limited to a relatively small number of large industrial sources," and it was "not too much to say that applying PSD requirements literally to [greenhouse gas] sources...would result in a program that would have been unrecognizable to the Congress that designed PSD. JA 454-55. EPA, in fact, confessed that its stationary sources carbon dioxide emissions rule at issue in this case would apply to "small commercial and residential sources...contrary to congressional intent for the PSD program." JA 449. EPA recognized as well that the same applied to the regulation of carbon dioxide emissions from stationary sources under Title V. JA 485.

The only reasonable conclusion from this analysis is that Congress did not intend to authorize EPA's regulation of carbon dioxide emissions from stationary sources under Title I and Title V of the CAA. EPA itself recognized that such regulation was contrary to Congressional intent.

But somehow the EPA concluded that this conflict authorized it to throw out the fundamental Constitional framework that Congress as the Legislative Branch sets the policies through legislation, and the Executive Branch executes those policies as provided by Congress in the legislation. So the EPA proceeded to rewrite the legislation to increase the 100 tpy and 250 tpy thresholds for authorized regulation to 100,000 tpy in the case of stationary sources.

What that means is that the EPA's stationary source regulation under Title I and Title V of the CAA is contrary to the express language of the CAA. So instead of the EPA being compelled by operation of law to issue such regulation, the regulation it actually issued was prohibited by the express legislative language of the CAA and the EPA's own admitted Congressional intent behind the CAA, in regard to regulation of carbon dioxide emissions from stationary sources.

It would be only honestly faithful to the Constitution to hold that before the EPA can adopt costly and controversial carbon dioxide regulation that the democratically elected representatives of the people first pass legislation authorizing such regulation. That is the conclusion compelled by operation of law, if we are still to be a nation governed by the rule of law, and the Constitution.

III. TITLE I OF THE CAA AUTHORIZES ONLY REGULATION TO PROTECT LOCALIZED AMBIENT AIR QUALITY, NOT TO REGULATE GLOBAL CONCENTRATIONS OF CARBON DIOXIDE.

The Title I PSD provisions of the CAA authorize regulation of emissions protecting the localized ambient air quality that people are exposed to and breathe. 42 U.S.C. 7475(e). That is because Congress intended in the CAA to regulate traditional, actual pollutants, for which localized sources affect localized concentrations with localized effects. It did not intend to regulate odorless and colorless carbon dioxide that humans and other animals actually themselves emit when they breath out, and that actually promote more rapid plant and agricultural growth at the bottom of the food chain. See *Climate Change Reconsidered II.* It did not intend to govern globally uniform concentrations of carbon dioxide with supposed hotly contested global effects, which is primarily out of the reach and jurisdiction of the EPA, and, indeed, of the U.S. government.

Rather than authorizing regulation to govern global effects of carbon dioxide emissions, 42 U.S.C. Section 7471 authorizes implementation of state based regulation to address localized effects from localized sources. EPA's regulation of carbon dioxide emissions from stationary sources is consequently contrary to Congressional intent, and so is unlawful.

CONCLUSION

For all of the foregoing reasons, the ruling of the court below should be reversed.

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AMICUS
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BRIEF

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Nos. 12-1146, 12-1248, 12-1254, 12-1268,
12-1269, 12-1272 (Consolidated)

In the Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *ET AL.*,
Petitioners,
v.
U.S. ENVIRONMENTAL PROTECTION AGENCY, *ET AL.*,
Respondents.

ON WRITS OF *CERTIORARI* TO THE U.S. COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

AMICUS CURIAE BRIEF OF THE AMERICAN ROAD & TRANSPORTATION BUILDERS ASSOCIATION IN SUPPORT OF NEITHER PARTY

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QUESTIONS PRESENTED

After this Court decided *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Environmental Protection Agency ("EPA") found that its promulgation of motor vehicle greenhouse gas ("GHG") emission standards under Title II of the Clean Air Act ("CAA"), 42 U.S.C. §7521(a)(1), compelled regulation of carbon dioxide and other GHGs under the CAA's Title I prevention of significant deterioration ("PSD") and Title V stationary-source permitting programs. Even though EPA determined that including GHGs in these programs would vastly expand the programs contrary to Congress's intent, EPA adopted rules adding GHGs to the pollutants covered. The panel below held the CAA and *Massachusetts* compelled inclusion of GHGs and, based on that holding, dismissed all petitions to review the GHG permitting program rules on standing grounds.

Against that background, this Court limited its review to the following question: Whether EPA permissibly determined that its regulation of GHGs from new motor vehicles triggered permitting requirements under the CAA for stationary sources that emit GHGs.

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INTEREST OF *AMICUS CURIAE*

Amicus curiae American Road & Transportation Builders Association ("ARTBA") is a nonprofit trade organization that represents the transportation construction industry before the national executive, legislative, and judicial branches.[1] As an umbrella group for more than 6,000 members from all sectors and modes of the transportation construction industry (including public transit, airports, and waterways), ARTBA is the industry's primary advocate on environmental regulatory actions by the Environmental Protection Agency ("EPA") and its state counterparts.

In this litigation, ARTBA does not support either party on the limited question covered by the Court's grant of the writ of *certiorari*. Viewed more widely, ARTBA supports the petitioners' implicit views that Congress did not intend the Clean Air Act ("CAA") to regulate greenhouse gases ("GHGs") as "pollutants." While ARTBA thus respectfully submits that this Court decided the merits of *Massachusetts v. EPA*, 549 U.S. 497 (2007), incorrectly, ARTBA files this brief protectively to ensure that the Court does not inadvertently affirm the *Massachusetts* merits here, when the Court may have lacked jurisdiction to reach the merits in *Massachusetts*.

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[1] *Amicus* ARTBA files this brief with the consent of all parties, which have lodged their blanket letters of consent with the Clerk. Pursuant to Rule 37.6, counsel for *amicus curiae* authored this brief in whole, no counsel for a party authored this brief in whole or in part, and no person or entity – other than *amicus*, its members, and its counsel – contributed monetarily to the preparation or submission of this brief.

ARTBA is petitioner in *ARTBA v. EPA*, No. 13-145 (U.S.), which asks this Court to review the U.S. Court of Appeals for the D.C. Circuit's holding that CAA's provision for judicial review based on "after-arising grounds," 42 U.S.C. §7607(b)(1), requires filing within 60 days of the after-arising *information* on which a petitioner bases its request for regulatory change. *ARTBA v. EPA*, 705 F.3d 453, 456-57 (D.C. Cir. 2013) ("*ARTBA III*"). Under that view, the D.C. Circuit dismissed ARTBA's petition for review for lack of subject-matter jurisdiction. *Id.* In ARTBA's view, the "grounds" for suit are EPA's *denial* of a rulemaking petition pursuant to 5 U.S.C. §553(e), *after* a petitioner presents its new information to EPA. Accordingly, like the petitioners in *Massachusetts*, ARTBA first petitioned EPA administratively and petitioned for review within 60 days of EPA's denial of the petition. The jurisdictional question, then, is what constitutes an after-arising "grounds" for suit: (a) an external event, or (b) an EPA action. However this Court ultimately answers the question, ARTBA and the *Massachusetts* petitioners followed the same procedure, and both rise or fall on the same answer. ARTBA files this *amicus* brief to call the Court's attention to the issue and to protect against the Court's *inadvertently* addressing that important question by assuming that jurisdiction existed in *Massachusetts*.

STATEMENT OF THE CASE

The D.C. Circuit upheld EPA action on GHG emissions based in part on *Massachusetts*, which "clarified that greenhouse gases are an 'air pollutant' subject to regulation under the Clean Air Act." *Coalition for Responsible Regulation, Inc. v. EPA*, 684 F.3d 102, 113 (D.C. Cir. 2012). Specifically, this case concerns the impact on CAA *stationary-source* provisions of the *Massachusetts* determination that EPA must regulate GHGs as CAA pollutants for CAA *mobile-source* purposes. When it decides the important questions presented here, this Court should not *inadvertently* assume – as the D.C. Circuit did – that jurisdiction existed for the decision in *Massachusetts*. That said, the Court could decide to address the issue intentionally, thereby avoiding uncertainty on whether CAA-based GHG regulation will survive into the next administration.

STATEMENT OF FACTS

Given our economy's reliance on fossil fuels, any major reductions in GHG emissions will cost many billions of dollars, to say nothing of the proposed technology and financial transfers that developing countries seek to reduce their GHG emissions. In addition, the "well-documented rise in global temperatures" that a majority of this Court held to "coincide[] with a significant increase in the concentration of carbon dioxide in the atmosphere," *Massachusetts*, 549 U.S. at 504-05, appears less well documented today for several reasons. Most notably, rising temperatures have paused for more than a decade, while GHG emissions have continued to rise. Whether the current pause represents a landing on an upward climb or a plateau or inflection, the data on which *Massachusetts* relied have been undermined.

The rulemaking petition that provided the basis for the *Massachusetts* litigation was filed on October 20, 1999. *See* International Center for Technology Assessment *et al.*, Petition for Rulemaking and Collateral Relief from New Motor Vehicles under § 202 of the Clean Air Act (Oct. 20, 1999) ("ICTA

Pet.").[2] The petition did not rely on any information that arose within 60 days of the administrative filing (*i.e.*, information arising on or after August 21, 1999), although the petition relied on information from well before then. *See, e.g.*, ICTA Pet. at 16 (citing 1988 data). EPA denied the petition on September 8, 2003, 68 Fed. Reg. 52,922 (2003), and the petitioners filed *Massachusetts* within 60 days on October 23, 2003.

SUMMARY OF ARGUMENT

Under the holdings of the D.C. Circuit's *ARTBA* decisions, CAA does not allow judicial review of EPA action to deny a rulemaking petition based on after-arising grounds unless filed within 60 days of an after-arising event. By that test, the D.C. Circuit and thus this Court lacked subject-matter jurisdiction for *Massachusetts*, which sought review of EPA's denial of a petition to revise model-year 2000 and subsequent vehicular emission standards. While the jurisdiction for *Massachusetts* may not be dispositive here, this Court should not *inadvertently* hold here that the Court already has lawfully decided these GHG issues in *Massachusetts*.

Should the Court intentionally elect to decide the issue, the Court should decide that it had jurisdiction for *Massachusetts* because the 1970 CAA allowed such review, and the 1977 CAA amendments did not "clearly and manifestly" remove such review, as would be required under the canon against repeals by implication. Indeed, quite the contrary, the 1977 amendments' history suggests that Congress adopted the holding of a D.C. Circuit decision that expressly required presenting after-arising information to EPA in an administrative petition before seeking to bring suit based on the after-arising information. Under this view, the after-arising "grounds" for suit are EPA's action on the petition, not the after-arising information that informs the administrative petition.

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[2] The judicially noticeable ICTA petition is available at http://www.regulations.gov/contentStreamer?objectId=09000064800bcf5c&disposition=attachment&contentType=pdf.

ARGUMENT

I. UNDER THE D.C. CIRCUIT'S HOLDINGS ON PETITION-DENIAL REVIEW, THE *MASSACHUSETTS* LITIGATION LACKED SUBJECT-MATTER JURISDICTION

In litigation over EPA's denying rulemaking petitions filed by ARTBA, the D.C. Circuit has held that CAA's provisions for renewed review based on "after-arising grounds" do not allow review when the petitioner files within 60 days of only EPA's denial of a rulemaking petition. *ARTBA II,* 705 F.3d at 456-57, *petition for cert. pending,* No. 13-145 (U.S.); *ARTBA v. EPA,* 588 F.3d 1109, 1112 (D.C. Cir. 2009) ("*ARTBA II*"). Specifically, the D.C. Circuit held that a mere petition-denial claim does not "count" as an after-arising ground. *ARTBA II,* 588 F.3d at 1114 (*citing Nat'l Mining Ass'n v. Dep't of Interior,* 70 F.3d 1345, 1351 (D.C. Cir. 1995)). Insofar as the *Massachusetts* petitioners did the same thing that ARTBA did, the D.C. Circuit's *ARTBA* decisions hold that *Massachusetts* exceeded the jurisdictional reach of CAA's judicial review provision.

If the D.C. Circuit correctly decided the *ARTBA* decisions, *Massachusetts is* void as *ultra vires* and cannot control future litigation:

> For a court to pronounce upon the meaning or the constitutionality of a state or federal

> law when it has no jurisdiction to do so is, by very definition, for a court to act *ultra vires.*

Steel Co. v. Citizens for a Better Environment, 523 U.S. 83, 101-02 (1998). Further, a "lack of subject matter jurisdiction goes to the very power of a court to hear a controversy; ... [the] earlier case can be accorded no weight either as precedent or as law of the case." *U.S. v. Troup,* 821 F.2d 194, 197 (3d Cir. 1987) (*quoting Ala. Hosp. Ass'n v. U.S.*, 228 Ct.Cl. 176, 656 F.2d 606 (1981)) (alterations in original); *Orff v. U.S.,* 358 F.3d 1137, 1149-50 (9th Cir. 2004) (same). Finally, nothing precludes collaterally attacking the *Massachusetts* courts' subject-matter jurisdiction because the issue goes to the waiver of the United States' sovereign immunity, which is open to collateral attack. *Travelers Indem. Co. v. Bailey,* 557 U.S. 137, 166 n.6 (2009). In short, if an administration – whether the current one or a future one – determines to revisit the issue, it is likely that the Executive Branch would reject *Massachusetts.*[3]

To save *Massachusetts* from lacking jurisdiction under the D.C. Circuit's *ARTBA* holdings, EPA has argued that *Massachusetts* "challenge[d] a new regulatory determination rather than an old one." *ARTBA v. EPA,* No. 13-145 (U.S.), Federal Respondents' Brief in Opposition, at 21 (Nov. 26, 2013). EPA's proposed new-determination distinction is factually wrong about *Massachusetts* and legally applies equally to ARTBA.

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[3] Even if a procedurally proper "do-over" were possible, the new climate data available since 2003 suggest that it would be difficult to establish standing, even under the relaxed rules for states' standing announced in *Massachusetts.*

The *Massachusetts* petitioners petitioned EPA to "[r]egulate the emissions of [various alleged pollutants] from new motor vehicles and new motor vehicle engines under § 202(a)(1) of the Clean Air Act." Int'l Ctr. for Technology Assessment *et al.*, Petition for Rulemaking and Collateral Relief from New Motor Vehicles under § 202 of the Clean Air Act, at 2 (Oct. 20, 1999) (hereinafter, "ICTA Pet."). Since 1970, §202(a)(1) has required EPA to "by regulation prescribe (and *from time to time revise*) ... standards applicable to the emission of any air pollutant from any class or classes of new motor vehicle." 42 U.S.C. §7521(a)(1) (emphasis added); Pub. L, No. 91-604, §6(a), 84 Stat. 1676, 1690 (1970). For example, between model years 2000 and 2002, EPA was phasing in its "Emission standards for 2000 and later model year light-duty vehicles." 40 C.F.R. §86.000-8(e) (2000). Until EPA amended them, the then-existing motor-vehicle standards applied to all such vehicles sold prospectively. The *Massachusetts* petition asked EPA to revise those existing standards under §202(a)(1)'s authority to "from time to time revise ... standards," based not only on information that post-dated the model-year 2000 standard's promulgation in 1996,[4] but also on information that *pre-dated* its promulgation. ICTA Pet. at 16 (1988 data). EPA's new-determination distinction simply does not describe *Massachusetts*.

In any event, exactly as in *Massachusetts*, ARTBA sought changes to existing rules based on new information. ARTBA's challenge to EPA's preemption rules relies primarily on issues that arose after EPA promulgated the 1994 EPA rule that

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[4] 61 Fed. Reg. 54,878 (1996).

ARTBA challenges. To be sure, some of ARTBA's after-arising information arose in the late 1990s and some in 2004, making them longer ago than some (but not all) of the corresponding *Massachusetts* data.[5] Under the D.C. Circuit's reasoning, however, there is no difference between issues that arose 61 days ago and issues that arose 61 years ago. Both are jurisdictionally outside the 60-day window.

II. IF THIS COURT ELECTS TO CONSIDER ITS JURISDICTION IN *MASSACHUSETTS*, THIS COURT SHOULD FIND THAT THE "GROUNDS" FOR SUIT ARE UNLAWFUL AGENCY ACTION, NOT NON-RECORD INFORMATION

ARTBA files this *amicus* brief primarily to avoid this Court's addressing *Massachusetts* unaware of its potential jurisdictional defect but also to encourage the Court to resolve the issue. Given the many billions that the Nation will spend furthering this Court's decision, fiscal prudence calls for resolving the issue now, before the Nation has invested in potentially useless technology to comply with potentially unlawful EPA regulations. If the Court considers its jurisdiction, *amicus* ARTBA respectfully submits that it should find jurisdiction.

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[5] The *Massachusetts* petitioners' reliance on 1988 data in their 1999 administrative petition to revise the 1996 standards for the 2000-and-subsequent model years is not problematic under the limitation that renewed review must relate "solely" to after-arising grounds. *See* 42 U.S.C. §7607(b)(1). The "solely" language does not limit the scope of review, once a petitioner has met §307(b)(1)'s jurisdictional criteria. *Navajo Tribe*, 515 F.2d at 667. For example, the "solely" language prevents petitioners from reaching back to procedural defects of earlier promulgations, *Nat'l Labor Relations Bd. Union v. FLRA*, 834 F.2d 191, 196 (D.C. Cir. 1987), but not to seeking renewed review of current agency action that refuses to amend unlawful regulations based either on after-arising information or on the post-promulgation ripening of claims against prior regulations. *Id.* at 196-98. The *Massachusetts* petitioners plainly relied on *some* post-1996 data, which suffices under *Navajo Tribe* and the 1977 amendments' history, notwithstanding additional reliance on 1988 data, because the after-arising grounds (*i.e.*, EPA's allegedly unlawful action) accrued in 2003.

Prior to the 1977 amendments, CAA plainly allowed the type of petition-denial review on which the *Massachusetts* petitioners relied. *Olijato Chapter, Navajo Tribe v. Train,* 515 F.2d 654, 665-66 (D.C. Cir. 1975); *Union Elec. Co. v. EPA,* 515 F.2d 206, 220 (8th Cir. 1975); Pub. L. No. 91-604, §12(a), 84 Stat. at 1708. *Union Electric* deemed the grounds for suit to be EPA action on a petition, and *Navajo Tribe* deemed it within a Court of Appeals' power to require presenting after-arising issues to EPA before suit. In the 1977 amendments, both the House and Senate ratified *Navajo Tribe,* H.R. REP. 94-1175, 264 (1976); S. REP. 95-294, 323 (1977), noting only that Congress intended to reject *dicta* from *Investment Co. Inst. v. Bd. of Governors, Fed'l Reserve Sys.,* 551 F.2d 1270, 1280-81 (D.C. Cir. 1977), that allowed avoiding the 60-day time bar for "an undefined legitimate excuse." S. REP. 95-294, at 322.[6] The question, then, is whether the 1977 CAA amendments removed this form of judicial review.

Under the circumstances, it seems clear that petition-denial review survived the 1977 amendments: "repeals by implication are not favored and will not be presumed unless the intention of the legislature to repeal [is] clear and manifest." *Nat'l Ass'n of Home Builders v. Defenders of Wildlife,* 551 U.S. 644, 662 (2007) (alteration in original, interior quotations and citations omitted). Indeed, "this canon of construction applies with particular force when the asserted repealer would remove a remedy otherwise available." *Schlesinger v. Councilman,* 420 U.S. 738, 752 (1975) (internal quotations omitted). The 1977 amendments – *i.e.*, as relevant here, the current §307(b) – are consistent with Congress' assuming that courts would continue to follow the *Navajo Tribe* precedent that Congress affirmed. *See* 42 U.S.C. §7607(b). The D.C. Circuit's divergence from its own precedent results from mistakes made in a 1995 case under a different statute, which lacked CAA's relevant history.

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[6] The *Investment Company* holding (which Congress did not reject) was that parties seeking renewed review because they lacked a ripe challenge within the original 60-day window must petition the agency to change the rule and sue upon the agency's denying the petition. *Investment Co,* 551 F.2d at 1280-81 (discussing renewed review under the Hobbs Act).

Unfortunately, neither the parties nor the panel in *Nat'l Mining Ass'n v. Dep't of Interior,* 70 F.3d 1345 (D.C. Cir. 1995), considered *Navajo Tribe* as controlling. Specifically, although *National Mining* recognized that CAA's judicial review resembles the one there at issue,[7] *National Mining,* 70 F.3d at 1350 n.2, neither that panel nor the *National Mining* parties even mentioned (much less considered) *Navajo Tribe.*[8] The two *ARTBA* decisions apply the

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[7] *National Mining* concerned a similarly worded provision under the Surface Mining Control & Reclamation Act, 30 U.S.C. §§1251-1279 ("SMCRA").

[8] *See National Mining,* 70 F.3d at 1347-53; *National Mining,* No. 94-5351 (D.C. Cir.), Brief of Appellants Interstate Mining Compact Commission, 1995 WL 17204298 (Jul. 8, 1995); *id.*, Brief of Appellants National Mining Association, *et al.*, 1995 WL 17204297 (Jul. 28, 1995); *id.*, Brief for the Federal

National Mining precedent, notwithstanding *Navajo Tribe* and the presumption against repeals by implication. In doing so, the D.C. Circuit resurrected a standard Congress rejected in 1970, when it amended S. 4358 in conference to require suing on after-arising *grounds* (*e.g.*, petition denials), not "whenever ... significant new information has become available." *Navajo Tribe,* 515 F.2d at 660 (*quoting* S. 4358, 91st Cong., 2d Sess., §308(a) (1970)). "Few principles of statutory construction are more compelling than the proposition that Congress does not intend *sub silentio* to enact statutory language that it has earlier discarded in favor of other language." *INS v. Cardoza-Fonseca,* 480 U.S. 421, 442-43 (1987); *cf. Chevron, U.S.A., Inc. v. NRDC,* 467 U.S. 837, 863-64 (1984) ("agency interpretation is not instantly carved in stone [and] to engage in informed rulemaking, [agencies] must consider varying interpretations ... on a continuing basis"). In short, *National Mining* and the *ARTBA* decisions are simply mistaken.

Honeywell Int'l, Inc. v. E.P.A., 705 F.3d 470 (D.C. Cir. 2013), provides a good example of how far off the rails the D.C. Circuit's misinterpretation has gone. In *Honeywell,* a divided panel held that a court

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Appellees, 1995 WL 17204299 (Aug. 1, 1995); *id.*, Brief of Appellees National Wildlife Federation, *et al.,* 1995 WL 17204300 (Aug. 28, 1995); *id.*, Reply Brief of Appellants National Mining Association, *et al.*, 1995 WL 17204304 (Sep. 11, 1995); *id.*, Reply Brief of Appellants Interstate Mining Compact Commission, 1995 WL 17204305 (Sep. 11, 1995); *id.*, Supplemental Brief of Appellants National Mining Association, *et al.*, 1995 WL 17204301 (Oct. 23, 1995); *id.*, Supplemental Brief of Appellant Interstate Mining Compact Commission, 1995 WL 17204302 (Oct. 23, 1995); *id.*, Supplemental Brief for the Federal Appellees, 1995 WL 17204303 (Oct. 23, 1995).

decision involving third parties – namely, *Arkema Inc. v. EPA,* 618 F.3d 1 (D.C. Cir. 2010) – constituted an after-arising ground that triggered CAA's 60-day window for renewed review. *Honeywell,* 705 F.3d at 473. *Honeywell* could have held that the effect of the *Arkema* decision on Honeywell International's rights, as memorialized in a *subsequent* EPA rulemaking to implement *Arkema,*[9] reopened review of *prior* EPA action by "changing the stakes" of the prior EPA actions. *Kennecott Utah Copper Corp. v. U.S. Dep't of Interior,* 88 F.3d 1191, 1213, 1226-27 (D.C. Cir. 1996). Instead, *Honeywell* made the *Arkema* decision itself the after-arising ground. *Honeywell,* 705 F.3d at 473. Because non-mutual preclusion is wholly unavailable against EPA, *U.S. v. Mendoza,* 464 U.S. 154 (1984), Congress cannot have intended that non-party decisions – standing alone – constitute after-arising grounds, even before EPA acts to implement a decision in a way that affects non-parties' rights.

The other circuits have supported ARTBA's position under both CAA[10] and SMCRA (*i.e.,* the statute at issue in *National Mining*).[11] For that reason, this Court should confirm its jurisdiction in

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[9] 76 Fed. Reg. 47,451, 47,459-60 (2011).

[10] *Maine v. Thomas,* 874 F.2d 883, 889-90 (1st Cir. 1989); *Vermont v. Thomas,* 850 F.2d 99, 104 (2d Cir. 1988); *Consolidation Coal Co. v. Donovan,* 656 F.2d 910, 914-15 (3d Cir. 1981); *Wisconsin Elec. Power Co. v. Costle,* 715 F.2d 323, 328-29 (7th Cir. 1983); *Sierra Club v. Georgia Power Co.,* 443 F.3d 1346, 1357 (11th Cir. 2006); *accord NRDC v. Johnson,* 461 F.3d 164, 173-74 (2d Cir. 2006) (tolerances under the Food Quality Protection Act).

[11] *Tug Valley Recovery Ctr. v. Watt,* 703 F.2d 796, 800 (4th Cir. 1983) (describing petition-reopener doctrine as SMCRA's "proper procedure")

Massachusetts, thereby eliminating considerable uncertainty in this costly area of EPA regulation.

CONCLUSION

However it rules on the merits, this Court should not inadvertently affirm *Massachusetts* without addressing the serious jurisdictional questions that underlie that decision. If it decides to address jurisdiction for *Massachusetts*, this Court should affirm CAA provides judicial review when EPA denies a rulemaking petition that presents after-arising information.

December 13, 2013

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IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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INTEREST OF THE *AMICUS CURIAE*[1]

The American Thoracic Society (ATS) is an international educational and scientific organization founded in 1905 that represents more than 15,000 health care professionals. ATS works to prevent and fight respiratory disease around the globe through research, education, patient care, and advocacy. ATS publishes three peer-reviewed scientific journals that disseminate groundbreaking research, including studies on air pollution and health.

ATS supports the position of Respondent, the U.S. Environmental Protection Agency (EPA), because EPA's approach addresses greenhouse gas (GHG) emissions from stationary sources, a key contributor of the anthropogenic GHG emissions that cause climate change, and, in turn, harm human health. In light of this case's vital importance to current and future generations of American citizens, *amicus curiae* urges that this Court uphold the decision of the U.S. Court of Appeals for the D.C. Circuit and find that EPA may implement its approach across all regions of the country.

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[1] Pursuant to this Court's Rule 37.2(a), all parties were timely notified of *amicus'* intention to file this brief. Counsel for petitioners and respondents have consented to the filing of this brief and their written consent has been lodged with the Court. Pursuant to this Court's Rule 37.6, *amicus* states that this brief was not authored in whole or in part by counsel for any party and that no person or entity other than *amicus* or her counsel made a monetary contribution intended to fund the preparation or submission of this brief.

SUMMARY OF ARGUMENT

Amicus curiae submits this brief to assist the Court in understanding how climate change—the result of anthropogenic GHG emissions—harms public health. Those harms are diverse and sometimes severe, even deadly. Failure to affirm the decision of the D.C. Circuit would undermine EPA's authority to regulate major stationary sources of GHG emissions. Such a failure would risk incorrectly relegating GHG emissions to an inferior category of air pollutants, despite the threat they pose to the health of hundreds of millions of American citizens, including members of future generations.

Petitioners have asked this Court to muddy Congress's clear instruction to EPA to regulate "any air pollutant" emitted in large amounts by new major stationary sources. As Respondents have explained, acceding to that request would mean abrogating EPA's sound and longstanding interpretation of § 169 of the Act. It would also mean allowing for more emissions of harmful air pollution despite the danger those emissions pose to Americans' health and welfare. By rejecting Petitioners' arguments, this Court would. therefore, leave undisturbed EPA's view that the meaning of "any air pollutant" is clear on its face, as well as preserve EPA's ability to help improve public health by limiting emissions of non-criteria pollutants, including GHGs.

Amicus curiae ATS supports EPA's efforts to regulate GHG emissions in service to the public health and welfare of current and future generations of Americans. Preserving EPA's authority to address GHG emissions from new major sources in all regions of the country is vitally important to that goal. Accordingly, ATS calls on this Court to affirm the decision of the D.C. Circuit.

ARGUMENT

I. CLIMATE CHANGE LEADS TO ADVERSE IMPACTS ON HUMAN HEALTH

Climate change is a human health problem. Left unchecked, the effects of climate change will increasingly create diverse risks for human health. Heat waves will occur more often and will be more intense,[2] rates of ground-level ozone and particulate matter (PM) formation will increase,[3] allergen concentrations will increase and persist longer,[4] forest fires will become more frequent and widespread,[5] and extreme weather events, such as droughts, floods, and storms, will become more frequent and more extreme.[6] Through these and other causal channels, climate change will lead more of the American public to become ill, to experience various illnesses with greater severity, and to die prematurely.

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[2] P.B. Duffy & C. Tebaldi, *Increasing prevalence of extreme summer temperatures in the U.S.*, 111 Climatic Change 487 (2012); Thomas R. Karl et al., *Global Climate Change Impacts in the United States* 17–18 (Thomas R. Karl et al. eds., 2009); G.A. Meehl & C. Tebaldi, *More intense, more frequent, and longer lasting heat waves in the 21st Century*, 305 Science 994 (2004).

[3] Bertil Forsberg et al., *An expert assessment on climate change and health—with a European focus on lungs and allergies*, 11 Envtl. Health (Supp. 1), June 28, 2012; Daniel J. Jacob & Darrel A. Winner, *Effect of climate change on air quality*, 43 Atmospheric Env't 51, 59 (2009); K. Murazaki & P. Hess, *How does climate change contribute to surface ozone change over the United States?*, 111 J. Geophysical Res.: Atmospheres, Mar. 16, 2006, at 1, 12, 15.

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[5] D.V. Spracklen et al., *Impacts of climate change from 2000 to 2050 on wildfire activity and carbonaceous aerosol concentrations in the western United States*, 114 J. Geophysical Res.: Atmospheres, Oct. 27, 2009, at 1–2 (reviewing prior studies and describing findings based on model derived from historical data and trends); *see also* Cordy Tymstra et al., *Impact of climate change on area burned in Alberta's boreal forest*, 16 Int'l J. Wildland Fire 153, 158–59 (2007); M. Flannigan et al., *Future area burned in Canada*, 72 Climate Change 1 (2005).

[6] *Working Group I Contribution to the IPCC Fifth Assessment Report: Climate Change 2013: The Physical Science Basis. Summary for Policymakers* 5, tbl. SPM.1 (Thomas F. Stoker et al. eds., 2013); *see also* William N. Rom & Kent E. Pinkerton, *Introduction: Consequences of Global Warming to the Public's Health*, in *Global Climate Change and Public Health* 1, 13–14 (Kent E. Pinkerton & William N. Rom eds., 2014) (noting recent jump in extreme weather events and describing insurance industry efforts to offset enormous future anticipated losses.).

A. Mortality Will Increase Due To the Effects of Climate Change

The effects of climate change can be deadly. Chief among the intermediate factors that link climate change to increased mortality are changes to the temperature and humidity of the ambient air, and the attendant promotion of air pollution. Extreme weather is another factor that links climate change to greater mortality.

The heat waves[7] and higher ambient temperatures that will occur with increasing frequency due to climate change are expected to lead to the deaths of American citizens.[8] These expectations are grounded in historical data: many scientists and public health researchers have documented the growing frequency of heat waves and higher temperatures[9] as well as the impact of those weather events on mortality.[10] The best known example of this is the August 2003 heat wave that struck Europe, which led to approximately 32,000 deaths;[11] France alone experienced nearly 15,000 deaths in that month, of which 2,000 occurred in a single day.[12]

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[7] Tiffany T. Smith et al., *Heat waves in the United States: definitions, patterns, and trends*, 118 Climate Change 811, 812–13 (2013) (noting that "heat wave" does not have a universally accepted definition, but is generally used to refer to temperatures—or a temperature-plus-humidity metric—that exceed seasonally- and regionally-specific averages for two or more consecutive days).

[8] G. Brooke Anderson & Michelle L. Bell, *Heat waves in the United States: mortality risk during heat waves and effect modification by heat wave characteristics in 43 U.S. communities*, 119 Envtl. Health Persps. 210 (2011); Scott Greene et al., *An examination of climate change on extreme heat events and climate-change mortality relationships in large U.S. cities*, 3 Weather, Climate, & Soc'y 281 (2011); Alexander Gershunov et al., *The Great 2006 Heat Wave over California and Nevada: Signal of an Increasing Trend*, 22 J. Climate 6181 (2009); M. Medina-Ramón & Joel Schwartz, *Temperature, temperature extremes, and mortality: a study of acclimatization and effect modification in 50 United States*

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cities, 64 J. Occupational & Envtl. Med. 827 (2007) (identifying causal relationship based on over six million observations).

[9] David H. Levinson & Christopher J. Fettig, *Climate Change: Overview of Data Sources, Observed and Predicted Temperature Changes, and Impacts on Public and Environmental Health*, in *Global Climate Change and Public Health* 31, 33–36 (Kent E. Pinkerton & William N. Rom eds., 2014) (collecting citations to leading research and summarizing past and projected increases in ambient temperatures).

[10] *See, e.g.*, Shakoor Hajat & Tom Kosatky, *Heat-related mortality: a review and exploration of heterogeneity*, 64 J. Epidemiology & Community Health 753 (2010) (estimating from 25 years of data that risk of mortality in various cities increased by 1–3% with each degree-Centigrade increase in temperature above threshold); Sumi Hoshiko et al., *A simple method for estimating excess mortality due to heat waves, as applied to the 2006 California heat wave*, 55 Int'l J. Pub. Health 133 (2010); Bart D. Ostro et al., *Estimating the mortality effect of the July 2006 California heat wave*, 109 Envtl. Res. 614 (2009).

[11] Anne Fouillet et al., *Excess mortality related to the August 2003 heat wave in France*, 80 Int'l Archives Occupational & Envtl. Health 16 (2006).

[12] Laurent Argaud et al., *Short- and Long-term Outcomes of Heatstroke Following the 2003 Heat Wave in Lyon, France*,

Particular factors intensify the effect of heat waves on mortality. Cities—the sites of urban "heat islands" that heat up faster and hold heat longer than non-urban areas[13]—will experience especially severe heat stress due to climate change.[14] Heat waves in cities are consistently accompanied by increased mortality.[15] Heat wave-related mortality is also sensitive to the duration and intensity of heat waves: predictably, more people die when heat waves are longer and hotter.[16] Finally, mortality rates amid heat waves also tend to be higher in places unaccustomed to high temperatures.[17] As

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167 Archives Internal Med. 2177 (2007); Jean-François Dhainaut et al., *Unprecedented heat-related deaths during the 2003 heat wave in Paris: consequences on emergency departments*, 8 Critical Care 1 (2004).

[13] Jonathan A. Patz et al., *Impact of regional climate change on human health*, 438 Nature 310 (2005) (noting that "most cities" ambient air temperature exceeds temperatures in surrounding rural areas by 5–11 degrees Centigrade); C.J.G. Morris & I. Simmonds, *Associations between varying magnitudes of the urban heat island and the synoptic climatology in Melbourne, Australia*, 20 Int'l J. Climatology 1931 (2000).

[14] Anthony J. McMichael et al., *International study of temperature, heat and urban mortality: the 'ISOTHURM' project*, 37 Int'l J. Epidemiology 1121, 1130 (2008).

[15] Rom & Pinkerton, *supra* note 6, at 10; *see also* Anthony J. McMichael et al., *Climate change and human health: present and future risks*, 367 Lancet 859, 862, 864 (2006) (noting that more people will be at risk from heat extremes due to trends of aging populations and urbanization).

[16] Daniela D'Ippoliti et al., *The impact of heat waves on mortality in 9 European cities: results from the EuroHEAT project*, 9 Envtl. Health, July 16, 2010.

[17] Rom & Pinkerton *supra* note 6, at 10; G. Brooke Anderson

climate change delivers more frequent heat waves, all three of these factors will continue to amplify the effects of those heat waves on mortality.

Some heat wave-related deaths reflect a short-term displacement of mortality among individuals whose deaths are hastened by only days or weeks.[18] However, statistical analysis has shown that such displacement generally accounts for a small fraction of the mortality related to heat waves, if it accounts for any at all.[19]

The simple stress of hotter weather, independent of acute heat waves, can also increase mortality.[20] This effect can take the form of heat

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& Michelle L. Bell, *Weather-related mortality: how heat, cold, and heat waves affect mortality in the United States*, 20 Epidemiology 205 (2009); L.G. Chestnut et al., *Analysis of differences in hot-weather-related mortality across 44 US metropolitan areas*, 1 Envtl. Sci. & Tech. 59 (1998).

[18] *See, e.g.*, Michela Baccini et al., *Heat Effects on Mortality in 15 European Cities*, 19 Epidemiology 711, 718–19 (2008) (discussing short-term mortality displacement and how to infer it from data).

[19] Rupa Basu & Brian Malig, *High ambient temperature and mortality in California: exploring the roles of age, disease, and mortality displacement*, 111 Envtl. Res. 1286 (2011) (finding no short-term mortality displacement); McMichael et al., *supra* note 15, at 861 (noting estimate that 30–40% of American heat wave-related mortality appears attributable to short-term displacement); Fouillet et al., *supra* note 6 (finding no short-term mortality displacement).

[20] Shakoor Hajat et al., *Impact of high temperatures on mortality: is there an added heat wave effect?*, 17 Epidemiology 632 (2006) (examining summer mortality rates in three cities and finding that generally higher temperatures, rather than heat waves, accounted for most deaths).

stroke[21] or acute episodes of chronic ailments like cardiovascular or respiratory disease.[22]

The indirect effects of hotter weather on public health—such as those resulting from air pollution promotion—are no less alarming than the direct effects. One study of mortality rates in nine French cities found that each 10 μg/m³ increment of increase in ozone level in heat-wave conditions was matched by a one percent increase in mortality rates.[23] Other studies have found that, as with ozone, a given concentration of PM is made deadlier by a higher ambient temperature.[24] These examples illustrate the more general point that higher temperatures generally mean higher concentrations of ozone and PM,[25] and researchers have traced consistent relationships between those air pollutants and mortality.[26] It follows that the higher ambient temperatures expected to result increasingly from climate change will increase mortality rates in turn by promoting ozone and PM formation.[27] Furthermore, the mortality effects of this heat-and-pollution combination are synergistic, meaning that they do more damage together than either would do independently.[28]

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[21] M. Boeckmann & I. Rohn, *Is heat adaptation in urban areas reducing heat stroke incidence and cardiovascular mortality? A systematic review of the literature*, 23 Eur. J. Pub. Health (Supp. 1) 198, 199 (2013) ("We do not know if current heat adaptation measures can protect health during extreme heat."); R. Sari Kovats & Shakoor Hajat, *Heat stress and public health: a critical review*, 29 Annual Rev. Pub. Health 41, 42, 47 (2008) (noting danger of and risk factors for heat stroke).

[22] *See* Helene G. Margolis, *Heat Waves and Rising Temperatures: Human Health Impacts and the Determinants of Vulnerability*, in *Global Climate Change and Public Health*, 85, 97–100 (Kent E. Pinkerton & William N. Rom eds., 2014) (summarizing relevant research and describing pathways through which high temperatures can lead to adverse health outcomes); McMichael et al., *supra* note 15, at 861 ("Most heatwave deaths occur in people with pre-existing cardiovascular disease (heart attack and stroke) or chronic respiratory diseases.").

[23] L. Filleul et al., *The relation between temperature, ozone and mortality in nine French cities during the heat wave of 2003*, 114 Envtl. Health Persps. 1344, 1345 (2006); *see also* Cizao Ren et al., *Ozone modifies associations between temperature and cardiovascular mortality: analysis of the NMMAPS data*, 65 J. Occupational & Envtl. Med. 255 (2008) (identifying similarly synergistic effect in different data set).

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[24] Z. Qian et al., *High Temperatures Enhanced Acute Mortality Effects of Ambient Particle Pollution in the "Oven" City of Wuhan, China*, 116 Envtl. Health Persps. 1172 (2008); Cizao Ren et al., *Does particulate matter modify the association between temperature and cardiorespiratory diseases?*, 114 Envtl. Health Persps. 1690 (2006); K. Katsouyanni et al., *Evidence for interaction between air pollution and high temperature in the causation of excess mortality*, 48 Envtl. Health 235, 240 (1993).

[25] *See, e.g.*, Levinson & Fettig, *supra* note 9, at 36–39 (describing relationship between ozone and ambient temperature in NYC and Atlanta); Jacob & Winner, *supra* note 3; I.S.A. Isaksen et al., *Atmospheric composition change: Climate-Chemistry interactions*, 43 Atmospheric Env't 5138 (2009); Patrick L. Kinney, *Climate change, air quality, and human health*, 35 Am. J. Preventive Med. 459 (2008).

[26] **Ozone:** Michelle L. Bell et al., *A Meta-Analysis of Time-Series Studies of Ozone and Mortality with Comparison to the National Morbidity, Mortality, and Air Pollution Study*, 16 Epidemiology 436, 442 (2005); Kazuhiko Ito et al., *Associations Between Ozone and Daily Mortality: Analysis and Meta-Analysis*, 16 Epidemiology 446, 455 (2005); *see also* Richard L. Smith et al., *Reassessing the relationship between ozone and short-term mortality in U.S. urban communities*, 21 Inhalation Toxicology 37 (2009) (noting inter-regional variation in ozone risk thresholds). **PM:** L. Perez et al., *Saharan dust, particulate matter and cause-specific mortality: A case-crossover study in Barcelona (Spain)*, 48 Env't Int'l 150, 152 (2012); Johanna Lepeule et al., *Chronic Exposure to Fine Particles and Mortality: An Extended Follow-up of the*

Climate change also promotes potentially deadly air pollution by causing more frequent and intense wildfires. That is, climate change reduces precipitation and snowpack, and causes earlier snowmelts and longer hot seasons, all of which make wildfires more frequent and widespread.[29]

Harvard Six Cities Study from 1974 to 2009, 120 Envtl. Health Persps. 965, 968 (2012); U.S. Envtl. Prot. Agency, *Expanded Expert Judgment Assessment of the Concentration-Response Relationship Between $PM_{2.5}$ and Mortality: Final Report* vii, 3-20 to 3-24 (2006).

[27] Kim Knowlton et al., *Assessing Ozone-Related Health Impacts under a Changing Climate*, 112 Envtl. Health Persps. 1557, 1559–60, 1562 (2004) (estimating significant increase in mortality by 2050 as a result of increase in ground-level ozone attendant to climate change); Jonathan A. Patz, *Climate Change and Health: New Research Challenges*, 6 Ecosystem Health 52 (2000) (identifying strong positive association between ozone formation and ambient temperatures above 90°F/32°C).

[28] Rom & Pinkerton, *supra* note 6, at 11.

[29] X. Yue et al., *Ensemble projections of wildfire activity and carbonaceous aerosol concentrations over the western United States in the mid-21st century*, 77 Atmospheric Env't 767, 768, 779 (2013); A.L. Westerling & B.P. Bryant, *Climate change and wildfire in California*, 87 Climate Change (Supp. 1) S231, S231–32 (2008) (describing relationship between reduced precipitation and snowpack, earlier snowmelt, warmer spring and summer seasons, and fire frequency).

Those wildfires in turn generate enormous volumes of air pollution—specifically ozone precursors and highly toxic PM[30]—that drift tens, even hundreds of miles downwind from the actual blaze.[31] Research has tallied clear impacts on human health, including increased mortality, from fire-born pollution.[32] Given the wildfire-promoting trends that follow from climate change, those impacts are expected to grow.[33]

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[30] Daniel A. Jaffe & Nicole L Wigder, *Ozone production from wildfires: A critical review*, 51 Atmospheric Env't 1, 2, 7 (2012); Teresa C. Wegesser et al., *California Wildfires of 2008: Coarse and Fine Particulate Matter Toxicity*, 117 Envtl. Health Persps. 893, 895–96 (2009) (describing greater toxicity of PM generated by wildfire as comparable to breathing ten times the level of the PM found in California's ambient air under normal conditions); G.G. Pfister et al., *Impacts of the fall 2007 California wildfires on surface ozone: Integrating local observations with global model simulations*, 35 Geophysical Res. Letters L19814 (2008).

[31] Tim K. Takaro et al., *Climate change and respiratory health: current evidence and knowledge gaps*, 7 Expert Rev. Respiratory Med. 349, 350 (2013); Isabelle Bey et al., *Global modeling of tropospheric chemistry with assimilated meteorology: Model description and evaluation*, 106 J. Geophysical Res.: Atmospheres 23073 (2001).

[32] Ana G. Rappold et al., *Cardio-respiratory outcomes associated with exposure to wildfire smoke are modified by measures of community health*, 11 Envtl. Health, Sept. 24, 2012; Fay H. Johnston et al., *Estimated Global Mortality Attributable to Smoke from Landscape Fires*, 120 Envtl. Health Persps. 695 (2012) (estimating that inhalation of smoke from landscape fires worldwide leads to approximately 339,000 deaths annually); Otto O. Hänninen et al., *Population exposure to fine particles and estimated excess mortality in Finland from an East European wildfire episode*, 19 J. Exposure Sci. & Envtl. Epidemiology 414, 421–22 (2009).

B. Children and the Elderly Will Feel Climate Change's Adverse Impacts Most Acutely

Children younger than five years and adults older than sixty-five are at greater risk than others for various adverse health impacts linked to climate change. In particular, these populations are both more susceptible to developing chronic illnesses as a result of climate-related environmental factors and are also more likely to experience acute episodes of illness.

Several researchers have identified likely climate change-related impacts on children's health. Some of those impacts, including chronic respiratory illness,[34] chronic non-respiratory illness,[35] and hospitalizations prompted by asthma attacks,[36] owe to children's greater susceptibility to pollutants in the ambient air. That susceptibility arises, in turn, from children's behavior (they generally spend more time outdoors than adults) and physiology (they have higher rates of respiration and immature organs and immune systems).[37] Other impacts relate to children's greater susceptibility to high temperatures and heat waves,[38] which is consistent with their relative inability to regulate body temperature as well as adults younger than sixty-five.[39]

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[33] *See* Yue et al., *supra* note 29, at 779.

[34] Parinaz Poursafa et al., *The relationship of air pollution and surrogate markers of endothelial dysfunction in a population-based sample of children*, 11 BMC Pub. Health 115 (2011).

[35] Roya Kelishadi & Parinaz Poursafa, *Air pollution and non-respiratory health hazards for children*, 6 Archives Med. Sci. 483 (2010).

[36] *See, e.g.*, Roya Kelishadi & Parinaz Poursafa, *The Effects of Climate Change and Air Pollution on Children and Mothers' Health*, in *Global Climate Change and Public Health* 273, 275–76 (Kent E. Pinkerton & William N. Rom eds., 2014) (listing acute and chronic ailments likely to become more incident in children as a result of climate change and

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attendant air pollution promotion); N. Mireku et al., *Changes in weather and the effects on pediatric asthma exacerbations*, 103 Annals of Allergy, Asthma, & Immunology 220, 223–24 (2009) (identifying relationship between weather and frequency of hospital visits by pediatric asthma patients).

[37] J.J. Kim et al., Am. Acad. of Pediatrics Comm. on Envtl. Health, *Ambient Air Pollution: Health Hazards to Children*, 114 Pediatrics 1699 (2004); Kelishadi & Poursafa, *supra* note 35, at 484.

[38] Xiaofang Ye et al., *Ambient Temperature and Morbidity: A Review of Epidemiological Evidence*, 120 Envtl. Health Persps. 19, 26 (2012) (noting that rates of hospital admissions reflect greater temperature-related risks for children and elderly); Kim Knowlton et al., *The 2006 California Heat Wave: Impacts on Hospitalizations and Emergency Department Visits*, 117 Envtl. Health Persps. 61 (2009) (observing greater risk of heat-related emergency department visits for children ages 0–4); Rupa Basu & Bart D. Ostro, *A multicounty analysis identifying the populations vulnerable to mortality associated with high ambient temperature in California*, 168 Am. J. Epidemiology 632, 634 (2008) (identifying heightened mortality risk for infants younger than one year).

[39] Margolis, *supra* note 22, at 100–103. At least one study has also identified a clear relationship between ambient temperature and the onset of premature labor. Rupa Basu et al., *High Ambient Temperature and the Risk of Preterm Delivery*, 172 Am. J. Epidemiology 1108 (2012).

Even more than young children, adults aged sixty-five and older face a number of heightened health risks owing to climate change. They are more likely to be hospitalized or to die as a result of high temperatures and heat waves.[40] They are expected to experience more frequent acute cardiovascular and respiratory illnesses, as well as strokes, as a result of the heat and pollution promotion attendant to climate change.[41] Climate change is, therefore, expected to inflict greater health risks and costlier medical care on older Americans.

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[40] Janet L. Gamble et al., *Climate Change and Older Americans: State of the Science*, 121 Envtl. Health Persps. 15 (2013); Antonella Zanobetti et al., *Summer temperature variability and long-term survival among elderly people with chronic disease*, 109 Proc. Nat'l Acad. Sci. 6608 (2012); Rupa Basu, *High ambient temperature and mortality: a review of epidemiologic studies from 2001 to 2008*, 8 Envtl. Health, Sept. 16, 2009; M. Stafoggia et al., *Factors affecting in-hospital heat-related mortality: a multi-city case-crossover analysis*, 17 Epidemiology 315 (2006).

[41] G. Brooke Anderson et al., *Heat-related Emergency Hospitalizations for Respiratory Illnesses in the Medicare Population*, 187 Am. J. Respiratory & Critical Care Med. 1098 (2013); Youn-Hee Lim et al., *Effects of diurnal temperature range on cardiovascular and respiratory hospital admissions in Korea*, 417–418 Sci. Total Env't 55, 56–57, 60 (2012).

C. Sufferers of Allergies and Asthma Will Experience Greater Difficulties and Health Risks as a Result of Climate Change

GHG emissions and the temperature changes attendant to climate change are causing plants to generate more pollen.[42] Urban heat islands magnify this effect in and around cities.[43] More frequent and severe thunderstorms, which can cause sudden pollen releases, are another way that climate change promotes pollen in the ambient air.[44]

More pollen, in turn, causes more allergic and non-allergic diseases.[45] Ragweed, for instance, produces allergenic pollen at a rate that rises and falls with ambient CO_2 levels,[46] which are increasing apace.[47] Ragweed also spurs a chemical response from human cells that tends to stimulate lung inflammation[48] and can thereby cause upper and lower respiratory tract symptoms even in people who do not normally suffer allergic asthma, allergic rhinitis (hay fever), or allergic conjunctivitis (pink eye).[49]

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[42] Ziska et al., *supra* note 4; Ilginc Kizilpinar et al., *Pollen counts and their relationship to meteorological factors in Ankara, Turkey during 2005–2008*, 55 Int'l J. Biometeorology 623, 629–30 (2011); Julie Wolf et al., *Elevated atmospheric carbon dioxide concentrations amplify Alternaria alternata sporulation and total antigen production*, 118 Envtl. Health Persps. 1223 (2010).

[43] Rom & Pinkerton, *supra* note 6, at 12.

[44] Shuaib M. Nasser & Thomas B. Pulimood, *Allergens and Thunderstorm Asthma*, 9 Current Allergy & Asthma Rep. 384, 387–88 (2009); A.E. Dennis Wardman et al., *Thunderstorm-associated asthma or shortness of breath epidemic: A Canadian case report*, 9 Canadian Respiratory J. 267 (2002).

[45] *See, e.g.*, L.A. Darrow et al., *Ambient pollen concentrations and emergency department visits for asthma and wheezing*, 130 J. Allergy & Clinical Immunology 630 (2012); Léa Héguy et al., *Associations between grass and weed pollen and emergency department visits for asthma among children in Montreal*, 106 Envtl. Res. 203 (2012) (linking pollen to asthma exacerbation); Perry E. Sheffield et al., *The Association of Tree Pollen Concentration Peaks and Allergy*

Increasing pollen counts and longer allergy seasons have significant impacts on the health and wellbeing of the roughly 16.9 million American adults and 6.7 million American children who have been diagnosed with hay fever.[50] (Other less

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Medication Sales in New York City: 2003–2008, 2011 ISRN Allergy, no. 537194, at 1, 4–6 (identifying clear relationship between consumption of allergy medication and local pollen concentrations); C. Porsbjerg et al., *Allergen sensitization and allergen exposure in Greenlander Inuit residing in Denmark and Greenland*, 96 Respiratory Med. 736 (2002) (identifying increased incidence of allergic reactions following greater allergen exposure).

[46] Peter Wayne et al., *Production of allergenic pollen by ragweed (Ambrosia artemisiifolia L.) is increased in CO_2-enriched atmospheres*, 88 Annals Allergy Asthma & Immunology 279 (2002).

[47] Rom & Pinkerton, *supra* note 6, at 1–2.

[48] Aliz Varga et al., *Ragweed pollen extract intensifies lipopolysaccharide-induced priming of NLRP3 inflammasome in human macrophages*, 138 Immunology 392 (2013).

[49] Anthony M. Szema, *Asthma, Hay Fever, Pollen, and Climate Change*, in *Global Climate Change and Public Health* 155, 156 (Kent E. Pinkerton & William N. Rom eds., 2014).

[50] Jeannine S. Schiller et al., Centers for Disease Control (CDC), Nat'l Ctr. for Health Stats., *Summary Health Statistics for U.S. Adults: National Health Interview Survey,*

conservative estimates put the number of American hay fever sufferers somewhere between 30 to 90 million, including as many as forty percent of American children.[51]) Hay fever symptoms, which range from inconvenient to debilitating, not only impair the quality of life of millions of Americans, but also impose substantial costs on the health care system.[52]

Longer, more potent allergy seasons also promise difficulties for the 25.7 million Americans (8.4 percent) who suffer from asthma—a number that includes 7.0 million children or 9.5 percent of Americans under eighteen.[53] Asthma inflames and

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2011, Vital Health Stats. ser. 10, no. 256, at 22, tbl. 3 (2012); Barbara Bloom et al., CDC, Nat'l Ctr. for Health Stats., *Summary Health Statistics for U.S. Children: National Health Interview Survey, 2011*, Vital Health Stats. ser. 10, no. 254, at 11, tbl. 2 (2012).

[51] Patrick L. Kinney et al., *Climate, Air Quality, and Allergy: Emerging Methods for Detecting Linkages*, in *Global Climate Change and Public Health* 121, 130 (Kent E. Pinkerton & William N. Rom eds., 2014).

[52] Susan M. Schappert & Elizabeth A. Rechtsteiner, CDC, Nat'l Ctr. for Health Stats., *Ambulatory medical care utilization estimates for 2007*, Vital Health Stats., ser. 13, no. 169, at 23 tbl.7 (2011) (tallying ambulatory care visits owing to allergic rhinitis); Robert A. Nathan, *The burden of allergic rhinitis*, 28 Allergy & Asthma Proc. 3 (2007) (describing symptoms, impacts on quality of life, and costs of treatment).

[53] *See* Jeanne E. Moorman et al., CDC, Nat'l Ctr. for Health Stats., *National Surveillance of Asthma: United States, 2001–2010*, Vital Health Stats. ser. 3, no. 35, at 3–4 (2012); *see also* Lara J. Akinbami, CDC, Nat'l Ctr. for Health Stats., *The State of Childhood Asthma, United States: 1980–2005*, Advance Data from Vital and Health Stats., no. 381 (2006) (reporting growing asthma prevalence); David M. Mannino et

narrows airways in the lungs, making it difficult to breathe.[54] An asthma attack (or "exacerbation") is dangerous and painful, often requires medical attention—if not emergency medical treatment—and can debilitate its victim for several hours or days after the acute episode passes.[55] Recurrent exacerbations can cause permanent airway damage and often require expensive medical care.[56] Several studies have traced higher numbers of asthma-related emergency department visits to higher temperatures and pollen counts.[57] As those underlying factors increase as a result climate change, the prevalence and severity of asthma attacks are expected to increase as well.[58]

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al., *Surveillance for Asthma: United States, 1960–1995*, 47 Morbidity & Mortality Weekly Rep. 1 (1998) (same).

[54] Nat'l Heart, Lung, and Blood Institute, Nat'l Insts. of Health, *At a Glance: Asthma*, Pub. No. 09-7429, at 1 (2009).

[55] Susan M. Pollart et al., *Management of acute asthma exacerbations*, 84 Am. Family Physician 40 (2011); Mary E. Strek, *Difficult asthma*, 3 Proc. Am. Thoracic Soc'y 116 (2006); E.R. McFadden, Jr., *Acute Severe Asthma*, 168 Am. J. Respiratory & Critical Care Med. 740 (2003).

[56] Gary S. Rachelefsky, *From the page to the clinic: Implementing new National Asthma Education and Prevention Program guidelines*, 9 Clinical Cornerstone 9, 9–10 (2009); Stuart W. Stoloff & Homer A. Boushey, *Severity, control and responsiveness in asthma*, 1 J. Allergy & Clinical Immunology 544 (2006).

[57] Y. Chen et al., *Atmospheric Temperature & Pollen Counts Impact New York City Asthma ER Visits*, 125 J. Allergy & Clinical Immunology (Supp. 2), Ab208 (2010).

[58] L. Cecchi et al., *Projections of the effects of climate change on allergic asthma: the contribution of aerobiology*, 65 Allergy 1073 (2010).

Notably, research suggests not only that climate change will make life harder for people with allergic diseases, such as hay fever and asthma, but also that such diseases will likely become ever more prevalent, if current climate change trends persist.[59]

D. Sufferers of Cardiovascular and Cardiopulmonary Diseases, Diabetes, and Kidney Disease Will Also Experience Greater Health Risks as a Result of Climate Change

Non-respiratory diseases are also expected to become more difficult to endure and more dangerous as a result of climate change. The chief factors linking climate change to those diseases include high temperatures and heat waves, wildfires, and air pollution promotion.

Multiple studies have traced jumps in hospital admissions for myocardial infarctions and acute episodes of congestive heart failure to higher ambient temperatures and heat waves.[60] One British study, which examined that pattern on an hourly basis, found that the incidence of myocardial infarction rose within one to six hours of ambient temperature exceeding twenty degrees Centigrade (sixty-eight degrees Fahrenheit).[61] Furthermore, as well as spurring more frequent exacerbations of heart disease, hotter weather generally makes heart disease deadlier for older people.[62]

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[59] *Id.*; G. D'Amato & L. Cecchi, *Effects of climate change on environmental factors in respiratory allergic diseases*. 38 Clinical & Experimental Allergy 1264 (2008).

[60] *See, e.g.*, Lim et al., *supra* note 41, at 60; Rochelle S. Green et al., *The effect of temperature on hospital admissions in nine California counties*, 55 Int'l J. Pub. Health 113, 118 (2010); Joel Schwartz et al., *Hospital admissions for heart disease: the effects of temperature and humidity*, 15 Epidemiology 755 (2004).

Several studies of climate-driven changes in rates of hospital visits have also identified a list of other diseases that appear to flare up amid higher temperatures and heat waves, whether because of the heat alone or because of the additional air pollution generated in higher temperatures, or both.[63] Those diseases include diabetes, chronic obstructive pulmonary disease (COPD), stroke, and kidney failure.[64]

Wildfires, which are expected to increase due to climate change, have also been identified as a likely cause of increased hospitalization for acute episodes of COPD[65] and of congestive heart failure.[66]

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[61] Krishnan Bhaskaran et al., *Heat and risk of myocardial infarction: hourly level case-crossover analysis of MINAP database*, 345 British Med. J., Dec. 13, 2012 (observing 1.9% increase in risk of heart attack for each degree above 20°C in ambient air temperature).

[62] Zanobetti et al., *supra* note 40, at 6611.

[63] Knowlton et al., *supra* note 38, at 64 (noting that usual rate of visits prompted by diabetes-related symptoms increased by about eight percent during heat wave); Rupa Basu et al., *The effect of high ambient temperature on emergency room visits*, 23 Epidemiology 813, 817–18 (2012); Kim Knowlton et al., *supra* note 27.

[64] Knowlton et al., *supra* note 38, at 62–65; Basu et al., *supra* note 63, at 817.

II. BY ADDRESSING THE GHG EMISSIONS BEHIND CLIMATE CHANGE, EPA CARRIES OUT THE CLEAN AIR ACT'S MANDATE TO PROTECT PUBLIC HEALTH

As this Court has recognized, anthropogenic GHG emissions are air pollutants that harm public health. *See Massachusetts v. EPA*, 549 U.S. 497, 521, 528–29 (2007) ("The harms associated with climate change are serious and well recognized"; "The Clean Air Act's sweeping definition of 'air pollutant' includes . . . [GHGs]"). GHGs are, therefore, subject to the Clean Air Act, which requires EPA to regulate pollutants that endanger public health and welfare. 42 U.S.C. § 7602(g) (defining "air pollutant"); 74 Fed. Reg. 66,496 (Dec. 15, 2009) (endangerment and causation findings); 75 Fed. Reg. 17,004 (Apr. 2, 2010) (explaining when GHGs became subject to regulation under Clean Air Act). Nothing in Part C of the Act—which includes the Prevention of Significant Deterioration (PSD) program—exempts GHGs from regulation.

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[65] Sarah B. Henderson & Fay H. Johnston, *Measures of forest fire smoke exposure and their associations with respiratory health outcomes*, 12 Current Opinion in Allergy & Clinical Immunology 221 (2012).

[66] Ana G. Rappold et al., *Peat Bog Wildfire Smoke Exposure in Rural North Carolina is Associated with Cardiopulmonary Emergency Department Visits Assessed through Syndromic Surveillance*, 119 Envtl. Health Persps. 1415, 1415–18 (2011).

See 42 U.S.C. § 7479(1) (defining "major emitting facility" subject to PSD program as one that emits "any air pollutant" in excess of statutory thresholds).

EPA's approach to regulating GHGs under the PSD program—the Tailoring Rule—satisfies the Act's mandate to protect Americans' public health by limiting GHG emissions as well as EPA is administratively able. *See* 75 Fed. Reg. 31,514, 31,517 (June 3, 2010). Under the Rule, PSD review reaches approximately eighty-six percent of the GHG emissions attributable to major new and modified facilities in regions subject to the PSD program. *Id.* at 31,571. Consequently, even though EPA does not impose PSD review on the millions of sources that emit GHGs in excess of statutory thresholds, it requires the largest GHG emitters to satisfy the requirements of a PSD permit, including use of the best available control technology (BACT) to limit those GHG emissions. *See* 42 U.S.C. §§ 7475(a)(4) (requiring BACT use), 7479(3) (defining BACT).

A. Subjecting GHG Emitters to the PSD Program Both Regulates GHGs and Delivers Co-Benefits for Public Health

EPA's approach regulates stationary facilities that emit enormous volumes of GHGs[67]—a category of sources that no effective effort to address climate change can ignore. Notably, EPA's approach also expands PSD review to encompass sources of criteria pollutants that, because they are located in regions plagued by relatively little ambient air pollution, would not otherwise be subject to PSD permitting.[68] In this way, EPA achieves the benefits of regulating GHG emissions and the co-benefits of reducing emissions of pollutants like ozone and PM. *See* EPA, EPA-547/B-11-001, PSD and Title V Permitting Guidance for Greenhouse Gases, 21, 41–46 (2011) (anticipating achievement of GHG emissions reductions chiefly through energy efficiency improvements and noting that such improvements generally reduce co-pollutants). Researchers have long argued that this type of indirect benefit is a compelling reason to impose GHG emission controls on mobile and stationary sources.[69] Their argument is no less valid here.

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[67] *See* James E. McCarthy, Cong. Res. Serv., R43127, *EPA Standards for Greenhouse Gas Emissions from Power Plants: Many Questions, Some Answers* 2 (2013) (noting that EPA

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had issued 110 GHG permits to stationary sources as of September 2013).

[68] Clean Air Act Advisory Committee, *Air Permitting Streamlining Techniques and Approaches for Greenhouse Gases: Final Report* 10 (2012) (discussing "anyway" sources that must seek PSD permits regardless of GHG emissions levels and "not-anyway" sources that would not have to seek PSD permits but for Tailoring Rule's GHG limitations).

[69] *See* J. Jason West et al., *Co-benefits of mitigating global greenhouse gas emissions for future air quality and human health*, 3 Nature: Climate Change 885 (2013); Douglas Crawford-Brown et al., *Ozone and PM related health co-benefits of climate change policies in Mexico*, 17 Envtl. Sci. & Pol'y 33 (2012); Ying Li & Douglas J. Crawford-Brown, *Assessing the co-benefits of greenhouse gas reduction: Health*

B. Adopting the American Chemistry Council's Proposal Would Curtail EPA's Authority to Regulate *All* Non-Criteria Pollutants

The American Chemistry Council (ACC) asks this Court to rewrite the Clean Air Act rather than adopt the interpretation of the Act espoused by EPA, state agencies, and federal courts for 35 years. Specifically, ACC proposes that only emissions of a criteria pollutant[70] should trigger the requirement that an emitting facility seek EPA's review under the PSD program. (*See* ACC Br. 15–18, 29 n.12.) ACC does not acknowledge that the effects of its proposal extend well beyond EPA's treatment of GHG emissions. Indeed, ACC's proposal is actually a revision of the PSD program that excludes *all* non-criteria pollutants—not only the GHGs discussed in ACC's brief—from the list of

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benefits of particulate matter related inspection and maintenance programs in Bangkok, Thailand, 409 Sci. Total Env't 1774 (2011); G.F. Nemet et al., *Implications of incorporating air-quality co-benefits into climate change policymaking*, 5 Envtl. Res. Letters, Jan. 2010, at 1 (surveying 37 peer-reviewed studies that estimate air quality co-benefits of GHG emissions reduction); J. Jason West et al., *Global health benefits of mitigating ozone pollution with methane emission controls*, 103 Proc. Nat'l Acad. Sci. 3988 (2006).

[70] "Criteria pollutants" are six commonly occurring chemicals or compounds for which EPA establishes health-based thresholds, embodied in National Ambient Air Quality Standards *See* 42 U.S.C. § 7409. They are ozone, PM, carbon monoxide, several forms of nitrogen oxide, sulfur dioxide, and lead. 40 C.F.R. part 50.

pollutants that trigger PSD review. In sum, ACC's proposal would put human health at risk, ignore the Clean Air Act's plain meaning, and depart from decades of settled legal interpretation and regulatory practice.

ACC's blanket exemption of non-criteria pollutants from PSD review could jeopardize public health. The adverse health effects of non-criteria pollutants currently subject to PSD review, such as fluorides and hydrogen sulfide, are well documented. Symptoms of hydrogen fluoride inhalation range from irritation of the mucous membranes and bronchoconstriction to pulmonary edema, partial or complete lung collapse, and even death.[71] Hydrogen sulfide inhalation can cause eye and throat irritation, headache, and delirium, and both high- and low-level exposures have been linked to lasting neurobehavioral effects.[72] PSD permits condition emissions of such non-criteria pollutants on the use of BACT and thereby limit the concentration of those pollutants in the ambient air. Adopting ACC's proposal would, therefore, do much more than simply carve GHGs out of the PSD program; it would hobble EPA in its effort to follow the Clean Air Act's mandate to "protect public health and welfare from any actual or potential adverse effect," 42 U.S.C. § 7470(1), with respect to harmful non-criteria air pollutants.

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[71] *The Emergency Response Safety and Health Database: Hydrogen Fluoride/Hydrofluoric Acid*, CDC (June 18, 2013), http://www.cdc.gov/niosh/ershdb/EmergencyResponseCard_29750030.html.

[72] *Medical Management Guidelines for Hydrogen Sulfide*, Agency for Toxic Substance and Disease Registry (2013), http://www.atsdr.cdc.gov/MMG/MMG.asp?id=249&tid=46#bookmark2; Kaye H. Kilburn, *Effects of Hydrogen Sulfide on Neurobehavioral Function*, 96 Southern Med. J. 639 (2003) (describing lasting neurological symptoms following both residential and workplace exposures); Thomas H. Milby & Randall C. Baselt, *Hydrogen Sulfide Poisoning: Clarification of Some Controversial Issues*, 35 Am. J. Indust. Med. 192, 192 (1999) (describing lasting effects from low-level exposures).

ACC's proposal also ignores EPA and state-agencies' longstanding view that, under the Clean Air Act, emissions of non-criteria pollutants trigger PSD permitting obligations. Those agencies have acted accordingly by requiring PSD review of hundreds of sources of these pollutants in service to public health and welfare. *See, e.g.*, Ohio EPA, Staff Determination for the Application to Construct Under the Prevention of Significant Deterioration Regulations, App. No. 16-02379, at 2–3 (Jan. 11, 2005) (noting that any "regulated pollutant" could trigger PSD permitting requirements and that hydro chlorofluorocarbon (HCFC) emissions did so here); Illinois EPA, Approval of Permit No. 0103002, at 1 (Dec. 12, 2001) (PSD permitting requirement triggered by facility's HCFC emissions); EPA, Approval to Construct/Modify A Stationary Source, Permit No. NC-79-08, at 3, 5 (July 15, 1981) (PSD permitting requirement triggered by hydrogen sulfide emissions); *see also* 67 Fed. Reg. 80,186, 80,240 (Dec. 31, 2002) (identifying 21 categories of air pollutant, including 15 non-criteria pollutants, that "are subject to Federal PSD review and permitting requirements."); EPA, RACT / BACT / LAER

Clearinghouse, http://cfpub.epa.gov/rblc/ (listing for 1980–2014 time period 439 facilities in receipt of permits for sulfuric acid mist emissions, 128 for hydrogen sulfide emissions, among others). ACC's suggested change would eliminate the basis for those actions and others like them—not because ACC objects to those actions, but as an incidental consequence of cabining EPA's authority to address GHG air pollutants under the PSD program. Put another way, ACC improperly asks this Court to legislate and to do so notwithstanding significant collateral consequences.

CONCLUSION

For the foregoing reasons, *amicus* American Thoracic Society urges this Court to protect the health of millions of Americans by affirming the D.C. Circuit's decision.

Respectfully submitted,

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In The Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Writ of Certiorari to the United States Court of
Appeals for the District of Columbia Circuit

BRIEF OF POLITICAL ECONOMISTS HENRY N. BUTLER, CHRISTOPHER DEMUTH, MARC LANDY, R. SHEP MELNICK, TODD J. ZYWICKI, AND THE CENTER FOR ENERGY INNOVATION AND INDEPENDENCE AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS AND IN SUPPORT OF REVERSAL

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INTEREST OF *AMICI CURIAE* [1]

Amici are scholars whose work in political science and economics focuses on the separation of powers and the political economy of the regulatory state. *Amici* claim no special expertise on the difficult administrative law questions presented in this case. Rather, they respectfully seek to assist the Court by describing the political and institutional incentives that shape EPA's actions, as well as the consequences that are likely to flow from the Court's decision in this case.

Amicus curiae Henry N. Butler, a leading public policy analyst and specialist in law and economics, is a Foundation Professor of Law and Executive Director of the Law & Economics Center at George Mason. Professor Butler most recently served as executive director of the Searle Center on Law, Regulation, and Economic Growth at Northwestern University School of Law. He has held prior appointments at The Brookings Institution, Chapman University, the University of Kansas, the University of Chicago, and Texas A & M University.

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[1] No counsel for a party authored this brief in whole or in part, nor did any person or entity, other than *amici* or their counsel, make a monetary contribution intended to fund the preparation or submission of this brief. This brief is submitted pursuant to the blanket consent letters from all parties, on file with this Court.

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Amicus curiae the Center for Energy Innovation and Independence is a not-for-profit corporation established under the laws of Oklahoma. It has no stock and no parent corporation. The Center seeks to help our country realize its enormous untapped potential to produce energy from its vast natural resources, talent, and capital by ensuring the proper and most effective allocation of regulatory authority between the National government and the States. The Center pursues this objective by monitoring federal regulations and commenting upon them in connection with administrative and congressional proceedings. The Center also provides guidance on the contours of cooperative federalism in the area of energy policy.

SUMMARY OF ARGUMENT

Faced with the ambiguous statutory term "pollutant" in the Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act (CAA), the Environmental Protection Agency (EPA) chose a broad construction of that term, including carbon dioxide and other greenhouse gases. By EPA's own admission, that interpretation leads to absurd results—an explosion of permit requirements for small, heretofore exempt stationary source emitters that would overwhelm EPA and state permitting agencies.[2] To avoid that outcome, the agency in its "Timing" or "Triggering Rule" effectively re-wrote the unambiguous, numerical emission thresholds contained in the PSD provisions of the CAA. EPA further claims authority to revise the re-written thresholds again in the future.

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[2] Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, Final Rule, 75 FED. REG. 31514, 31538-39 (June 3, 2010) (hereinafter "Tailoring Rule").

The absurd results of its broad construction should have prompted EPA to reject that construction. However, instead of accommodating the regulation of GHGs – an unforeseen problem when Congress enacted the CAA – to the statute, EPA chose to accommodate the statute to its preconceived regulatory objectives, in direct derogation of the statutory text. So far as *amici* are aware, that arrogation of authority is unprecedented. It is squarely inconsistent with the principles and purposes of the separation of powers. Four points are of particular concern:

1. The EPA's strategy of "tailoring" a statute to remedy an absurdity of the agency's own creation sets a dangerous precedent which would unbalance the allocation of powers between our constitutional branches of government. Rewriting statutes is a power that must be reserved to Congress. Under our system of government, there can be no executive prerogative to make binding rules without a basis in law.

2. EPA's claim of authority is doubly problematic because it undermines the effectiveness of interbranch scrutiny. By raising the triggering thresholds for PSD coverage, EPA seeks to thwart judicial review by claiming that the most interested and affected parties lack standing to challenge its legislative rewrite. And by dividing the interested parties affected by applying the PSD provisions to GHGs, EPA has significantly undermined political coalitions

that might otherwise challenge its actions before Congress.

3. Accepting EPA's claimed powers would have troubling consequences for the administration of the CAA. Because the PSD permitting process requires an open-ended inquiry into best available control technologies, including changes in practices and procedures by emitters, the process requires an inquiry into all forms of energy usage involving combustion. That process provides extraordinary opportunities for overreach and abuse. And it threatens to create an unauthorized, *ad hoc* energy policy across vast sectors of the U.S. economy.

4. Rejecting EPA's extraordinary claim of authority would have limited consequences for the agency's broader efforts to regulate GHGs and would likely promote more coherent development of policy in this area. The absurdity created by expanding the coverage of the PSD provisions to GHGs would not affect EPA's power under other sections of the CAA that do *not* create such absurdities. Any limit on EPA's power to regulate small emitters of GHGs is an issue best addressed by Congress, not the executive branch.

ARGUMENT

I. EPA's Claimed Authority to "Tailor" Statutory Text Asserts an Executive Prerogative Contrary to the Constitutional Separation of Powers.

Whatever the proper scope of permissible congressional delegation of policymaking power to the executive, EPA's actions in this case threaten the constitutional allocation of authority. Moreover, they do so in a way that is both unprecedented and difficult to limit.

A. EPA's Purported Rationales for Altering the Statute Combine to Create Virtually Unchecked Executive Prerogative.

In support of its claimed authority to alter the express numerical thresholds in the statutory PSD provisions, EPA relies upon a mix of three doctrines: 1) the "absurd results" doctrine; 2) the "administrative necessity" doctrine; and 3) the "one-step-at-a-time" doctrine.[3] In substance, the agency insists that it *must* construe a statutory term that permits interpretation ("pollutant") in a way that produces absurdity – and then mobilizes that absurdity to rewrite a term ("250" tons per year (tpy)) that is not open to interpretation. That turns ordinary canons of construction and delegated powers upside-down.[4] According to EPA, "If congressional intent is not clear [because of an absurd result], then * * * the agency has discretion to fashion an interpretation that is a reasonable construction of the statute."[5] By "construction," however, the agency in this instance does not mean interpreting a word in a plausible manner, it means rewriting a troublesome word entirely.

The flaw in EPA's reasoning lies in confusing ambiguity with conflict or absurdity, particularly when that conflict or absurdity is not intrinsic to the statutory text, but rather is a function of the agency's own unnecessary construction.

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[3] Tailoring Rule, 75 FED. REG. at 31516.

[4] *Chevron USA Inc.* v. *Natural Resources Defense Council*, 467 U.S. 837 (1984).

[5] Tailoring Rule, 75 FED. REG. at 31517.

As *amici* understand it, the conventional and proper dynamic of agency construction of statutory language does not involve such manufactured circumstances but rather involves language that is ambiguous or uncertain in its application to particular situations. However, the meaning of the PSD threshold language of "250" tpy is not even remotely ambiguous. In fact, it is as precise as imaginable. Nor is there any ambiguity in its uniform application to the category of "pollutant[s]," however defined.

The only ambiguity relevant here is in the scope of the genus "pollutant[s]," which EPA properly recognized did not encompass *all* conceivable pollutants, but only a subcategory thereof. In choosing an overbroad subcategory, however, EPA created not an ambiguity, but an absurdity. Such an absurdity certainly is informative about the quality, or lack thereof, of EPA's construction of the term "pollutant[s]," but it tells us nothing about the meaning and application of the 250 tpy trigger language.

Even had Congress unmistakably spoken and included a sweeping category of pollutant that would make the remainder of the PSD provisions absurd and unworkable, that would not suggest an ambiguity in the statute; it instead would suggest a foolish or nonsensical statute. Incoherence and absurdity of that sort may well be grounds for courts refusing to enforce a statute, but they are certainly not grounds for authorizing an executive agency to simply adopt a new version of that statute that it deems preferable. Unlike where Congress has explicitly or implicitly delegated to an agency the power to fill in certain details in the case of absurdity (assuming, *arguendo*, that it was not created by the agency's own flawed construction of other parts of the statute), Congress has merely made a mistake or an incoherent choice. But such an error implies no delegation to the executive of editorial authority over statutes – nor could it. Even when Congress makes poor or unworkable choices, "[a]llowing an agency to substitute its own policy choices for Congress's policy choices * * * would undermine core separation of powers principles."[6]

Whatever the proper scope of delegation to executive agencies, it is a fundamental premise of our constitutional system that where Congress, within the scope of its authority, has spoken on an issue, an agency is bound to apply the law as enacted. If a law is so incoherent or unworkable that it cannot as a practical matter be obeyed, then it is up to Congress to make whatever new choices are required, rewrite the law in whatever form the political process dictates, and thereby resolve any conflict or absurdity. It is most certainly not the role of an executive agency to assume the task of legislative revision and write whatever law *it* deems preferable.

Maintaining and enforcing a staunch separation between the legislative power to make (or remake) the law and the executive power to carry such law into execution as directed by Congress is especially important in our modern administrative state. The growth of federal legislation and the administrative state during the past century has created a corpus of legislation so vast that one or more federal statutes can be found to touch on nearly every issue. As a result, legislators rarely write upon a clean slate and are much more likely to step into a legislative muddle in which existing statutes already create reservoirs of delegated executive branch authority, often imperfectly matched to evolved conditions or the particular features of the issue at hand. As a result, what Guido Calabresi described as the problem of "legal obsolescence" is pervasive.[7] In such circumstances, the potential for conflict among disparate legislation touching upon common topics increases and the probability of absurd results grows. Determining which branch of government is empowered to deal with such mismatches or conflicts between existing statutes and contemporary problems thus goes to the very heart of the separation of powers in the modern age.

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[6] *Center for Biological Diversity* v. *EPA*, 722 F.3d 401, 414 (2013) (Kavanaugh, J., concurring).

Accepting EPA's use of absurdity to claim deference to the agency's "tailoring" existing or conflicting law would effectively grant agencies license to legislate in a large and increasing set of circumstances. In such cases, executive branch agencies could become the first and last governmental actors whenever thorny mismatches between existing statutes and contemporary problems come to the fore. Such an expansion of potential agency authority also would create perverse incentives: whereas before agencies had every reason to avoid absurdities for fear of getting bogged down in unworkable situations, they would now have every reason to find and exploit them. As Judge Kavanaugh noted, the authority claimed by EPA would have significant ramifications for constitutional separation of powers:

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[7] A COMMON LAW FOR THE AGE OF STATUTES 2 (1982).

> Agencies presumably could adopt absurd or otherwise unreasonable interpretations of statutory provisions and then edit other statutory provisions to mitigate the unreasonableness. Allowing agencies to exercise that kind of statutory re-writing authority could significantly enhance the Executive Branch's power at the expense of Congress's and thereby alter the relative balance of powers in the administrative process.

[JA175] (Kavanaugh, J., dissenting from denial of rehearing *en banc*).

B. EPA's Purported Limits on its "Tailoring" Authority Are Illusory.

Though EPA tries to minimize the breadth of its claimed authority, there is no meaningful substance to its suggestions that traditional limits on deference to agency interpretations and the constraint of perceived congressional intent provide adequate limits to that authority.

First, in sharp contrast to agencies' ordinary interpretive and gap-filling authority, EPA now claims "broad discretion considering that both the statutory terms cannot be considered dispositive and underlying congressional intent is not clear."[8] In ordinary interpretive situations where there exists some ambiguity, the express terms of the statute still provide some outer boundary that limits the scope of agency discretion. But when starting with the premise of incompatible congressional directives, there is no reasoned basis for choosing which of Congress's incompatible edicts should take priority. Hence the choice of policy direction will be left entirely in the hands of agency "discretion." Consistency with the statute becomes a meaningless test where the statute is claimed to be inconsistent with itself.

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[8] Tailoring Rule, 75 FED. REG. at 31546.

Second, a claimed limit of fidelity to congressional intent similarly lacks substance in the case of absurdity and incompatible textual indicia of intent. Furthermore, congressional intent as to different portions of large and complex litigation is always a mix of compromises and competing concerns. On EPA's theory in this case the agency will be left free to select which thread of congressional "intent" should be followed.

For example, in this case one could read the PSD triggering thresholds to indicate an intent to cover only the limited class of conventional industrial pollutants for which such thresholds were designed and make sense. Surely the weight-based numerical applicability cutoffs provided explicitly by the statute provide the best evidence of the sort of pollutants the section is intended to address. If applying these thresholds to GHGs results in absurdity, as EPA asserts, that provides fairly strong evidence against the idea that Congress intended application of PSD to GHGs. EPA ignored that far more plausible view of congressional intent in favor of a more expansive supposed intent to cover a broad range of pollutants with no regard for the explicit and implicit limits written into the law.[9]

The malleability of EPA's purported limit of congressional intent can also be seen in the fact that the intent EPA claims to follow is by no means supported by the historical record. Indeed, as the EPA originally argued in its 2003 decision *not* to regulate GHGs under the CAA, Congress has addressed the issue of global climate change through a number of statutes separate from the CAA.[10] Deliberations over the bipartisan overhaul of the Act in 1990 explicitly considered and rejected adding provisions to target greenhouse gas emissions, with the only pertinent amendments relating to monitoring of GHGs.[11] If EPA contends its application of the PSD program to GHGs nevertheless conforms to a discernible congressional intent, as a historical matter that simply makes no sense. At the very least, the confusion and necessarily competing strands of intent that would be examined under such an inquiry mean that the agency is effectively unconstrained by congressional intent as it seeks to apply the PSD provisions to GHGs.

When EPA reads "250" as "100,000," then, it should not be thought of as performing an act of "interpretation" in any meaningful sense. Rather, the agency is rewriting the law on the fly without any fixed legislative guideposts governing its choice. The end result is a kind of modern-day prerogative: the executive branch's notion of the public good is taken as sufficient justification for actions otherwise not prescribed or sanctioned by law.

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[9] Tailoring Rule, 75 FED. REG. at 31550.

[10] Notice of denial of petition for rulemaking: Control of Emissions From New Highway Vehicles and Engines, 68 FED. REG. 52922, 52927 (2003).

[11] 46 CQ ALMANAC 232-33, 279-281 (1990).

Accepting this kind of prerogative power for agencies, especially in situations where no exigency demands urgent action, would permanently unbalance the branches in the executive's favor. Rather than needing a statute directly authorizing it to address a particular issue, an agency need only find a law tangentially related to an issue that can plausibly be applied. At that point, any problems of structural mismatch can be "tailored" away by effectively rewriting the statute.

The concern that EPA will use its claimed tailoring power expansively to rewrite other parts of the law not to its taste is far from speculative. The agency offered the identical combination of rationales (absurdity, administrative necessity, and one-step-at-a-time) in order to justify an exemption to the PSD program's applicability for GHGs emitted from biogenic processes – despite the lack of statutory text on which this exemption might be based. That particular use of the maneuver was rejected by the D.C. Circuit.[12] As Judge Kavanaugh's concurrence rightly noted, EPA's rationale for the Tailoring Rule has ensured that "EPA is necessarily making it up as it goes along. That is not how the administrative process is supposed to work."[13] While EPA failed in that particular instance, its varied tailoring efforts should alert this Court to the potentially broad impact of allowing EPA to keep the legislative revision authority it has claimed.

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[12] *Center for Biological Diversity* v. *EPA*, 722 F.3d 401 (2013).

[13] *Id.* at 415, 414 (Kavanaugh, J., concurring).

II. EPA's Tailoring Strategy Reduces the Likelihood of Effective Interbranch Scrutiny.

Having claimed a power of legislative revision for itself, EPA has also adopted an approach to implementing that power that runs a significant risk of insulating it from the scrutiny of the other branches, thereby exacerbating the dangers of its approach for the separation of powers.

A. EPA Erects Barriers to Judicial Review of Its Legislative Rewrite by Claiming Affected Litigants Lack Standing.

EPA has sought to insulate its actions from judicial review by claiming that litigants do not have standing to challenge the upward "revision" of the PSD thresholds. The D.C. Circuit accepted this position. Smaller emitters, it said, benefit from the statutory rewrite; large emitters would be subject to regulation with or without the agency's "tailoring," by operation of the statute.[14] Thus, no regulated party can have standing to challenge the agency's action. Regulatory beneficiaries, in contrast, enjoy broad rights to petition the agency for rulemaking and to demand more aggressive regulation.

This litigation asymmetry would have a distorting effect on environmental policy and would skew the type of cases that come before the courts for review. While Congress did mean to empower environmental interests to monitor EPA's policymaking through the CAA's standing provisions, there is no reason to think that it wished to destroy industry litigants' ability to challenge the agency when its rules run afoul of the law. But that is precisely the effect of court of appeal's standing decision.

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[14] [JA261-66].

B. EPA's Divide and Conquer Approach Undermines the Chances of Effective Legislative Involvement.

EPA's approach to implementing the PSD triggering threshold for GHGs also creates a danger of insulating EPA's statutory rewrite from revision by Congress.

By tailoring the PSD emission thresholds, EPA can effectively "tailor" the size of the coalition of interests mobilized against it, ensuring that opposition never achieves majority support. Should legislation look imminent at some point, EPA could exempt certain key sources by resetting the applicability thresholds accordingly – while preserving its discretion to expand the thresholds once the political winds shift again. The separation-of-powers concerns are grave.

It is a well-established result in the political economy of interbranch relations that bureaucratic deviations from prescribed policies are difficult for legislators to correct even when they can perfectly monitor executive branch choices. In a classic article, McCubbins, Noll, and Weingast demonstrated that coalitional politics often make targeted corrections to restore the prior status quo politically untenable. If bureaucrats are able to violate procedures meant to fix policy in place they will be able to effectively decide policy within some zone of discretion, playing potential coalition partners off against each other.[15] The early history of the PSD program vividly confirms this lesson. The imperative to reject state plans which "permit the significant deterioration of existing air quality" was originally a judicial mandate, later accepted and championed by EPA. This development fundamentally changed congressional politics regarding the CAA, as House and Senate committees favoring the new policy could achieve their preferred policies simply by blocking White House proposals that would have restored the policy status quo. Ultimately, these shifts made without the benefit of legislative deliberation caused significant administrative problems for the EPA.[16]

Rather than mobilizing to elicit legislatively-produced coherence, therefore, firms facing the possibility of regulation will only have the incentive to posture such that EPA will make adjustments to exempt their operations. The ensuing game of bluffing and adjusting will contribute to the unpredictability of EPA's policies, and ultimately end up disadvantaging those firms which are unwilling to engage in this kind of unsavory gamesmanship.

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[15] Matthew McCubbins, Roger Noll, and Barry Weingast, *Structure and Process, Politics and Policy: Administrative Arrangements and the Political Control of Agencies*, 75 VA. L. REV. 431, 436-37 (1989).

[16] R. Shep Melnick, REGULATION AND THE COURTS: THE CASE OF THE CLEAN AIR ACT 72-73 (1983).

Although Congress retains the power to provide a decisive resolution through a clarifying amendment, such a solution inverts the constitutionally established structural hurdles of enacting legislation. The Constitution intentionally and explicitly imposed barriers to enacting legislation, in the service if limited government. But if an executive agency can make law without overcoming such hurdles, the constitutional structure works to prevent Congress from correcting or nullifying such executive law-making. That converts the constitutional scheme from one intended to make it hard to pass legislation into one making it hard to cabin executive prerogative.

Empowering the executive branch to rewrite awkward statutory provisions does more than change the status quo bias from inertia to executive-driven action. Those who hope to propose a coherent and well-designed policy regime to address a problem must now present a political package that is preferable not only to the policy reflected in current law, but also better than whatever powerful interest groups expect to be able to get from the tailoring agency. Consequently, legislatively imposed coherence becomes less likely; experimentation on behalf of well-connected interest groups, more likely.

III. Applying the PSD Requirements to GHGs Will Lead to *Ad Hoc* Energy Policy that EPA is Ill-Suited to Create.

As noted at the outset, the difficulties presented by this case arise primarily from EPA's flawed and unnecessary construction of "pollutant[s]" in the PSD provisions as including GHGs. That construction led to the absurd results, which in turn led EPA to claim authority to rewrite the statute. But the consequences of EPA's inclusion of GHGs do not stop there. Precisely because the PSD provisions were never designed for GHGs, implementing those requirements will lead to still further legislative encroachment by EPA.

One example of the further problems EPA's choices will create is the application of the PSD program's "Best Available Control Technology" (BACT) standard.[17] With regard to traditional pollutants subject to the PSD permitting requirements, BACT is designed to operate on a case-by-case basis, allowing permitting authorities to take into account site-specific factors in determining which kinds of technologies can appropriately be required for each source of emissions. These factors are combined to reach a source-wide emissions reduction target that satisfies the permitting authority's judgment of "achievability."[18] While this flexibility is valuable in the regulation of conventional pollutants, applying it in the GHG context is likely to create special problems of unequal regulatory burdens. For conventional pollutants, the CAA can plausibly aspire to the goal of minimizing total emissions. It may be impossible to achieve zero emissions, but the goal of maximum possible reduction in emissions is nevertheless a plausible one.

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[17] CAA § 165(a)(4) and § 169(3), rules codified at 40 CFR 52.21(j), SIP rules at 40 CFR 51.166(j), specific states' SIPs (40 CFR Part 52, Subpart A – FFF).

[18] EPA, PSD and Title V Permitting Guidance for Greenhouse Gases, EPA-HQ-OAR-2010-0841-0001 (November 2010) (http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2010-0841-0001), 18.

The case is quite different for GHGs, however. Especially with respect to CO_2, aiming for zero emissions would be equivalent to aiming for an abolition of combustion reactions. (Even the most ambitious visions of carbon capture and sequestration allow some leakage.) Attempting to implement BACT thus poses a conundrum, which becomes apparent when we consider EPA's guidance on how permitting authorities should determine BACT.

In a five-step process, sources and their regulators are to: 1) determine all of the available control technologies, 2) eliminate those that are "technically infeasible," 3) rank the remaining technologies by effectiveness, 4) evaluate the technology determined to be most effective, including its "energy, environmental and economic impacts," and 5) select the BACT.[19]

Especially at Step 4, using this template to determine appropriate measures to reduce GHG emissions invites permitting authorities to essentially engineer an *ad hoc* energy policy from whole cloth. This is because permitting authorities must go beyond considering appropriate add-on control technologies. They must also consider requiring use of inherently lower-emitting processes, practices, and designs.[20] In the case of GHG emissions, that injunction could become tantamount to determining just how important the source's energy usage is, with authorities at least tacitly making case-by-case determinations of the social benefits and social costs of energy usage. Permitting authorities are grossly underqualified to perform this deeply political task. And they will receive almost no additional guidance from the PSD provisions, which aim to minimize emissions at reasonable costs rather than to balance competing legitimate social needs, including those served by energy consumption.

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[19] *Id.* at 19, 42.

[20] *Id.* 27, 31-32.

Faced with such a situation, a lobbying bonanza would ensue in which firms would seek to gain a within-industry advantage over their competitors by securing favorable permitting decisions. Because of BACT's sensitivity to site-specific factors, authorities will have the power to require disparate emissions reductions strategies at different plants based on their assessment of the relative economic value of greater energy usage at one operation compared to another. Inconsistency, capriciousness, and advantages to the politically savvy are the sure results.

At the same time, environmental groups will exert pressure to make more ambitious use of the PSD statute, since in its current form it provides the EPA a nearly unconstrained grant of power to address GHG emissions. One law professor has boldly suggested rewriting the tailoring rule so as to make EPA a nationwide overseer of building codes, which position it could use to mandate widespread energy efficiency requirements for nearly all new construction in the United States.[21] This proposal is but the first of many that will surely follow seeking to exploit the PSD as a license to legislate independent of Congress.

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[21] Albert Monroe, *Using Building Codes to Rewrite the Tailoring Rule and Mitigate Climate Change*, 30 PACE ENVTL. L. REV. 58 (2012).

In the face of this regulatory expansion potentially covering all CO_2 producing activities, it is worth noting that the resulting permit-based policy represents an abysmal cost-benefit proposition, particularly as compared to more market-oriented solutions. As EPA's own website notes, using economic incentives (through taxes or tradable emissions permits) "provide[s] continuous inducements, monetary and near-monetary, to encourage polluting entities to reduce releases of harmful pollutant[s]" rather than simply encouraging them to do the least possible to comply with plant-specific regulations.[22] Creating economy-wide incentives for making improvements where they can be undertaken at the least cost is especially important for issues such as global climate change, where there is no localized component to make a single source's emissions especially problematic. The overall social value of regulating GHGs through PSD is thus likely to be low.

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[22] EPA, Economic Incentives (web page) (http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/EconomicIncentives.html); *see also* Winston Harrington and Richard D. Morgenstern, Economic Incentives versus Command and Control, 152 RESOURCES 13, 15 (Fall/Winter 2004) (noting that economic incentives are generally more efficient than command and control systems).

IV. Denying EPA Authority to Include GHGs as Part of the PSD Program Will Have No Meaningful Adverse Effects.

If this Court were to reject EPA's position, there would be few meaningful consequences from an environmental protection perspective. As EPA itself has recognized, such a ruling would have no consequences for other potential avenues of GHG regulation under the CAA. The agency argued that its application of the absurdity doctrine "has no relevance for applying other CAA requirements – such as the requirements concerning endangerment and contribution findings under CAA section 202(a)(1) or emission standards for new motor vehicles or new motor vehicle engines under CAA section 202—to GHGs or GHG sources."[23] If this Court were to hold that the absurdity from applying the PSD provisions to GHGs means those provisions do not apply, the same logic would apply: the absurdity is entirely with reference to the PSD statute, without any necessary implications for the application of other parts of the CAA to GHG emissions.

A ruling against EPA as to the applicability of PSD would do little to impair EPA's overall ability to regulate GHG emissions effectively under the CAA as a whole, and would thus be entirely consistent with the Court's holding in *Massachusetts v. EPA*, as *amici* understand it. EPA's already-existing or planned rules promulgating regulations for mobile source emissions (Title II) and setting industry-wide standards for new or modified stationary sources (New Source Performance Standards under § 111) will presumably be unaffected. So, too, would any future efforts to designate GHGs as "criteria" pollutants subject to National Ambient Air Quality Standards (under § 109). While these regulatory options each share some of the PSD program's inefficiencies, none is necessarily beset by the same absurdities or so likely to give rise to abuses.

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[23] Tailoring Rule, 75 FED. REG. at 31548.

Precluding the regulation of GHGs from PSD permitting would have one clear substantive consequence: it would preclude CAA permitting of emissions from small, non-industrial sources, barring further congressional action. In contrast, EPA's Tailoring Rule promises to exempt those sources only until further notice and as the agency may see fit. For those who believe that regulation of small sources of GHG emissions would be socially valuable, this result might be unwelcome. Rather than needing only to convince the EPA at some future time to expand the scope of its program by lowering the applicability thresholds, they would need to persuade Congress to change the law. But surely it cannot be a cause of great distress for our policymaking apparatus to be required to function as constitutionally prescribed, rather than through a series of administrative kludges.

Furthermore, when we look at other recent cases in which courts rejected awkward executive branch applications of an existing statute, the record ought to give some encouragement to proponents of regulatory change. In *MCI v. AT&T*, this Court rejected the Federal Communication Commission's attempt to make a key filing requirement optional for non-dominant carriers as a means of promoting competition, finding that the Commission's interpretation of its ability to "modify any requirement" stretched the discretion conferred by the statute far past its breaking point.[24] In response, Congress passed the Telecommunications Act of 1996, promoting competition in a far more orderly and comprehensive manner.[25]

In *FDA v. Brown & Williamson Tobacco Corp.*, this Court rejected the Food and Drug Administration's awkward attempt to apply the "safety"-protective Food, Drug, and Cosmetic Act to the regulation of tobacco, unconvinced by the agency's promises to tailor the statute to accommodate the differences between tobacco and medical prescription drugs.[26] Over the decade that followed, Congress intensely debated a number of regulatory schemes for tobacco, culminating in passage of the Family Smoking Prevention and Tobacco Control Act of 2009.[27] Though the regulation prescribed by the eventual legislation bore some resemblance to the administratively crafted option rejected by this Court, there were also crucial differences setting the overall regulatory scheme on a very different, better-crafted, and more coherent foundation.[28]

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[24] *MCI Telecommunications Corp. v. American Telephone & Telegraph Co.*, 512 U.S. 218 (1994).

[25] Pub. L. No. 104-104, 110 STAT. 56 (1996). See Jim Chen, *The Legal Process and Political Economy of Telecommunications Reform*, 97 COLUM. L. REV. 835, 858, 864 (1997) (noting that the FCC's efforts at self-guided reform "had reached the limits of [its] legal authority and institutional competence," thus necessitating legislative intervention).

[26] 529 U.S. 120 (2000).

[27] Pub. L. No. 111-31, 123 Stat. 1776 (2009).

To the extent that regulating small sources of GHG emissions is a priority, a similar path is quite conceivable should the Court reject EPA's attempt to tailor the PSD program. There has been and continues to be a great deal of congressional attention paid to the question of global climate change.[29] That these efforts have to this point failed to produce comprehensive legislation is hardly proof of the impossibility of future Congressional action. When such action does come, it would unquestionably be better targeted at the particular contours of global climate change and GHG emissions than the current square peg pounded into the round hole of PSD.

CONCLUSION

For the foregoing reasons, this Court should reverse the decision below.

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[28] See Philip A. Wallach, *When Can You Teach an Old Law New Tricks?* 16 N.Y.U. J. LEGIS. & PUB. POL'Y 689, 728-732 (2013).

[29] See *Massachusetts* v. *EPA*, 549 U.S. 497, 535 (2007) (Roberts, C.J., dissenting).

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AMICUS
CURIAE
BRIEF

12-1146, 12-1248, 12-1254, 12-1268, 12-1269, 12-1272

IN THE

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, et al.,

Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF CALPINE CORPORATION AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENT

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INTEREST OF THE AMICUS CURIAE[1]

Calpine Corporation ("Calpine") is among the largest generators of electricity in the nation. Operating a fleet of 93 natural gas-fired and geothermal power plants, Calpine is capable of delivering more than 28,000 megawatts of electricity to utilities and industrial customers in twenty U.S. states and Canada. Calpine is the nation's largest operator of "combined-cycle" natural gas-fired power plants, which increase fuel efficiency by utilizing two power generation cycles in tandem, harnessing energy that would otherwise be wasted and significantly reducing emissions of air pollutants, including greenhouse gases ("GHGs"). Calpine is also the nation's largest producer of renewable geothermal power.

Over the last decade, Calpine has completed one of the biggest power plant development and construction programs in recent United States history, investing billions of dollars to construct highly efficient electricity generating plants with low emissions of GHGs. In doing so, Calpine has successfully been through the preconstruction permitting process under the Clean Air Act's Prevention of Significant Deterioration ("PSD") program as applied to GHGs six times. Calpine plans continued growth in the future, which will subject it to further such permitting.

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[1] All counsel of record have consented to the filing of this brief and those consents are on file with the Clerk of the Court. No counsel for any party authored this brief either in whole or in part. No persons other than *amicus* or its counsel has made any monetary contribution to the preparation or submission of this brief.

Calpine submits this amicus brief for two purposes. First, Calpine is well-situated to describe for the Court its experiences as a regulated entity with the application of the PSD program to GHGs under the Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010). Second, Calpine will demonstrate by its experiences that—contrary to statements of some of the petitioners and the *amici* supporting them—applying the PSD review and permitting process to GHGs is neither overly burdensome nor unworkable. Furthermore, Calpine's experiences show that the program is designed to identify and mandate control requirements that are available and cost-effective. Instead of stifling development, the program, if upheld, should lead to the identification of better technologies, energy efficiency improvements, and environmental benefits.

INTRODUCTION AND SUMMARY OF ARGUMENT

Calpine supports the Environmental Protection Agency's ("EPA") regulation of GHG emissions from major stationary sources under the Clean Air Act as an important step in improving air quality and protecting the environment at a reasonable cost. As one of the largest generators of electric power in the nation, Calpine has long recognized and acted upon its responsibility to minimize its plants' emissions of air pollutants, including GHGs, focusing its operations on highly efficient natural gas-fired generation and geothermal resources.[2] Calpine is committed to protecting and preserving the environment and human health, and to ensuring the safety and welfare of its employees, neighbors, and the communities where it operates.

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[2] The electricity sector is the largest source of domestic GHG emissions, accounting for nearly a third of the U.S. total. *See* EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks:*

Calpine has already been through the PSD permitting process for GHG emissions for six projects and, if EPA's determination is upheld, will continue to apply for GHG permits in the future for both new and modified major sources. Specifically, in 2008 and *prior* to the promulgation of the Tailoring Rule, Calpine voluntarily obtained the first PSD permit for GHGs in the country for its Russell City Energy Center, a combined-cycle natural gas-fired plant in Hayward, California, thereby gaining valuable experience with the process. In 2011, after the Tailoring Rule took effect for plants already subject to PSD for other, non-GHG pollutants ("anyway" sources), Calpine completed GHG PSD permitting at two additional natural gas-fired facilities, the Channel Energy Center and the Deer Park Energy Center, both in Harris County, Texas. In 2012, when the Tailoring Rule applied to all major sources of GHGs, Calpine obtained the first GHG permits under the PSD program for geothermal plants, in connection with two proposed facilities at the Geysers complex in Sonoma County, California. Lastly, in 2012, Calpine received a PSD permit, which included review for GHG emis-

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1990-2011 2-20 (2013), *available at* http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2013-Main-Text.pdf. Another twenty percent of GHG emissions come from the industrial sector. *Id.* The Tailoring Rule is explicitly designed to decrease emissions from these largest sources of such emissions. 75 Fed. Reg. at 31,516.

sions, authorizing the construction of the Garrison Energy Center in Dover, Delaware.

These experiences enable Calpine to respond directly to criticisms of the PSD program for GHGs.[3] First, in Calpine's experience, complying with the procedural requirements of the PSD program for GHGs has not resulted in the insurmountable burdens or excessive delays for applicants predicted by the rule's critics.[4] Rather than the drastic revolution critics suggest, application of the PSD review process to GHGs represents a natural evolution of the program.

Second, Calpine's experiences demonstrate that the emission control technologies found appropriate through application of the PSD program to GHGs are feasible as a matter of engineering or cost and do not require changes to the applicant's purpose or objective for the proposed facility or other significant project modifications. None of the six permits Calpine has obtained so far has resulted in the imposition of infeasible technologies or unreasonable costs on the affected plants. To the contrary, the technologies found appropriate through application of the PSD program are energy-efficient technologies that make the most sense for the company's bottom line.

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[3] Regulation by the EPA of GHGs at issue in this case also implicates Title V permitting. However, Title V's permitting program imposes no new substantive requirements. *See* Timing Rule, 75 Fed. Reg. 17,004, 17,023 (Apr. 2, 2010).

[4] *See, e.g.*, Patricia Sharkey, et al., *BACT, in the Future*, LAW360.COM (Nov. 29, 2010), *available at* http://www.law360.com/energy/articles/211547/bact-in-the-future.

The PSD program, as applied to GHGs through the Tailoring Rule, focuses on technologies that contribute to energy and resource efficiency. These technologies reduce plant expenditures and waste, while minimizing emissions of GHGs, and therefore enhance profitability. The PSD program, by its nature, drives the development of the most effective of these controls, since its requirement of the "Best Available Control Technology" ("BACT") encourages operators like Calpine to take the lead in implementing technologies to reduce GHG emissions. Instead of creating "severe economic harm to the country," Brief of Petitioners in No. 12-1254, the Energy-Intensive Manufacturers Working Group on Greenhouse Gas Regulation and the Glass Packaging Institute ("EIM Br.") at 30, EPA's application of the PSD program to GHGs through the Tailoring Rule is an achievable and economically-sound step toward reducing the nation's emissions of GHGs.

ARGUMENT

I. PSD Permitting for GHGs Does Not Dramatically Change the Burdens of the Permitting Process for Regulated Entities or Agencies.

Critics of EPA's rule wrongly warn that the economic impacts of applying PSD review to GHGs will be "devastating," Brief of State and Local Chambers of Commerce and Other Business Associations as *Amici Curiae* in Support of Petitioners ("Chambers as Amici Br.") at 11, with "the potential for almost unlimited harm." EIM Br. at 11. To the contrary, EPA has consciously (and successfully) addressed concerns that complying with the permitting process will be excessively burdensome by phasing in compliance through the Tailoring Rule.[5] *See* 75 Fed. Reg. at 31,516.

Under the Tailoring Rule, most sources that are required to obtain GHG permits are subject to the PSD program for other regulated pollutants "anyway"—*i.e.* if they are "major" for non-GHG pollutants because they are in excess of statutory and regulatory limits. *Id.* at 31,540. In addition to "anyway" sources, the Tailoring Rule sets a GHG threshold of 100,000 tons[6] per year, above which sources become "major" for GHG emissions under the PSD program ("threshold" sources).[7] This threshold limits the PSD permitting requirement to only those major sources that emit very large quantities of GHGs, equivalent to the carbon dioxide emissions from 390 railcars of coal burned per year,[8] a far cry from subjecting "bakeries" and "large private homes" to regulation as EPA's critics suggest. Chambers as Amici Br. at 8. These relatively few, large facilities, like Calpine's Geysers plants, will typically be familiar with Clean Air Act permitting and subject to other forms of environmental review.

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[5] EPA has phased in PSD permitting requirements under the Tailoring Rule in two steps. 75 Fed. Reg. 31,514; *see also* EPA, *PSD and Title V Permitting Guidance for Greenhouse Gases* (2011) ("PSD Guidance for GHGs"). Initially, only new or modified sources that would otherwise be subject to PSD for the emissions of other conventional pollutants were subject to permitting requirements for GHGs if those GHG emissions exceeded 75,000 tons of GHGs per year. PSD Guidance for GHGs at 12-15. Later, the permitting requirements were expanded to any new major sources or major modifications that emit at least 100,000 tons of GHGs per year. *Id.* These two phases can be referred to as regulating "anyway" and "threshold" sources, respectively.

[6] The Tailoring Rule refers to GHG emissions on a carbon dioxide equivalent basis, or CO_2e. 75 Fed. Reg. at 31,522. Some GHGs, such as methane (CH_4) and sulfur hexafluoride (SF_6) have a GHG potential many times higher than CO_2. *Id.* Expressing GHGs as CO_2e ensures that the varying impacts of these different gases are taken into account. *Id.*

[7] EPA has since promulgated a third phase of the Tailoring Rule. 77 Fed. Reg. 41,051 (July 12, 2012). However, this step retains the permitting thresholds established by the first two phases, subjecting no additional sources to regulation.

A. Critics' Response to the Application of the PSD Permitting Process to GHGs is Overstated and Typical of Unfounded Complaints about Environmental Regulations Generally.

In fact, critics' prediction that application of PSD permitting to GHGs will "endanger[] the nation's economic health and welfare," Chambers as Amici Br. at 27, is not a new response. This overstatement of the economic consequences of environmental regulation is a common refrain, one that historically has failed to come true, and will likely not come true in this case if the rule is upheld. Critics have in the past repeatedly overestimated the costs of complying with new air pollution regulations. For example, the Edison Electric Institute predicted that the acid rain provisions in the 1990 Clean Air Act Amendments would cost the electric utility industry between $5.0

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[8] *See* EPA, Greenhouse Gas Equivalencies Calculator, *available at* http://www.epa.gov/cleanenergy/energy-resources/calculator.html. The Tailoring Rule does not apply to non-major sources below these thresholds. 75 Fed. Reg. at 31,516.

and $7.1 billion per year by 2010,[9] while a senior executive at a leading power generator claimed the Amendments could cause "the potential destruction of the Midwest economy."[10]

In fact, the costs of compliance ended up being far lower than these predictions, and EPA has estimated that the benefits of the 1990 amendments are 30 times greater than the costs of compliance.[11]

This pattern of exaggerated predicted costs has played out again and again, from the regulation of asbestos and benzene in the 1970s, through chlorofluorocarbons and acid rain in the 1990s, to the recent Mercury and Air Toxics Standards for power plants.[12] In fact, even the proponents of regulations have tended to systematically overestimate the anticipated costs.[13] This pattern occurs because both proponents and opponents of regulations fail to take into account that "the very act of enacting the regulation lowers the cost,"[14] as companies innovate and drive down the cost of compliance. In Calpine's experience as the first electricity generator to obtain a PSD permit for GHGs, compliance with EPA's regulation was not burdensome in the first instance and is becoming easier and cheaper as the company and permitting authorities gain experience with the process.

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[9] II Comm. on Environment and Public Works, Legislative History of the Clean Air Act Amendments of 1990, at 2553 (Cong. Info. Serv. 1993) (statement of Rep. Waxman, House Debate, May 21, 1990).

[10] Michael Kranish, *Stakes Are High at Acid Rain Source*, BOSTON GLOBE, Feb. 18, 1990.

[11] EPA, Office of Air and Radiation, *The Benefits and Costs of the Clean Air Act from 1990 to 2020, Summary Report* 2 (2011).

[12] Eban Goodstein & Hart Hodges, *Polluted Data; Overestimating Environmental Costs*, AMERICAN PROSPECT, Nov./Dec. 1997, at 64; Mandy Warner, *The Cost to Meet Clean Air and Environmental Standards Comes Down (Again)*, CLIMATE 411 (June 11, 2013), http://blogs.edf.org/climate411/2013/06/11/the-cost-to-meet-clean-air-and-environmental-standards-comes-down-again (summarizing several companies' declining estimates of their costs of complying with Mercury and Air Toxics standards).

The reality of compliance with environmental regulations like the PSD program is that as more entities participate in it, costs associated with the regulatory process go down, because applicants and permitting authorities alike gain experience with the permitting process.[15] As the permitting process becomes more streamlined over time, it will be easier to for regulated entities to navigate.

B. Calpine's Experience with the PSD Program Under the Tailoring Rule Confirms That It Does Not Result in Material Delays or Significant Additional Costs.

Concerns about the burden of PSD permitting for GHG emissions have not materialized in practice.

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[13] DAVID M. DRIESEN, THE ECONOMIC ANALYSIS OF ENVIRONMENTAL LAW 22-23 (2003).

[14] *Id.* at 23.

[15] *See* Frank Ackerman, *The Unbearable Lightness of Regulatory Costs*, 33 FORDHAM URB. L.J. 1071, 1084 (2006).

Calpine has had extensive, direct experience with the Tailoring Rule, in application to both "anyway" and "threshold" sources. Thus far, Calpine has completed the process six times for six different plants and in three different states. In all six cases, Calpine's plants have been able to meet the energy demands of its customers on time and without significant additional costs or changes in proposed technology.

Four of Calpine's plants have obtained permits that satisfy PSD requirements for GHGs as "anyway" sources according to the first phase of the Tailoring Rule. All four facilities, the Russell City Energy Center in California, the Channel Energy Center and Deer Park Energy Center in Texas, and the Garrison Energy Center in Delaware would have been[16] or were required to obtain PSD permits "anyway" for emissions of other regulated pollutants above statutory and regulatory thresholds under the Clean Air Act, either as major new or modified sources. *See* 42 U.S.C. § 7475. For all four plants, the only additional burden of GHG permitting was applying the PSD analysis to an additional set of pollutants.

Indeed, in Calpine's experience with "anyway" sources, the GHG analysis was only a small part of the overall permitting process. This is despite the fact that the Russell City plant was the first facility in the nation to undergo PSD permitting for GHGs. Even with all the administrative growing pains of early adoption for both Calpine and the permitting authority, the Bay Area Air Quality Management District ("BAAQMD"), permitting did not result in significant additional costs or material delays in construction. The same was true for the two Texas plants. At all three plants, the majority of the time and effort spent on the PSD process was for the other, traditionally regulated pollutants that required PSD permitting "anyway." Adding GHGs to the analysis did not require reinventing the wheel, but rather was a logical extension of that analysis. Permitting has been a fact of life for Calpine and other regulated entities for decades, and EPA's application of the PSD program to GHGs does not fundamentally alter that landscape.[17] Calpine's plans for continued growth and development have not changed as a result of the application of the PSD program to GHGs.

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[16] As noted above, Calpine elected to undergo the permitting process for GHGs at the Russell City plant voluntarily, prior to the promulgation of the regulations at issue, anticipating that they would likely come into effect in the future. Calpine correctly reasoned that its proposal for this state-of-the-art facility would satisfy PSD requirements.

Calpine has also been through the PSD permitting process twice for plants that were *not* required to obtain PSD permits for other regulated pollutants, but emitted sufficient GHGs to subject them to regulation as major sources under the Tailoring Rule's regulatory threshold ("threshold" sources). Calpine's two proposed geothermal facilities, the Buckeye and Wild Horse Power Plants at the Geysers in California, have both obtained PSD permits for GHGs, even though they would not have been required to undergo PSD review as "anyway" sources of other conventional pollutants prior to the second phase of the Tailoring Rule. At the two Geysers facilities, gases naturally occurring within the steam reservoir contain enough GHGs to push the proposed plants past the emissions threshold of 100,000 tons per year, triggering PSD permitting requirements for GHGs. Having triggered the rule for GHGs, the plants also had to undergo PSD review for two other pollutants the plants emit, hydrogen sulfide (H_2S) and particulate matter (PM).

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[17] Respondents note, and Calpine reemphasizes, that "BACT has been successfully applied to an eclectic variety of [criteria and non-criteria] pollutants, from particulate matter to chlorofluorocarbons to acid gases." Brief of Environmental Organization Respondents at 22. Calpine has successfully complied with these applications of the PSD program, just as it has with GHGs.

Despite this application of the PSD program, the permitting process at Geysers was not "devastating." The two Geysers facilities obtained all required approvals in a timely fashion, without unreasonable administrative burdens or costs. The PSD process was only one component of the local agencies' review of GHG impacts and no more complex than the GHG impacts analysis required by the California Environmental Quality Act as a prerequisite for the County's issuance of use permits under local land use laws. Calpine, like any other facility that emits 100,000 tons per year of GHGs, is already in a highly regulated business. Protecting air quality through compliance with state and federal environmental regulation is a large part of Calpine's—and others'—business. Calpine believes that paying the same attention to GHGs as to other pollutants is both achievable and the responsible thing to do. It is consistent with the business goal of operating with maximum efficiency while protecting the environment.

II. Technologies Required by the PSD Program Have Not, and Should Not, Impose Unreasonable Costs on Affected Facilities or Fundamentally Change the Proposed Projects.

Critics of the rule also argue that the technologies required to limit GHG emissions will "impose almost unlimited costs," EIM Br. at 30, forcing energy generation facilities to close. *See* Chambers as Amici Br. at 14. In Calpine's experience, this grim prediction is at best hyperbole. In fact, by the conclusion of the BACT analysis, which evaluates available technologies, energy efficiency controls emerge as the "best available control technology." These measures do not result in excessive compliance costs or requirements that proposed projects change fundamentally.

A. By Definition, the BACT Process is Designed to Avoid Excessive Compliance Costs, Both Through Its Case-By-Case Analysis and Its Top-Down Approach.

The BACT analysis employed to identify PSD permit limits is specifically designed to avoid the shut-down scenarios critics foresee. Under the Clean Air Act, a PSD permit must contain emissions limitations that are based on the application of the "best *available* control technology" for each pollutant subject to regulation. 42 U.S.C. § 7475(a)(4) (emphasis added).

For the past twenty years, to determine BACT, EPA has developed and used a "top-down" approach that entails five steps.[18] Working through these steps, the applicant and the permitting authority first identify all available control options, and then winnow out those technologies that are technically infeasible or have excessive economic, energy, or environmental costs. PSD Guidance for GHGs at 18. At the last step, the most effective option that has not been eliminated by these considerations is selected as BACT.[19] *Id.*

This five-step process allows the applicant's expertise and knowledge about the specific facility to guide the review, and ensures that technologies selected as BACT are "achievable" in light of their costs.[20] By definition, BACT only requires the implementation of controls that are technically feasible and explicitly takes into account their economic, energy, and ancillary environmental impacts. *Id.*

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[18] EPA, *New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Area Permitting* (1990); *see also* PSD Guidance for GHGs at 17-18.

[19] The five steps are:

Step 1: Identify all available control technologies.

Step 2: Eliminate technically infeasible options.

Step 3: Rank remaining control technologies.

Step 4: Evaluate most effective controls and document results.

Step 5: Select the BACT.

PSD Guidance for GHGs at 18.

[20] Section 169(3) of the Clean Air Act defines BACT as "an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking

Two specific elements of the BACT definition guard against petitioners' and their *amici's* dire predictions of the harms allegedly resulting from the application of PSD to GHGs under the Tailoring Rule. First, the permitting authority determines BACT on a case-by-case basis for each pollutant and source. *Id.* This approach ensures that the complexities of each individual facility, with its varying requirements and challenges, are taken into account. Additionally, the analysis precludes the selection of technologies whose costs are disproportionately high compared to their emissions-reducing potential. PSD Guidance for GHGs at 43. For GHGs in particular, EPA notes that the costs at which emissions-reducing technologies are cost-effective will be "significantly lower" than controls for conventional pollutants that have evolved over time. *Id.*

All of Calpine's facilities that have obtained PSD permits for GHGs have gone through this five-step process, resulting in emissions limits that are readily and economically achievable by the technologies selected as BACT. For example, in 2011, Calpine submitted a PSD permit application for GHGs to EPA Region 6 for a major modification at its Deer Park Energy Center in Harris County, Texas.[21] Deer

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into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques." 42 U.S.C. § 7479(3).

[21] In Texas, EPA Region 6 is currently the PSD permitting

Park is a combined-cycle cogeneration facility that produces electricity from the combustion of natural gas.[22] Calpine's proposed modification of the plant required PSD permitting for other regulated pollutants "anyway," so the plant's GHG emissions triggered permitting requirements for GHGs under the first phase of the Tailoring Rule.

During the permitting process, Calpine and EPA Region 6 worked through each of the five steps to determine BACT for GHG emissions from the plant.[23] EPA's Statement of Basis for the permit

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authority for GHG emissions under a federal implementation plan ("FIP"). Determinations Concerning Federal Implementation Plan Regarding Texas's Prevention of Significant Deterioration Program, 75 Fed. Reg. 25,178 (May 3, 2011). The Texas Commission on Environmental Quality (TCEQ) retains PSD permitting authority for non-GHG pollutants. In May 2013, Texas enacted legislation directing TCEQ to adopt regulations providing for TCEQ to become the permitting authority for GHGs. Public commenting for TCEQ's rulemaking closed on December 9, 2013. *See* TCEQ Rule Project Number 2013-040-116-AI, *available at* http://www.tceq.texas.gov/rules/prop.html.

[22] Combined-cycle plants operate by utilizing combustion turbine generators and heat recovery steam generators in tandem. First, a combustion turbine generator (CTG) burns natural gas to rotate an electrical generator to generate electricity. Then the hot exhaust gas from the combustion turbine is passed through a heat recovery steam generator (HRSG) to generate superheated steam from heat energy that would otherwise be wasted. This steam can then either be sold or used on site to rotate a steam turbine generator (STG), producing more electricity. Prior to the modification at issue, the Deer Park plant consisted of four CTGs, four HRSGs, and a single STG. The proposed modification for which Calpine sought permitting was the addition of one CTG and one HRSG.

[23] Calpine's experience with BACT analysis at the Deer Park

documents the results of this process.[24] In Step 1, Region 6 identified two types of potentially available control technologies: energy-efficient processes, practices, and designs, and the use of carbon capture and storage ("CCS"). Deer Park Statement of Basis at 7-13. In Step 2, some, but not all, CCS technologies, such as geologic storage in spent gas or oil fields, were eliminated as technically infeasible. *Id.* at 13-14. In Step 3, Region 6 ranked the remaining technically feasible options by control effectiveness. *Id.* at 14-16. In Step 4, Region 6 eliminated the remaining CCS technologies as not achievable due to their prohibitive costs. *Id.* at 16-17. This left energy efficiency as the only remaining "available" and "achievable" control technology, which was selected as BACT in Step 5.[25] *Id.* at 17.

Energy Center was indistinguishable from that for the nearby Channel Energy Center. The initial plant designs and the proposed modifications were virtually identical.

[24] *See* EPA Region 6, "Draft Statement of Basis for Greenhouse Gas Prevention of Significant Deterioration Permit for the Calpine Corporation, Deer Park Energy Center (DPEC), LLC," Permit No. PSD-TX-979-GHG (August 2012) ("Deer Park Statement of Basis"), *available at* http://www.epa.gov/earth1r6/6pd/air/pd-r/ghg/calpine-sob.pdf. EPA's Draft Statement of Basis was incorporated into the final permit without substantive changes. *See* EPA Region 6, "Summary of Revisions in Final Permit," (Nov. 28, 2012), *available at* http://www.epa.gov/region6/6pd/air/pd-r/ghg/calpine_deer_park_rev4finalpermit.pdf.

[25] BACT for the Deer Park facility required the use of the proposed combined-cycle design and additional efficient processes, practices, and designs such as periodic burner tuning, fuel gas preheating, automatic controls, and insulation to minimize heat loss from the combustion and steam generators. Deer Park

Calpine also performed the BACT analysis for its two proposed new geothermal plants at the Geysers in California.[26] Geothermal steam includes other gases besides water vapor which do not condense with the steam. At the two Geysers facilities, this non-condensable gas contains enough GHGs to push the plants past the emissions threshold of 100,000 tons per year, triggering PSD permitting requirements under the second phase of the Tailoring Rule. *See* Northern Sonoma County Air Pollution Control District, Buckeye Geothermal Power Plant Evaluation Report, Application No. 10-37.

For Step 1 of the BACT analysis, the local air district identified seven potentially available control technologies, including CCS, injection of the non-condensable gases into the geothermal reservoir, the installation of a waste heat boiler, and overall plant efficiency and optimization. *Id.* at 28. At Step 2, CCS, direct injection of the gases, and the waste heat boiler were all rejected as not technically feasible. *Id.* CCS was eliminated because the local air district determined that there was no currently available technology to successfully remove and sequester the

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Statement of Basis at 10-13. These technologies were enforced by an emissions limit expressed as output-based BACT limit of 7,727.9 Btu/kWh.

[26] Geothermal plants produce electricity from superheated steam delivered from geothermal wells deep in the earth's crust. At the plant, this steam is expanded across a turbine, which spins a generator to produce electricity. Afterwards, the steam passes from the turbine to a condensing system where it condenses into water. This water is then reinjected into the ground via injection wells to replenish the geothermal steam field, completing the cycle.

gas. *Id.* Direct injection of the non-condensable gases was also eliminated, because the process had been attempted unsuccessfully at another, unrelated plant in southern California. *Id.* Finally, the waste heat boiler was eliminated as BACT, even though it would have reduced more emissions of GHGs than other remaining technologies, because a source of boiler-quality water is not available at the Geysers complex. *Id.* The other remaining control options were selected as BACT because they did not have prohibitive economic impacts on the Geysers plants.[27] *Id.* at 29.

A comparison of the two BACT analyses for Deer Park and the Geysers plants reveals that the permitting authorities each proposed additional control technologies at Step 1 of the BACT process as "available," but eventually eliminated them from BACT as either technically infeasible at Step 2 or prohibitively costly at Step 4. Calpine's experience with BACT demonstrates that the process works as intended, guiding the analysis to the most effective emissions reductions possible, while also taking into account the costs of such technologies on the operator.

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[27] BACT for the Geysers facilities included flaring of methane in the vent gas, injection of treated wastewater into the geothermal reservoir to reduce the GHGs in the steam over time, and efficient optimization of power plant operation, including obtaining LEED and Energy Star ratings on plant equipment. BACT resulted in an emissions limit of 740 lb/MWh CO_2e.

B. BACT for GHGs Promotes Energy Efficiency, Which Is Beneficial to Facilities' Business Interests.

Calpine's experiences with the BACT process and the resulting emissions limitations are not unique. Without commercially available, or technically or economically feasible add-on controls to remove GHGs post-combustion, energy efficiency is the chief control under BACT for natural gas-fired and geothermal plants.[28] Calpine's experience with BACT for GHGs in the power generation industry provides examples of why this is the case. Carbon dioxide (CO_2), a major GHG,[29] is an essential product of the chemical reaction between carbon in fossil fuel and the oxygen in which it burns, not the byproduct of imperfect combustion like carbon monoxide.[30] No technology currently exists for natural gas-fired power plants that can eliminate CO_2 generation by adjusting combustion conditions.

Instead, the most effective way to actually reduce the amount of CO_2 generated from the combustion of natural gas in a power plant is to efficiently generate as much electricity as possible from the combustion of each unit of fuel, thereby reducing the amount of fuel needed to meet the plant's required power output.[31] These efficiencies apply both to the main generators and turbines at the plants and to ancillary equipment. Any efficiency, ancillary or otherwise, that reduces the amount of fuel required for each unit of electricity generated corresponds to a reduction in the facility's emissions of GHGs.[32] Similarly, given the lack of available, feasible, or cost-effective controls for non-condensable GHGs in geothermal plants, efficiency in the power generation process is logically a major area of focus for emissions reduction.

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[28] *See* Margaret E. Peloso & Matthew Dobbins, *Greenhouse Gas PSD Permitting: The Year in Review*, 42 TEX. ENVTL. L.J. 233 (2012).

[29] *See* IPCC, *Guidelines for National Greenhouse Gas Inventories* 1.20 (2006), *available at* http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_1_Ch1_Introduction.pdf.

[30] *See* IPCC, *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* 2.8; 2.37 (2000) ("IPCC Good Practice Guidance"), *available at* http://www.ipcc-nggip.iges.or.jp/public/gp/english/2_Energy.pdf.

This reality of efficiency as an important component of BACT is not limited to the power industry, however. These basic facts apply to any facility that produces significant amounts of GHGs as the product of a physical or chemical reaction. Large chemical manufacturing facilities, like lime or cement plants, also produce large amounts CO_2 as a waste product.[33] The more efficiently these facilities use raw materials to meet their production needs, the fewer emissions of byproducts like GHGs are produced.

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[31] *See* Alexander Crockett, et al., ***Implementing "Best Available Control Technology" Requirements For Green Gas Emissions Under the Clean Air Act: What Have We Achieved, What More Can We Expect?***, ENVTL. L. NEWS, Spring 2012, at 28.

[32] Energy efficiency is also used effectively to reduce non-GHG emissions in the PSD permitting process. *See* PSD Guidance for GHGs at 21.

[33] *See* IPCC Good Practice Guidance at 3.10, 3.20.

Hence, it is commercially sensible for all large industrial enterprises to focus on energy and resource efficiency. The less fuel or raw materials utilized to produce a plant's desired output of energy or product, the less that facility needs to spend on fuel or raw materials. A major expense at Calpine's natural gas-fired plants like Deer Park is the purchase of natural gas. Efficiently utilizing that gas is a key part of its success in the industry and an integral part of achieving Calpine's business objectives. Even for Calpine's geothermal plants like those at Geysers, which do not burn fossil fuels to produce electricity, efficiency is a serious concern. Extracting steam from the earth's crust is expensive, and the more efficiently plants can use that steam, the better the facility's profitability.

In fact, the BACT analysis for other regulated pollutants, such as nitrogen oxides (NO_x), already drives many of the same considerations as those used for GHGs. Even when there are other control technologies available, such as selective catalytic reduction for the control of NO_x emissions, use of highly energy-efficient combustion turbines is an important design consideration under BACT for NO_x, with the added benefit that it is inherently lower-emitting for GHGs as well.

As a result, more energy efficient designs were already promoted by the BACT analysis prior to EPA's application of the PSD program to GHGs. Indeed, Calpine was not required to fundamentally change any of its planned generation technologies as a result of the BACT analysis. Instead, the limitations imposed by BACT on GHG emissions, expressed, in the case of the combined-cycle plants, as pounds of CO_2e or any other pollutant per MWh generated, make economic sense and help to ensure the best possible plant performance through enhancing and improving energy efficiency. Thus, BACT for GHGs is not a fundamental redefinition of the economic order, but instead an occasion where the environmental and economic interests of industrial facilities can be directly consonant.

C. In Calpine's Experience, BACT Has Not Imposed Control Measures that Fundamentally Alter or "Redefine" the Source.

BACT is not intended to fundamentally alter or redefine the applicant's proposed source of emissions. *In re Pennsauken County, New Jersey, Resource Recovery Facility*, 2 E.A.D. 667 at *4 (E.A.B. Nov. 10, 1988); *see also* PSD Guidance for GHGs at 26 ("BACT should generally not be applied to regulate the applicant's purpose or objective for the proposed facility."). For example, last year EPA's Environmental Appeals Board upheld Region 9's decision to exclude a combined-cycle design at Step 2 of the BACT analysis for a natural gas-fired plant intended to be peaking rather than base-load[34]—because the

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[34] Combined-cycle systems are the most efficient configurations for base-load natural gas-fired power plants. However, other types of plant designs exist to meet specialized types of electrical needs, such as peaking power plants. "Peakers" provide additional power at times of peak electricity demands, and require faster start-up times than base-load plants to meet these sudden demands. "Simple cycle" plants, although less efficient than combined-cycle-designs when operating at full capacity, can start up and shut down more quickly, and thus work better as peaking plants.

"longer startup times [of combined-cycle plants] are incompatible with the purpose of the Project to provide quick response to changes in the supply and demand of electricity." *In re Pio Pico Energy Center*, 2013 WL 4038622 at *29 (E.A.B Aug. 2, 2013).

Pio Pico demonstrates that fears that requiring BACT for GHGs will force operators to fundamentally alter their development plans—or else not develop at all—are unfounded. Calpine's experience confirms this.[35] For example, in the permitting process for the Russell City plant in California, commenters suggested that Calpine could achieve greater efficiency by upgrading its proposed F-Class turbine to a next-generation G-class model. The local Air District disagreed, finding that installation of a G-Class turbine would require a substantially greater power output than an F-Class to achieve similar energy efficiency, and did not require Calpine to reconsider its overall generating capacity to make a G-Class turbine worthwhile. Commenters also recommended a reconsideration of the project as a whole, preferring the construction of a non-fossil-fuel-fired alternative. The District again disagreed, finding that such reconsideration would alter the fundamental business purpose of the facility.

As long as a facility's permitting application explains the "fundamental purpose or basic design" of the plant, BACT is not intended to mandate the use of technologies that alter this basic purpose. 42 U.S.C. § 7479(3); *see also* PSD Guidance for GHGs at 26-27. The broad initial consideration of all available control options at Step 1 of the BACT analysis ensures that as technology develops and costs come down, more options will become available and achievable by proposed projects. BACT in this way acts as a technological backstop, ensuring that the control technologies employed by operators improve as development continues, while only requiring the installation of new technologies when they become technically feasible and economically achievable. This encourages operators like Calpine to lead the way in state-of-the-art, clean, and efficient plants designs, driving cost savings and environmental improvements. Far from the "comprehensive scheme of regulation of industrial operations" predicted by naysayers, EIM Br. at 23, EPA's regulations are an achievable and economically-sound step in furtherance of the goal of cleaner air, and should be upheld.

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[35] *See* BAAQMD, "Additional Statement of Basis for Draft Federal 'Prevention of Significant Deterioration' Permit, Russell City Energy Center," Application No.15487 (August 3, 2009), *available at* http://www.baaqmd.gov/~/media/Files/Engineering/Public%20Notices/2009/15487/B3161_nsr_15487_fsb_080309.ashx?la=en.

CONCLUSION

For the reasons presented herein, the Court should uphold the judgment of the Court of Appeals.

Respectfully submitted,

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CHAMBER OF COMMERCE OF THE UNITED STATES
OF AMERICA, STATE OF ALASKA, AND
AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *ET AL.*,

Respondents.

On Writ of Certiorari to the United States Court of
Appeals for the District of Columbia Circuit

BRIEF OF *AMICUS CURIAE* CENTER FOR CONSTITUTIONAL JURISPRUDENCE IN SUPPORT OF PETITIONERS

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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INTEREST OF AMICUS CURIAE[1]

The Center for Constitutional Jurisprudence is the public interest law arm of the Claremont Institute for the Study of Statesmanship and Political Philosophy, the mission of which is to restore the principles of the American founding to their rightful and preeminent authority in our national life. The Center advances that mission through participation in the litigation of cases of constitutional significance, including cases such as this in which the core principle that the Constitution vests the lawmaking power of the federal government in the Congress is at stake.

INTRODUCTION AND SUMMARY OF ARGUMENT

Responding to the question, "How many legs does a dog have if you call the tail a leg," Abraham Lincoln is reputed to have responded: "Four. Calling a tail a leg doesn't make it a leg."

The rulemaking by the Environmental Protection Agency at issue in this case bears a striking resemblance to the interrogatory part of that apocryphal story. "How much additional power to regulate

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[1] Pursuant to this Court's Rule 37.2(a), all parties have consented to the filing of this brief. Letters evidencing such consent have been filed with the Clerk of the Court. Pursuant to Rule 37.6, *Amici Curiae* affirm that no counsel for any party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *Amici Curiae*, its members, or its counsel made a monetary contribution to its preparation or submission.

'air pollutants' can we claim for ourselves if we define 'air pollutant' to include the carbon dioxide in the air exhaled every second of every day by every human being alive?" Unfortunately, to date, the response one can imagine Lincoln would have made—"None; calling carbon dioxide an 'air pollutant' doesn't make it one"—is found only in dissent.

Although the panel of the Court of Appeals below believes that the EPA's interpretation of the Clean Air Act as mandating the regulation of millions of new stationary sources of . . . air! . . . is compelled by this Court's ruling in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the consequences of that interpretation are so patently absurd that even the EPA itself has been forced to acknowledge that its interpretation leads to results "so contrary to what Congress had in mind—and that in fact so undermines what Congress attempted to accomplish" that the statute's language should not be followed. Proposed Tailoring Rule, 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009).

The EPA's position, ratified by the Court below, misconstrues the absurdity doctrine. Instead of providing a minor adjustment to the statute's language on the front end to avoid the absurdity—as a proper application of this Court's absurdity doctrine requires—the EPA's rulemaking has used the absurdity doctrine as a hook to expand its own regulatory authority in a way that would allow it "to rule the world," as Judge Brown noted below in her dissent from denial of en banc review.

More fundamentally, the EPA's position violates some of the most basic precepts of our constitutional system of government. "All legislative powers" granted by the Constitution "shall be vested in a Congress of the United States," for example, not in an un-elected agency such as the EPA, yet the EPA readily acknowledges that it has embarked upon a regulatory regime that was never even contemplated, much less adopted, by the Congress. Additionally, "major questions" of policy are presumptively for Congress to address, and the courts are not to assume that Congress intended to defer questions of great significance to unelected agencies, yet the sheer breadth of the consequences that will flow from "this unprecedented expansion of regulatory control, this epic overreach" of regulatory authority by the EPA, guarantee that "major questions" of monumental importance will be resolved without a peep out of Congress. Finally, the scope of the discretion claimed by EPA as it re-writes other parts of the Clean Air Act in an attempt to mitigate the absurd consequences it has created virtually assures that the rules it does adopt. or chooses to enforce, will not be based on any "intelligible principle" adopted by Congress but on the preferences and agendas of unelected officials.

Perhaps this looming train wreck was set in motion by this Court's own decision in *Massachusetts v. EPA*; if so, then that decision should be revisited. But at the very least, *Massachusetts* should be confined to its precise contours, with "air pollutant" being expansively interpreted to include carbon dioxide and other "greenhouse" gases only where that definition does not require the distortion of other parts of the carefully honed statute actually adopted by Congress, or wreak havoc on the economy in ways never envisioned by Congress, the only legislative authority established by the Constitution.

ARGUMENT

I. The EPA's Version of the Absurdity Doctrine Is Both Erroneous and Power-Enhancing.

The EPA believes it is bound to accept the raw textual claim that because carbon dioxide and other ordinary components of the atmosphere have been deemed to be "air pollutants," they must be regulated across all aspects of the multi-faceted Clean Air Act once the EPA determines that they contribute to "global warming" and are therefore a long-term risk to health and public safety. The two programs at issue here, the Prevention of Significant Deterioration ("PSD") Program of Title I, part C (42 U.S.C. §§ 7470 et seq.), and the permitting provisions of Title V (42 U.S.C. §§ 7661 et seq.), "require stationary sources to obtain construction and operating permits, respectively," the EPA asserts, "if they have the potential to emit '*any air pollutant*' over an established threshold," textual language that in the EPA's eyes admits of no exception. EPA Brief for Respondents at 7 (C.A.D.C. No. 10-1073, Doc. # 1347529 (Dec. 14, 2011)), citing 42 U.S.C. §§7475(a), 7479(1), 7661a, 7602(j) (emphasis added). This mandate, the EPA asserts, is also compelled by this Court's holding in *Massachusetts v. EPA* that carbon dioxide and other greenhouse gases are "air pollutants" for purposes of the vehicle emission provisions of the CAA.

Recognizing that its position produces results that are completely "contrary to what Congress had in mind" when it adopted the Clean Air Act, 74 Fed.

Reg. 55,292, 55,310 (Oct. 27, 2009), the EPA then, under the guise of this Court's absurdity doctrine, proceeded to re-write other parts of the statute—that is, ignore other parts of the text—in order to mitigate, at least for now, the absurd consequences that flow from its overly strict adherence to the initial text.

That is not the way the absurdity doctrine is supposed to work. Rather, application of the absurdity doctrine requires a two-step process. First, the statute should be interpreted to avoid any absurdity if such an interpretation is possible.[2] *See infra*, section I.A. Second, if the statute is so unambiguous as not to permit a narrowing interpretation that would avoid absurdity, minor modifications to the unambiguous text should be made to prevent the absurd results, or the particular absurd application of the statute should be deemed outside the statute's coverage altogether. *Infra*, section I.B.

A. The EPA and the panel below should have accepted as a plausible interpretation that the phrase "any air pollutant" in the PSD and Title V provisions of the Clean Air Act do not to reach greenhouse gases, in order to avoid absurd results.

As a preliminary matter, Judges Brown and Kavanaugh both make cogent cases in their respective dissents from denial of rehearing en banc in the court below that there is sufficient ambiguity in the statutory text, particularly when considered in context, to permit a more reasonable interpretation of the statute, one which does not produce the absurd results at all. *See* Joint Appendix ("JA") 154-56 (Brown, J., dissenting from denial of reh'g en banc) (noting that, even if CO_2 is an "air pollutant," the statute requires a finding that it "reasonably be anticipated to endanger public health or welfare" before an endangerment finding is appropriate under the statute, something not present here, in her view, when the risks to public health and welfare are so speculative and indirect); JA 172 (Kavanaugh, J., dissenting from denial of reh'g en banc) (contending that limiting "air pollutant" in the PSD portions of the statute to pollutants regulated by EPA in setting National Ambient Air Quality Standards is the better of "two plausible interpretations" of the statute because the broader interpretation offered by the EPA "would not mesh with other provisions of the statute and would lead to absurd results").

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[2] This step is actually not part of the absurdity doctrine's analysis at all, but a precursor to it.

If either of those interpretations of the statutory text is plausible—and your *amicus* thinks both are—it should have been adopted by the EPA and the panel below, given the absurd results that the EPA itself admits will follow from the extremely broad interpretation it adopted. As this Court has noted, statutes should be interpreted where possible so that "no absurdity arises in the first place." *Kloeckner v. Solis*, 133 S. Ct. 596, 607 (2012).

B. Even if the EPA's broad interpretation is compelled by unambiguous statutory text, the absurdity doctrine permits minor—and only minor—adjustments to the text to avoid absurd results.

The panel below rejected the argument that the statutory text was ambiguous enough that a narrow interpretation could be adopted that would avoid absurd results. JA245; JA255. The three judges who comprised the panel reiterated that point in their joint opinion concurring in the denial of rehearing en banc, stating that "the panel's interpretation of the statute is the only plausible one." JA144. But both opinions stop short of the point where the absurdity doctrine begins. JA205; JA144. The doctrine operates not as an interpretive tool to be deployed when choosing which of two or more plausible interpretations of an *ambiguous* statute should be adopted, but rather to permit minor modification of *unambiguous* text when necessary to avoid absurd results. *United States v. Ron Pair Enterprises*, 489 U.S. 235, 242-43 (1989) (quoting *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 571 (1982)).

Thus, even if this Court views the statutory text as unambiguously embracing the EPA's broad reading that "air pollutant" includes CO_2 and other greenhouse gases in *all* of the myriad Clean Air Act programs, the fact that a literal application of an unambiguous text would lead to patently absurd results is what triggers the absurdity doctrine. *See, e.g., United States v. Kirby*, 74 U.S. (7 Wall.) 482, 486 (1868); *Church of the Holy Trinity v. United States*, 143 U.S. 457, 472 (1892); *United States v. Brown*, 333 U.S. 18, 27 (1948); *United States v. Katz*, 271 U.S. 354, 362 (1926); *Hawaii v. Mankichi*, 190 U.S. 197, 213-14 (1903).

That doctrine has its roots at least as far back as Blackstone, who contended that "[i]f there arise out of [statutes] . . . any absurd consequences, manifestly contradictory to common reason, they are, with regard to those collateral consequences, void."

1 William Blackstone, COMMENTARIES *91 (1765); *see a[illegible]o id.*, at *61 (attributing same doctrine to Cicero a[illegible] Grotius). It dictates that courts should modify statutory text in order to avoid an absurd result that most certainly was not envisioned by Congress. Moreover, "Looking beyond the naked text for guidance is perfectly proper when the result it apparently decrees is difficult to fathom or where it seems inconsistent with Congress' intention . . . ." *Public Citizen v. U.S. Department of Justice*, 491 U.S. 440, 455 (1989). To do otherwise is "to make a fortress out of the dictionary," as Judge Learned Hand one noted, sacrificing the statute's actual purpose for some unintended literal application. *Cabell v. Markham*, 148 F.2d 737, 739 (CA2), *aff'd*, 326 U.S. 404 (1945).

But the absurdity doctrine provides only a narrow exception to the requirement that the text normally governs. *See, e.g., Ron Pair Enterprises*, 489 U.S., at 242 ("The plain meaning of legislation should be conclusive, except in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of its drafters'" (alteration in original) (quoting *Griffin*, 458 U.S., at 571)). It allows for *minor* modifications to statutory text in order to avoid absurdity. *Green v. Bock Laundry Mach. Co.*, 490 U.S. 504, 529 (1989) (Scalia, J., concurring in judgment); *see also* Blackstone, 1 Commentaries at *62 ("on the other hand, the liberty of considering all cases in an equitable light must not be indulged too far, lest thereby we destroy all laws, and leave the decision of every question entirely in the breast of the judge"). It manifestly does not deputize an unelected agency to become a roving commission rewriting every other part of the statute in order to mitigate the absurd results that its own strict adherence to the threshold text has produced. In other words, the absurdity doctrine does not turn the agency into the legislature with authority to "rule the world." *See* JA156 (Brown, J., dissenting).

II. The EPA's Misuse of the Absurdity Doctrine Enhances Its Own Power at the Expense of Core Constitutional Principles.

The absurdity doctrine is rooted in the view that, because language is imprecise and all possible permutations of a statutory mandate hard to address in advance, a faithful adherence to legislative intent can only be achieved in some cases by rejecting a too literal application of the statute. *See, e.g.*, John F. Manning, *The Absurdity Doctrine*, 116 Harv. L. Rev. 2387, 2400 (2003) (citing 1 WILLIAM BLACKSTONE, COMMENTARIES *62 (noting that "in laws all cases cannot be foreseen or expressed"); THE FEDERALIST No. 37, at 229 (James Madison) (Clinton Rossiter ed., 1961) (discussing the inherent problem of linguistic indeterminacy)). Congress' intent is the touchstone. *Public Citizen*, 491 U.S., at 455; Manning, *The Absurdity Doctrine*, at 2400 (citing Richard A. Posner, *Statutory Interpretation in the Classroom and in the Courtroom*, 50 U. CHI. L. REV 800, 817 (1983)). As Justice Kennedy put it: "When used in a proper manner, this narrow exception to our normal rule of statutory construction does not intrude upon the lawmaking powers of Congress, but rather demonstrates a respect for the coequal Legislative Branch, which we assume would not act in an absurd way." *Public Citizen*, 491 U.S., at 470 (Kennedy, J., concurring in the judgment).

The EPA has used the absurdity doctrine, however, not to further congressional intent but in admitted violation of it. 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009) (noting that the expansive scope of the PSD program that results from its interpretation of the statute is "contrary to what Congress had in mind" and "undermines what Congress attempted to accomplish"); *see also* PSD and Title V Greenhouse Gas Tailoring Rule; Final Rule, 75 Fed. Reg. 31,514, 31,533 (Jun. 3, 2010) (noting that the "extraordinary increases in the scope of the [PSD and Title V] permitting programs [mandated by a literal application of the statutory thresholds] would mean that the programs would become several hundred-fold larger than what Congress appeared to contemplate").

Instead of the minor adjustment to the threshold statutory text that a faithful application of the absurdity doctrine would suggest, the EPA has claimed for itself a vast authority to re-write other portions of the statute to mitigate, at least for now, the absurd consequences of its position. That misuse of the doctrine has, as the dissenters from denial of rehearing en banc below both recognized, greatly enhanced the EPA's own power at the expense of core constitutional principles. *See* JA158 (Brown, J., dissenting) (noting that the EPA is abusing the absurdity doctrine "to preempt legislative prerogatives"); JA174 n.1 (Kavanaugh, J., dissenting) (noting that the EPA's assertion "exacerbates . . . separation of powers concerns"); JA175 (Kavanaugh) ("Allowing agencies to exercise that kind of statutory re-writing authority could significantly enhance the Executive Branch's power at the expense of Congress's and thereby alter the relative balance of powers in the administrative process"). Those principles include the following: 1) the lawmaking powers conferred on the federal government by the Constitution are vested in Congress; 2) even accepting that Congress can delegate large amounts of authority to unelected executive agencies, major policy judgments must still presumptively be made by Congress; and 3) regulatory discretion unguided by any intelligible principle is not "law" but the arbitrary exercise of power.

A. The EPA's position undermines the fundamental constitutional tenet that the legislative powers granted to the national government by the Constitution are to be exercised only by Congress.

When confronted with an unprecedented assertion of power, it is always helpful to recur to first principles. One of the first first principles set out in the Constitution is that "*[a]ll* legislative powers" granted to the national government are "vested in" the Congress. U.S. Const. Art. I, § 1 (emphasis added). As this Court has recognized, "the Constitution is neither silent nor equivocal about" this. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 587 (1952).

The EPA's acknowledgement that its expansion of the PDS program from a relatively few major emitters of NAAQS pollutants to potentially millions of stationary sources of CO_2 and other greenhouse gases is "contrary to what Congress had in mind" and "undermines what Congress attempted to accomplish" highlights just how significantly this core constitutional principle is being breached in this case. Indeed, as Judge Brown pointed out below, the massive regulation of greenhouse gases that the

EPA has now embarked upon was specifically considered and rejected by Congress in 1989, and Congress has not adopted any of the more than 400 bills concerning greenhouse gases that have been proposed in the two decades since. JA151 (citing S. Rep. No. 101- 228, at 377 (1989), as reprinted in 1990 U.S.C.C.A.N. 3385, 3760); JA152 (citing Abigail R. Moncrieff, *Reincarnating the "Major Questions" Exception to Chevron Deference As A Doctrine of Noninterference (or Why* Massachusetts v. EPA *Got It Wrong*), 60 ADMIN. L. REV. 593, 636-37 (2008)).

The EPA's expansive assertion of power well beyond any delegation actually contemplated by Congress is so palpably a violation of core separation-of-powers principles that it should not be countenanced by this Court.

B. Even absent a vibrant non-delegation doctrine, this Court has recognized that major policy issues are presumptively still to be addressed by Congress in the first instance.

The non-delegation doctrine has been less than vibrant for some time, of course. *See, e.g.*, *Whitman v. Am. Trucking Associations*, 531 U.S. 457, 488 (2001) (Stevens, J., concurring in part and concurring in the judgment) ("Except for two 1935 cases, the Court has never enforced its frequently announced prohibition on congressional delegation of legislative power" (quoting L. Davis & R. Pierce, ADMINISTRATIVE LAW TREATISE § 2.6, p. 66 (3d ed. 1994))); *see also id.*, at 477 (Thomas, J., concurring) (suggesting that the Court's "delegation jurisprudence has strayed too far from our Founders' understanding of separation of powers"). But even in its dormancy, this Court has presumed that major policy questions are to be addressed in the first instance by Congress. *See, e.g., Food & Drug Administration v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159 (2000) (quoting S. Breyer, *Judicial Review of Questions of Law and Policy*, 38 ADMIN. L. REV. 363, 370 (1986), for the proposition that "Congress is more likely to have focused upon, and answered, major questions, while leaving interstitial matters to answer themselves in the course of the statute's daily administration").

In *MCI Telecommunications Corporation v. AT&T Co.*, 512 U.S. 218 (1994), this Court rejected an attempt by the Federal Communications Commission to make basic and fundamental changes in the telecommunications rate-making scheme created by the Federal Communications Act despite the FCC's explicit statutory to "modify any requirement" in the Act. "It is highly unlikely," the Court noted, "that Congress would leave the determination of whether an industry will be entirely, or even substantially, rate-regulated to agency discretion—and even more unlikely that it would achieve that through such a subtle device as permission to "modify" rate-filing requirements." *Id.*, at 231.

So too here. If it was "highly unlikely" that Congress intended FCC to decide on its own whether to exempt non-dominant long distance telephone carriers from tariff filing requirements of the Federal Communications Act, it is darn near impossible that Congress would leave to the EPA alone the determination of whether millions of small businesses and even large residences will be subject to the costly permitting regime established for large emitters of

NAAQS air pollutants, and even more unlikely that it would achieve that through the mere possibility that this Court might one day interpret the statutory term "air pollutant" to include such a basic and ordinary component of air as carbon dioxide, as it did in *Massachusetts v. EPA.* The major questions doctrine has no meaning if it does not cover the circumstances of this case.

C. The unfettered discretion claimed by the EPA to establish thresholds for the emission of CO_2 and other greenhouse gases is the antitheses of law.

Finally, it is important to note, as Judge Kavanaugh did below, that although the EPA has on its own created higher thresholds for greenhouse gases than the statute requires (once those gases had been deemed to fall within the statute's coverage) before the permitting requirements of the PDS program and Title V are triggered, the EPA has not disavowed the authority to re-impose whenever it chooses the absurdly low thresholds actually mandated by the statute (as interpreted by the EPA) or any other threshold it chooses to adopt. *See* JA174 n.1 ("EPA reserved the right to ratchet the trigger all the way back down to 250 tons, thereby bringing more and more facilities under the program at EPA's unilateral discretion").

Such unfettered discretion by an executive agency is the antithesis of the rule of law, and an invitation to abuse. *Cf. City of Chicago v. Morales*, 527 U.S. 41, 64 (1999) (holding Chicago anti-loitering ordinance unconstitutional because it gave "too much discretion to the police"). Although *Morales* involved a criminal statute rather than a regulatory one, the fact that the EPA has unilaterally claimed unfettered for itself rather than having it bestowed by the relevant legislative authority makes this case more problematic than *Morales*, not less. The interpretation of the Clean Air Act that has spawned such unfettered discretion should be rejected.

CONCLUSION

The EPA and the panel below believed that the expansive interpretation given to the Clean Air Act by the EPA is compelled by this Court's own decision in *Massachusetts v. EPA*. If it is, then that decision should be revisited. But because this Court in *Massachusetts* did not confront the absurd consequences that will now flow from the extension of that decision to the distinct and very different contexts at issue in this case, *Massachusetts* can be distinguished—confined to its precise contours, with "air pollutant" being expansively interpreted to include carbon dioxide and other "greenhouse" gases only where that definition does not require the distortion of other parts of the carefully honed statute actually adopted by Congress, or wreak havoc on the economy in ways never envisioned by Congress.

The panel decision to the contrary should be reversed.

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In the Supreme Court of the United States

SOUTHEASTERN LEGAL FOUNDATION, INC., *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY, *et al.*,
Respondents.

*On Writ of Certiorari to the United States
Court of Appeals for the District of Columbia Circuit*

BRIEF OF THE COMMITTEE FOR A CONSTRUCTIVE TOMORROW AS AMICUS CURIAE IN SUPPORT OF PETITIONERS

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David Whitehouse, *The Global Warming Standstill*, London: Global Warming Policy Foundation (2013), http://www.thegwpf.org/content/uploads/2013/03/Whitehouse-GT_ Standstill.pdf 22

Jim Wiegand, "Big Wind and avian mortality: Hiding the problem," March 15, 2013, http://www.MasterResource.org/2013/03/wind-avian-mortality-ii 18

INTEREST OF THE AMICUS CURIAE

Founded in 1985, the Committee For A Constructive Tomorrow (CFACT) is a Washington, D.C.-based nonprofit public policy and education organization that promotes environmental protection, economic development, and longer, healthier, more productive and fulfilling lives through modern science and technology.[1]

CFACT has served as an official non-governmental organization at United Nation's Framework Convention on Climate Change conferences, actively participating in every such conference and other U.N. events. CFACT also sponsors the www.ClimateDepot.com website for climate science news and policy information.

CFACT officers and advisors have appeared on radio and television programs and written books, reports and articles on climate change and impacts of government greenhouse gas policies on jobs, economic development, environmental values, and human health and welfare. They have also presented formal testimony and comments to the U.S. Environmental Protection Agency and other Federal agencies on proposals governing greenhouse gases, endangered species, and human health and welfare, to promote and protect the interests of CFACT members and supporters and other United States citizens.

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[1] Pursuant to S. Ct. R. 37.6, amicus CFACT hereby states that no counsel for any party authored this brief in whole or in part, and no person other than amicus, its members or its counsel have made any monetary contribution to fund the preparation or submission of this brief. All parties have consented to the filing of amicus curiae briefs by filing letters evidencing their consent with the Clerk of the Court.

CFACT filed an amicus in support of the petition for writ of certiorari in this case and again urges the Court to rule on the merits that EPA's actions in this case violate the separation of powers provisions of the Constitution, the Clean Air Act as enacted by Congress, the findings of empirical mainstream science, and the protection of the overall human health, welfare and environment of Americans.

SUMMARY OF ARGUMENT

This Court held in ***Massachusetts v. EPA***, 549 U.S. 497 (2007), that the Environmental Protection Agency had authority to decide whether to regulate carbon dioxide and other greenhouse gas (GHG) emissions from new motor vehicles under the Clean Air Act. On remand, EPA issued regulations governing such emissions from motor vehicles. It is now attempting to vastly expand its jurisdiction by regulating greenhouse gas emissions from stationary sources, such as power plants.

In affirming EPA's decision, the court of appeals failed to meaningfully consider arguments that EPA had gone far beyond its rulemaking authority by significantly rewriting the Clean Air Act to allow regulation of stationary sources. These actions contravene the Constitutional prescription that the Executive Branch has no authority to legislate on its own, but must faithfully execute the laws as written. Moreover, the court below also did not address EPA's failure to consider the changing body of mainstream evidence-based climate science, and the extensive adverse impacts that its regulations will have on the environmental values and human health and welfare of American citizens.

EPA's new and unprecedented regulations will add extensive permitting, reporting and compliance delays and costs to manufacturing, transportation and facility operations. They will adversely affect the hiring and retention of employees in an already struggling economy, and the maintenance of modern living standards and human health and welfare. By forcing greater reliance on "renewable" energy, they will also harm human, wildlife and environmental health.

Despite the substantial costs that EPA's regulations will inflict on society, they will have no meaningful effect on atmospheric GHG levels, because emissions from numerous other nations will overwhelm any U.S. reductions.

These complex energy and climate change matters are properly handled through the legislative process, not through unilateral Executive Branch decisions driven by politicized agendas that are far out of step with mainstream climate science and fail to account for the enormous human and environmental costs, and competing needs, risks and benefits involved.

ARGUMENT

I. THE EPA'S ATTEMPT TO REGULATE GREENHOUSE GAS EMISSIONS FROM STATIONARY SOURCES WITHOUT AUTHORITY FROM CONGRESS IN ORDER TO ACCOMPLISH ITS PREFERRED POLICY OBJECTIVES VIOLATES THE SEPARATION OF POWERS

> *"In cases like this one, the bedrock underpinnings of our system of separation of powers are at stake....The Framers of the Constitution did not grant the Executive Branch the authority to set economic and social policy as it sees fit."*[2]

In *Massachusetts v. EPA*, 549 U.S. 497 (2007), this Court concluded that EPA has authority to regulate carbon dioxide and other greenhouse gas (GHG) emissions from new motor vehicles, under Section 202 of the Clean Air Act. On remand, however, EPA issued regulations that seek to claim new and unprecedented authority for the agency to regulate greenhouse gas emissions not only from the limited category of new mobile sources, but also from coal-fueled electrical generating plants and ultimately *all* stationary sources.[3]

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[2] *Coalition for Responsible Regulation, Inc. v. EPA*, 2012 WL 6621785, *19 (D.C. Cir. Dec. 20, 2012) (Kavanaugh, J., dissenting from denial of rehearing *en banc)*.

[3] For a good description of the regulatory history of these rules, see Brief of U.S. Chamber of Commerce, No. 12-1272, at 8-11.

EPA's new regulations are not authorized under the Clean Air Act. Instead, in order to promulgate its regulations and achieve its preferred policy objectives, EPA rewrote key provisions of the Clean Air Act, 42 U.S. C. §7401, *et seq*., by changing precise *statutory* emission standards from 250 tons per year to 100,000 tons per year, to avoid what EPA itself recognizes would be the 'absurd result' of regulating greenhouse gas emissions from millions of fossil-fuel-powered facilities that otherwise would be subject to the much lower statutory limit. *See* 75 Fed. Reg. 31,514 (June 3, 2010). By issuing this so-called "Tailoring Rule," the EPA rewrote the Act's "Prevention of Significant Deterioration" (PSD) and Title V provisions to enable it to accomplish its preferred policy objectives by focusing its costly regulations (at least initially) on coal-fired generating plants, rather than face the certain public backlash that would occur if the agency were to apply them immediately to vast numbers of natural gas-powered generators, as well as factories and even shopping malls, apartment and office buildings, hospitals and farms that emit well in excess of 250 tons of carbon dioxide annually.

By taking these actions, EPA has violated the Constitution's clear separation of powers provisions between the two political branches of government. Article 1, Section 1 of the Constitution specifies that all legislative powers are vested in Congress, while Article II, Section 3, stipulates that the President (and by extension the Executive Branch) must faithfully execute laws enacted by Congress, and may only *recommend* to Congress "such Measures as he shall judge necessary and expedient."

Under our constitutional separation of powers, the President, EPA and other Executive Branch agencies may recommend legislative changes, but they have no authority to engage in actions that constitute lawmaking. Until such time as Congress accepts such recommendations and enacts legislation to implement them, the Executive Branch agencies are obligated to follow the laws as written, and not as they might wish the laws *had* been written. They may not ignore statutory provisions with which they disagree, nor implement and enforce regulations that they have devised out of whole cloth, in direct contravention to clear statutory language.

As Professor Jonathan Turley recently testified before Congress, the Obama Administration has been governing by "executive fiat" that "poses an obvious danger to liberty interests protected by divided government," and where the "Fourth Branch threatens to become a government unto itself for all practical purposes."[4]

It is therefore significant to note that Congress has repeatedly explored the idea of regulating greenhouse gases from *stationary* sources, but each time has chosen not to do so. In contrast, regulating greenhouse gas emissions from *mobile* sources requires no "extraordinary measures" because such emissions have long been effectively regulated through Congress's clear direction, authorizing regulation of fuel-economy standards. As a recent and comprehensive report demonstrates, between 1989 and 2010, legislators introduced some 692 bills in Congress, addressing various aspects of GHG emissions and climate change. Only three bills proposed even small steps toward a full-fledged GHG permitting system akin to what EPA is trying to implement; only a few made it past the introduction or committee hearing phase; and *not one* was enacted.[5]

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[4] *The President's Constitutional Duty to Faithfully Execute the Laws: Hearing Before the H. Comm. of the Judiciary*, 113th Cong. 1st Sess., 19 (Dec. 3, 2013) (statement of Jonathan Turley, Professor of Law, George Washington University).

In seeking to rewrite the Clean Air Act to accomplish its preferred policy objectives, EPA is acting in open disregard for congressional intent and enactments. Even more serious, its actions will ultimately affect vast sectors of the United States economy, as energy is its lifeblood, and 82 percent of that energy is still hydrocarbons. In short, EPA has claimed authority to effectively control virtually everything Americans make, grow, ship, eat, drive and do – every aspect of our lives, livelihoods, liberties, living standards and even life spans.[6]

Its actions go far beyond any reasonable or rational interpretation of congressional authority or intent under the Clean Air Act, and far beyond anything this

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[5] Marlo Lewis, "EPA permitting of greenhouse gases: What does legislative history reveal about congressional intent?" December 3, 2013, http://www.globalwarming.org/2013/12/03/epa-permitting-of-greenhouse-gases-what-does-legislative-history-reveal-about-congressional-intent/

[6] *See, e.g.*, Barry Stevens, "What drives water and energy improvements," *The Daily Energy Report*, June 13, 2013 (includes USEIA chart of energy consumption in 2011), http://www.dailyenergyreport.com/what-drives-water-and-energy-improvements/

Court could have intended under its 2007 *Massachusetts* decision.

In that regard, amicus agrees with petitioner Southeastern Legal Foundation (SLF) that this case falls squarely within this Court's decision in *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 160 (2000) where it concluded that Congress "could not have intended to delegate [to the FDA] a decision of such economic and political significance [to regulate tobacco] to an agency in so cryptic a fashion." *See* SLF Br. at 7-11.

That is precisely what is involved here, as EPA tries to circumvent Congress, rewrite laws to support and advance its agenda, ignore the separation of powers doctrine and other vital sections of our Constitution, and impose complex and unfair regulations that will grievously harm large segments of the American population. Its inexorable expansion of control represents an unprecedented political power grab over the energy production and consumption that fuels our economy and makes our jobs, opportunities and living standards possible.

As will be demonstrated *infra*, the impact of these unprecedented regulations will likely be radical, transformative, and with little or no regard for their negative impacts on our economy, environment, human health and welfare, or Constitutional system of government.

If Executive Branch agencies can rewrite statutes to achieve their own preferred policy goals, then the Legislative and Judicial Branches will become mere bystanders to administrative agencies that will follow their own agenda, legislate and regulate as they wish, and be encumbered by little or no oversight, guidance or accountability.

In short, if EPA's actions are upheld, we may well have reached that point which Benjamin Franklin warned us. When asked at the close of the Constitutional Convention in 1787 whether our new government was a "monarchy or republic", he cautiously replied, "A republic, if you can keep it." [7]

II. EPA'S ATTEMPT TO REGULATE GREENHOUSE GASES FROM STATIONARY SOURCES IS FUNDAMENTALLY FLAWED AND CONTRARY TO THE PUBLIC INTEREST

> *"The real absurdity is that this unprecedented expansion of regulatory control, this epic overreach, may very well do more damage to the wellbeing of Americans than GHGs could ever do."*[8]

A. EPA Failed To Consider The Adverse Impacts That Its Regulations Will Have On The Health And Welfare Of Americans.

As noted, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), this Court held that the Clean Air Act's "capacious" definition of "air pollutant" includes carbon dioxide and other substances that many scientists say contribute to climate change, and that the EPA has the statutory authority to regulate the emission of such gases, if the agency finds that such emissions rise to a level that "endangers" human health and welfare. This Court also held that EPA "must ground its reasons for action or inaction in the statute." The Court reserved any decision on "whether policy concerns can inform EPA's actions, in the event that it makes such a finding." *Id.* at 534-35.

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[7] Benjamin Franklin Quotations, http://benjamin-franklin.ru/BenjaminFranklinQuotes/ben-franklin-a-republic-quotes

[8] *Coalition for Responsible Regulation, Inc. v. EPA*, 2012 WL 6621785, *9 (D.C. Cir. Dec. 20, 2012) (Brown, J., dissenting from denial of rehearing *en banc*).

EPA subsequently determined in 2009 that carbon dioxide and other greenhouse gases (GHG) do endanger public health and wellbeing. It not only promulgated far-reaching rules governing motor vehicles, but also issued new regulations for new coal-fired power plants, and appears to be setting the stage for regulating any human activity that uses significant amounts of hydrocarbon energy by issuing its so-called "Triggering Rule". 75 Fed. Reg. 17,004 (Apr. 2, 2010). The agency's Triggering Rule and Tailoring Rule could ultimately cover millions of factories, refineries, cement kilns, shopping malls, apartment and office buildings, hospitals, schools, churches, farms, and countless other facilities that emit significant amounts of greenhouse gases.

As Judge Kavanaugh noted in his dissent below, EPA's greenhouse regulations "will impose enormous costs on tens of thousands of American businesses, with corresponding effects on American jobs and workers ... and on the U.S. economy." *Coalition for Responsible Regulation, Inc., supra*, at 18*. Moreover, these regulations are but one of more than 1,900 regulations that EPA has promulgated since January

2009, which themselves impose enormous costs on our economy.

Affordable, reliable energy is the lifeblood of modern society. This unprecedented expansion of regulatory control will affect every American business and household. In this struggling economy, it will drive employment downward even further, and damage the health and wellbeing of American citizens – and of the nation's wildlife and environment – far more than any likely effects from manmade GHG emissions and global warming.

In short, EPA's regulatory "cure" is far worse than the climate "disease" it claims to be preventing.

For these reasons, it is vitally important that EPA's endangerment decision and rules be grounded not only in "the statute," but also in solid science, sound public policy, careful attention to the *harmful effects* of its actions, and whether their costly, punitive approach will do anything to alleviate the dangers that EPA attributes to GHG emissions. EPA has sorely failed to meet these tests.

EPA's mission is to "ensure the production, development and enhancement of the total environment," foster and safeguard "the quality of the human environment," and protect the environment, health and welfare of American citizens, based on data and analyses that are accurate, clear, complete, unbiased, and collected by the best available means.[9]

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[9] Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15623, 84 Stat. 2086, as amended; National Environmental Policy Act of 1969, 42 U.S.C. 4321 and 4331-4335, Public Law 91-990; U.S.

The agency abrogates that mission and violates the law and its public trust. First, EPA's carbon dioxide and greenhouse gas regulations actually endanger human health and welfare far more than any reasonably foreseeable harmful effects from climate change. Second, it "safeguards" people from exaggerated or illusory risks which exist only in faulty computer models or Intergovernmental Panel on Climate Change (IPCC) documents that are based largely on manipulated, manufactured, misrepresented or highly selective data and analyses that do not accurately reflect mainstream science.

The agency's carbon dioxide regulations will put EPA in control of nearly everything Americans make, ship, grow, eat, drive and do. They will necessitate major changes in energy use and prices, electricity generation, manufacturing, transportation, heating and air conditioning, employment, and other components of the life styles, living standards, health and welfare of every American. They will harm human health and welfare, environmental values, wildlife habitats and populations, and the overall quality of the human environment.

Complying with EPA's GHG/CO_2 regulations will add hundreds of billions of dollars per year to current operating and compliance costs, first for automobiles and new coal-fired power plants, then for older units, and gradually for natural gas and other facilities.

Environmental Protection Agency, "Our mission and what we do," http://www2.epa.gov/aboutepa/our-mission-and-what-we-do; Information Quality Act, 44 U.S.C. 3516.

Those rising compliance costs will result in higher electricity and fuel prices, expensive facility retrofits and replacements, hundreds of thousands of lost jobs annually, and acute hardship for millions of families.[10]

EPA's endangerment decision has been used to justify taking billions of dollars from profitable sectors of the economy and diverting the funds to subsidize wind, solar and biofuel programs. Recent Department of Energy records reveal that $26 billion in Energy Department subsidies and loan guarantees for renewable energy projects since 2009 created only 2,298 permanent jobs, at an actual cost of ***$11.45 million per job***. As studies in Spain and Scotland have documented, these expensive "green" energy programs ultimately cause the *loss* of two to four traditional jobs for every renewable energy position created, resulting in still more human hardship that EPA failed to consider, especially for minority and poor families.[11]

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[10] United States Senate Committee on Environment and Public Works, Minority Staff Report, *A Look Ahead to EPA Regulations for 2013* (Oct. 2012), http://www.inhofe.senate.gov/download/?id=28b57b78-30ba-4d78-bf32-2259797e513f&download=1; National Economic Research Associates, "Economic Impacts of EPA's Transport Rule and Utility MACT rule," June 2011; Dr. Margo Thorning, senior vice president and chief economist, American Council for Capital Formation, Testimony before the United States House of Representatives Subcommittee on Energy and Power, Committee on Energy and Commerce, February 9, 2011; *Economy Derailed: State-by-state impacts of the EPA regulatory train wreck*, American Legislative Exchange Council, April 2012

[11] Institute for Energy Research, "Department of Energy spends $11 million per job," May 8, 2013, http://www.InstituteForEnergyResearch.org/2013/05/08/does-11-million-jobs/; Gabriel Calzada

Companies forced to pay more for energy and regulatory compliance must often suspend construction projects, outsource work to other countries, reduce work forces, shift people to part-time status, close facilities, file for bankruptcy or close their doors. As breadwinners are laid off or forced to accept reduced work hours – while the cost of fuel, food, services and consumer products increases – families are left unable to heat and cool their homes properly, pay the rent or mortgage, buy clothing and medicines, take vacations, pay their bills, give to charity, save for college and retirement, or eat proper nutritious meals. Increasing numbers are made homeless; more people die from hypothermia. As companies cut back and more people go on unemployment, charitable and government revenues decline, leaving agencies with fewer funds for low income energy assistance, welfare, food stamps and similar programs – just when they are needed most.[12]

Being unable to find or keep a job erodes self-worth, self-confidence and psychological well-being. The stress of being unemployed, or involuntarily holding multiple

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Alvarez, *Study of the effects on unemployment of public aid to renewable energy sources*, King Juan Carlos University, 2009; James Delingpole, "The real cost of global warming," The Telegraph, February 28, 2011, http://blogs.telegraph.co.uk/news/JamesDelingpole/100078040/the-real-cost-of-global-warming/

[12] Management Information Systems, *Potential impact of the EPA endangerment finding on low income groups and minorities*, March 2010; Roy Innis, *Energy Keepers, Energy Killers: The new civil rights battle*, Bellevue, WA: Merril Press (2008), p.1. Paul Driessen, *Affordable Energy: The foundation of human rights and environmental justice*, American Legislative Exchange Council, April 2010.

lower-paying part-time jobs, means poor nutrition, sleep deprivation, more miles of stressful, expensive commuting, increased risk of heart attacks and strokes, and higher incidences of depression and alcohol, drug, spousal and child abuse. It means more suicides and generally lower life expectancies. These problems have become especially acute among military veterans and for middle-aged male breadwinners, whose prospects for finding gainful employment, on par with what they once enjoyed, become increasingly lower the older they get and the longer they are out of work.[13]

In calculating the supposed regulatory benefits of its GHG regulations, EPA claims each "premature death" theoretically avoided creates millions of dollars in societal economic gains. However, it ignored altogether the *adverse impacts* – and the tens of billions of dollars in costs – that its endangerment decision and GHG rules will have on people's health, wellbeing, life spans and environmental quality, with rising energy costs and declining economic opportunities affecting minority and other poor families most of all.[14]

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[13] Donald Lambro, "Casualties in the jobs war: Suicide statistics start to track the unemployment rate," *Washington Times*, May 8, 2013; H. Harvey Brenner, "Many Factors in the Prediction of National Life Expectancy: GDP and unemployment," testimony before the U.S. Senate Committee on Public Works, June 15, 2011, http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=37188bea-2c5f-4100-a767-f264f1a1ced2;

[14] Holly Richmond, "EPA: A human life is worth $7.9 million," *Grist*, January 26, 2011, http://grist.org/article/2011-01-25-epa-a-human-life-is-worth-7-9-million/; JamesTaylor, "House Testimony: EPA grossly overstates the economic benefits of regulation,"

EPA's endangerment decision could actually result in the premature death of thousands of Americans annually, with lost "human life values" totaling many billions of dollars. These impacts will be far worse than any global warming damages theoretically avoided. In short, every life allegedly or theoretically improved or saved by EPA's regulations is offset by lives injured or shortened because of the rules.

Finally, these unprecedented actions are occurring amid a protracted economic recession that has been prolonged and worsened by a plethora of burdensome regulations from EPA and other Executive Branch agencies. Adding these bootstrapped and illegal rules to the burdens already shouldered by our weakened economy would likely be devastating for numerous small and large businesses, families and communities.

EPA does not even mention any of these considerations – let alone include them in its "human environment" and "human health and welfare" analyses, place quantitative values on these impacts, conduct cost-benefit studies, or attempt to determine how many lives will be shortened or lost by these major rulemakings. This deliberate failure violates the National Environmental Policy Act, Information

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Environment & Climate News, July 2012, http://news.heartland.org/newspaper-article/2012/07/13/house-testimony-epa-grossly-overstates-economic-benefits-regulation; Matt Ridley, "Earth to Met Office: Check your climate facts. The latest science suggests that our policy on global warming is hopelessly misguided," *The Times* (London), May 20, 2013, http://www.thetimes.co.uk/tto/opinion/columnists/article3769210.ece

Quality Act, EPA mission statement, and other laws that EPA is required to follow.

B. EPA Failed To Consider Adverse Impacts On The Environment

The agency likewise ignores the significant harm that its endangerment decision and GHG regulations will inflict on the natural environment.

Hydrocarbons provide 82 percent of all U.S. energy consumption. EPA's greenhouse gas rules will inexorably compel America to replace many of these fuels with expensive, unreliable "renewable" alternatives that cost jobs, require far more land and raw materials than do fossil fuels, and cause significant impacts on scenic values, wildlife habitats, and vital bird and bat populations.

A typical 600-megawatt gas-fired power plant requires several hundred acres to generate affordable power 90 percent of the time. In sharp contrast, a 600-MW wind installation like Fowler Ridge in Indiana requires 355 giant turbines, 50,000 acres and 515,000 tons of concrete, steel, copper, fiberglass and rare earth metals to generate expensive electricity intermittently only 20 percent of the time. It also requires a 600-MW gas turbine, to provide power whenever the wind is not blowing, extensive transmission lines from both the wind facility and backup gas generator, and thus far more raw materials than the gas-fired facility alone.[15]

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[15] Paul Driessen, "Our least sustainable energy option: From land use, economic, environmental or raw materials perspectives, wind is unsustainable," October 19, 2011; http://www.ChallengingClimate.org/story/4210/4331/Our-least-sustainable-energy-option

The U.S. Fish and Wildlife Service acknowledges that wind turbines kill at least 440,000 eagles, hawks, falcons and other rare, threatened, endangered and protected birds each year. The actual total for the nation's 40,000 turbines is likely many millions of birds and bats annually, based on European studies of actual bird and bat deaths, and accounting for deceptive actions by turbine operators to minimize and hide reported death tolls. As turbines proliferate in response to EPA's endangerment decision and move increasingly into mountain and wetland areas, this unsustainable toll will rise steadily, and some species will be driven nearly to extinction in many areas, in violation of the Endangered Species Act, Migratory Bird Treaty Act and other laws. (Wind turbines also impair nearby property values and can cause persistent human health problems, due to their constant sonic and subsonic noise and flickering-light effects.)[16]

In summary, EPA's greenhouse gas regulations will have *net deleterious impacts* on wildlife and their habitats, and on jobs and human health and wellbeing. They will *cost human lives.* These facts must be part of the agency's calculations of risks and benefits. EPA cannot merely promote the alleged benefits of its carbon dioxide regulations, while ignoring these significant costs – especially when the benefits themselves are based on climate science that is itself highly suspect and even dishonest.

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[16] Meera Subramanian, "The trouble with turbines: An ill wind," *Nature*, June 20, 2012; American Bird Conservancy, "Bird deaths from wind farms to continue under new federal voluntary industry guidelines," http://www.abcbirds.org/newsandreports/releases/110208.html; Paul Driessen, "Big Wind tax credit exterminates bird species: Thousands of birds killed by wind turbines," *Washington Times*, December 22, 2012, http://www.washingtontimes.com/news/2012/dec/22/big-wind-tax-credit-exterminates-endangered-specie/?page=all; Jim Wiegand, "Big Wind and avian mortality: Hiding the problem," March 15, 2013, http://www.masterresource.org/2013/03/wind-avian-mortality-ii/

Accordingly, the agency's regulations are illegal, arbitrary, capricious, and harmful to the environment, health and welfare of American citizens.

C. EPA's Findings Of Harm From Greenhouse Gases Are Contrary To Mainstream Science and Empirical Data.

EPA has failed to meet the test of scientific integrity and credibility. Its carbon dioxide regulations are based on faulty and cherry-picked scientific reports, and on computer models that poorly reflect our still inadequate understanding of climate system dynamics, have completely failed to predict global temperatures, and have generated extreme storm and drought scenarios that are nowhere reflected in actual events. These false claims and scenarios must not be the basis for regulations that control and damage America's energy, economy, jobs, health and welfare, as amicus demonstrated, *supra*.

The agency's position hardly reflected genuine climate science or the weight of scientific opinion or consensus a half dozen years ago in 2007, when this Court rendered its decision in *Massachusetts v. EPA*. It certainly did not in 2009, when EPA found that carbon dioxide endangers human health and welfare, which amicus disputes. Since then, science has moved dynamically forward. Earth's climate and weather events have refused to cooperate with EPA's dire predictions, even as the agency's views and decisions seemingly remain etched in stone.

The weight of credible empirical evidence and scientific opinion now makes it increasingly clear that the views of amicus comport with responsible mainstream views on climate change science, while EPA represents the extreme fringe of alarmist opinion.

The issue is not, and never has been, whether carbon dioxide and other greenhouse gases "contribute to" climate change. They do. Rather, the issues are:

> (1) Whether these gases now *dominate* planetary climate variation, supplanting complex solar, cosmic, atmospheric, oceanic and other forces that have governed global warming and cooling, storms and other climate changes throughout Earth's history;
>
> (2) Whether human GHG emissions will cause *dangerous* climate changes that a technologically advanced United States will be unable to withstand, mitigate or adapt to;
>
> (3) Whether an EPA *failure* to adopt greenhouse gas regulations will be more harmful to Americans' environment, health and welfare than the effects of *implementing* these costly, damaging rules; and
>
> (4) Whether EPA's costly actions will have any measurable effect on global temperatures, even using the most sensitive instruments and assuming that CO_2 plays a dominant role in climate change.

Nothing in the climate record or in EPA's endangerment finding or vehicle and power plant rules supports a positive answer to any of these questions.

Nothing supports its claim of "90-99% certainty" that humans caused "most" of the sporadic atmospheric warming that Earth experienced between 1950 and 1997. Extensive empirical evidence suggests that EPA's actions were based on analyses and claims that were erroneous, dishonest, even fraudulent, and clearly beyond the boundaries of mainstream empirical science.

The Information Quality Act and related Federal guidelines require that EPA and other regulatory agencies base "major" and "influential" rulemakings on data and analyses that are accurate, clear, complete, unbiased and collected by the best available methods. EPA failed to do this. Section 108(a) of the Clean Air Act itself states: "Air quality for an air pollutant shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities."[17]

EPA's actions are in derogation of these requirements. Indeed, the scientific and observational basis for EPA and IPCC claims of "dangerous manmade climate change" is tenuous, biased, inaccurate, incomplete, unsupported by actual observations, and lacking in scientific integrity.

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[17] Congressional Research Service, Report for Congress, *The Information Quality Act: OMB's Guidance and Initial Implementation*, September 17, 2004, https://it.ojp.gov/documents/CRS_IQ_Act_OMB_Guidance_and_Implementation.pdf; Clean Air Act, 42 U.S.C. § 7408(a), Air Quality Criteria and Control Techniques.

If EPA and IPCC claims about the effects of carbon dioxide and other greenhouse gases on weather and climate were correct, observations and measurements of temperatures, storms, sea levels and other physical parameters over the past 35 years would reflect those claims and the forecasts of computer models used to support them. However, actual physical evidence contradicts the models and claims of unprecedented catastrophes caused by increasing CO_2 levels.

Even as atmospheric carbon dioxide levels kept rising – slowly before 1940, more rapidly 1940-1970, and still more quickly after that, ultimately reaching 400 parts per million in 2013 (0.04 percent of Earth's atmosphere) – average global temperatures *rose* 1910-1940, *fell slightly or remained stable* 1940-1979, rose slightly 1979-1997, and remained *unchanged* from 1997 to the present. Rising levels of plant-fertilizing CO_2 have enhanced plant growth and "greened" the planet, but have not resulted in steadily higher temperatures. Even University of East Anglia's Climate Research Unit scientists have acknowledged that they "cannot account for the lack of warming" in recent years.[18]

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[18] *See* David Whitehouse, *The Global Warming Standstill*, London: Global Warming Policy Foundation (2013), ttp://www.thegwpf.org/content/uploads/2013/03/Whitehouse-GT_Standstill.pdf; David Rose, "Global warming stopped 16 years ago, reveals Met Office report quietly released," MailOnline (UK), October 13, 2012, http://www.dailymail.co.uk/sciencetech/article-2217286/Global-warming-stopped-16-yearsago-reveals-Met-Office-report-quietly-released-chart-prove-it.html (April 10, 2013); "A Sensitive Matter: The climate may be heating up less in response to greenhouse gas emissions than once was thought," *The Economist*, March 30, 2013 (noting that Hadley Center data show the average global temperature was 58.1 degrees F (14.5 C) in 1997 and 2012, with

This empirical temperature record demonstrates that EPA's reliance on models is misplaced and contradicts its claim that Earth's climate is highly sensitive to increasing atmospheric carbon dioxide levels. There is no evidence that Earth is approaching a "tipping point" in preventing "dangerous" global warming. Indeed, an August 2013 IPCC graph dramatically shows that every IPCC climate model over the past 22 years (1990-2012) predicted that average global temperatures would be as much as 0.9 degrees C (1.6 degrees F) higher than they actually were. And yet the computer models remain the primary basis for EPA policies and rulemakings, while the agency dismisses empirical "real world" data and observations.[19]

The past two winters were among the coldest in decades for many parts of Canada, Russia, central Europe and the United Kingdom. A lethal "100-year, record-smashing" spring cold and snow across central Europe in March 2013 killed thousands of people. Britain's coldest on record Easter 2013 was followed by a week of freezing temperatures, gales and snow, with roads and schools closed, millions of families without

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periods of slight warming and cooling in between, ranging sporadically 0.1-0.7 degrees F annually above or below this 58.1 degree mark); Paul Driessen, *Carbon Dioxide: The Gas of Life: Tiny amounts of this miracle molecule make life on Earth possible*, Committee For A Constructive Tomorrow (2013) (summarizing results of over 100 peer-reviewed scientific papers on CO2 and plant growth).

[19] Ross McKitrick, "IPCC models getting mushy," *Financial Post*, September 16, 2013, http://opinion.financialpost.com/2013/09/16/IPCC-models-getting-mushy/

power, and hundreds of poor pensioners dying of hypothermia. Spring 2013 was one of the coldest on record for the United States.[20]

The frequency and severity of hurricanes, tornadoes, floods and droughts have not deviated from observed trends and cycles over the last century and are well within the normal range of historic variability. No Category 3 or higher hurricane has made landfall in the USA since 2005, the longest such period in over a century, and 2013 was the first year since 1994 when not one major Atlantic hurricane even formed. The years 2012 and 2013 gave the United States its fewest strong tornadoes since 1954. Genuine empirical science does not attribute this low ebb in "extreme weather events" to carbon dioxide, nor would true science blame CO_2 when such events do occur.[21]

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[20] Nathan Rao, "Coldest Easter ever: Arctic misery set to last week as temperatures drop to -15C; Britain is braced for the coldest Easter on record," *Daily Express* (London), March 25, 2013; James M. Taylor, "Cold spring pummels people, animals from Russia to Florida," *Environment & Climate News*, May 2013, page 13; Steven Goddard, "U.S. headed for coldest spring on record," http://stevengoddard.wordpress.com/ 2013/05/02/ us-headed-for-the-coldest-spring-on-record/; Our Amazing Planet, "Snowy spring snaps records across US: Cold temperatures as much as 20 degrees below normal," http://weather.aol.com/2013/05/02/snowy-spring-snaps-records-across-us/. For Britain, the record cold and snow comes just 13 years after CRU scientist David Viner warned that global warming meant "children just aren't going to know what snow is."

[21] Craig D. Idso, Robert M. Carter and S. Fred Singer, *Climate Change Reconsidered: 2011 Interim Report of the Nongovernmental International Panel on Climate Change*, Chicago: Heartland Institute, pp 123-150, http://www.nipccreport.org/reports/2011/pdf/05ExtremeWeather.pdf; Harold Brooks, "The tornado

Arctic climate and sea ice are within a few percentage points of their "normal" levels for the past fifty years. The Antarctic is experiencing more ice and colder weather than at any time in decades. The rate of sea level rise has barely changed in a century and now stands at less than seven inches per century.[22]

That the models' often scary forecasts have been incorrect and unsupported by actual observations is not surprising. Earth's climate system is complex, dynamic, turbulent and frequently changing. However, computer climate models employ simplified assumptions that: carbon dioxide is the primary driving force behind climate change; water vapor only *amplifies* the effects

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drought of 2012," August 2, 2012, http://www.norman.noaa.gov/2012/08/the-tornado-drought-of-2012/; The Weather Channel, "Major hurricane drought continues in US," October 24, 2012, http://www.weather.com/news/weather-hurricanes/major-hurricane-drought-us-20120814; Craig D. Idso, Robert M. Carter and S. Fred Singer, *Climate Change Reconsidered II: Physical Science*, pp. 945-954; Benny Peiser, "Global warming isn't to blame for the disaster in the Philippines," *The Spectator*, November 12, 2013.

[22] Patrick Michaels and Paul Knappenberger, "New research calls into question high rates of sea level rise," Cato Institute, December 20, 2012, http://www.cato.org/blog/current-wisdom-new-research-calls-question-high-rates-sea-level-rise/; S. Fred Singer and Dennis Avery, *Unstoppable Global Warming Every 1,500 Years*, Lanham, MD: Rowman & Littlefield Publishers, 2007 (pages 37-40,137-140); Willie Soon and Paul Driessen, "Desperately seeking Arctic warmth: 300 years of exploration records show recent Arctic warming is not unusual," *Washington Times*, May 12, 2010; *Climate Change Reconsidered II: Physical Science*, pp. 637-47; 756-796; Anthony Watts, "New study using GRACE data shows global sea levels rising less than 7 inches per century," WattsUpWithThat.com, July 3, 2013.

of CO_2; and the sun and cosmic rays play only insignificant roles. These and other invalid assumptions illustrate the models' problem of "garbage in, garbage out" and reflect late physicist Niels Bohr's Yogi Berra-esque observation that "prediction is very difficult, especially about the future." http://www.quotationspage.com/quote/26159.html

Compounding these problems, EPA did no climate research of its own. The agency simply cherry-picked studies that supported its political agenda and ignored extensive empirical observations, data and reports that *questioned or contradicted* the agency's findings. It relied "most heavily" on the 2007 findings of the Intergovernmental Panel on Climate Change, to claim there is "compelling and overwhelming" evidence that climate change endangers human health and welfare. It insisted that the IPCC papers represent "the best available scientific assessments" and that they "have gone through rigorous and transparent peer review."[23]

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[23] On April 24, 2009, EPA wrote: "EPA has developed a technical support document (TSD) which synthesizes major findings from the best available scientific assessments that have gone through rigorous and transparent peer review. The TSD therefore relies most heavily on the major assessment reports of both the Intergovernmental Panel on Climate Change (IPCC) and the U.S. Climate Change Science Program (CCSP). EPA took this approach rather than conducting a new assessment of the scientific literature. The IPCC and CCSP assessments base their findings on the large body of many individual, peer-reviewed studies in the literature, and then the IPCC and CCSP assessments themselves go through a transparent peer-review process." Proposed Endangerment and Cause and Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18,886, 18,894 (April, 24, 2009). Since the CCSP itself also relies heavily on IPCC documents, the IPCC is really the

However, EPA did not even (1) review the studies used to justify its rulemaking to assess their reliability, credibility or integrity; (2) determine whether they actually had been peer-reviewed; or (3) revise its findings as new evidence became available. These fatal flaws further underscore the arbitrary and illegal nature of its endangerment decision and undue reliance on IPCC documents.

Just before EPA rendered its December 2009 endangerment decision, the first group of "Climategate" emails revealed that a closed network of scientists controlled the IPCC process, manipulated data and excluded opinions that differed from their own, to promote alarmist perspectives on manmade global warming while excluding evidence and reports showing that ongoing and future climate changes were natural in original and were neither "dangerous" nor unprecedented. Then, as EPA was issuing its first four GHG rules in 20010 and 2011, a second collection of Climategate emails and other revelations and studies further undermined the false scientific foundation for these destructive EPA rules.[24]

Climategate emails and independent studies also reveal that many analyses and reports included in the

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primary source of all EPA analyses and pronouncements, and all IPCC biases, errors and misstatements are thus transferred to EPA and U.S. public policy and regulations.

[24] *See, e.g.,* Steven Mosher and Thomas Fuller, *Climategate: The CRUtape letters,* Lexington, KY: 2010; Peabody Energy Petition for Reconsideration of EPA's endangerment finding, http://epa.gov/climatechange/Downloads/endangerment/Petition_for_Reconsideration_Peabody_Energy_Company.pdf

IPCC's Fourth Assessment Report and relied upon by EPA in reaching its conclusions were inaccurate, created by activist groups or students, represented as "peer-reviewed" when they were not, or otherwise fell far below standards of scientific honesty and credibility that are required by law and are essential for such an important and far-reaching public policy decision as the CO_2 endangerment regulations.

Contrary to repeated claims by IPCC Chairman Rajendra Pachauri (and EPA) that the Panel's climate assessment reports rely solely, entirely and exclusively on scholarly peer-reviewed source material, fully *30 percent* of the papers and other references cited by the IPCC in its 2007 Fourth Assessment Report (AR4) were *not* peer reviewed, and many of the IPCC's "lead authors" were only graduate students or were even environmental activists.[25] Many of its scariest, most headline-grabbing claims of climate disasters deviated the most from basic standards of scrutiny, credibility and integrity. To cite just a few examples:

1. Prominent IPCC claims that droughts caused by global warming would destroy 40 percent of the Amazon rainforest were founded on a World Wildlife Fund press release, which was based on "research" by two young activists, who predicated their analysis on a science journal article that addressed forest *logging*

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[25] Donna Laframboise, *The Delinquent Teenager Who Was Mistaken for the World's Top Climate Expert: An IPCC expose*; Toronto: Ivy Avenue Press (2011); pp. 184-185 (the citizen audit of AR4).

and burning by local people, and said nothing about rainfall or climate change.[26]

2. The IPCC's 2007 Fourth Assessment Report also claimed Himalayan glaciers would "disappear by the year 2035," depriving communities in the region of water. This assertion was based on another World Wildlife Fund press release, which was based on a non-peer-reviewed article in a popular science magazine – which was based on an email from a single glaciologist, who later admitted his prediction was pure "speculation." The IPCC lead author in charge of this section subsequently said the Himalayan glacier meltdown had been included – despite his knowing of its false pedigree – because he thought highlighting it would "encourage" policy makers and politicians "to take concrete action" on global warming.[27]

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[26] Jonathan Leake, "UN climate panel shamed by bogus rainforest claim," *Sunday Times* (London), January 31, 2009; Richard Gray and Ben Leach, "The never-ending scandal: New list of errors in IPCC report," *Sunday Telegraph*, February 7, 2010

[27] Jonathan Leake and Chris Hastings, "IPCC mislead world over Himalayan glacier meltdown," *The Times* (London), January 17, 2010; Gerald Traufetter, "Can climate forecasts still be trusted? Confidence melting away," ABC News Internet Ventures, January 28, 2010; F. William Engdahl, "Glacier Meltdown: Another Scientific Scandal Involving the IPCC Climate Research Group," Global Research, January 27, 2010; David Rose, "Glacier scientist: I knew data hadn't been verified," London *Daily Mail*, January 24, 2010. *The Times* of London reported that India's top glaciologists called Hasnain's claims about imminent glacial meltdown "inherently ludicrous." India's most renowned glacier experts had just completed an exhaustive study that found no evidence of unusual temperature upturns in the Himalayas and said it would take 300 years for the glaciers to melt.

3. Almost *90 percent* of the National Weather Service's climate-monitoring stations failed NWS "siting" requirements, by being too close to heat sources that contaminated data and caused stations to report higher than actual temperatures. Yet, their records and other biased data were relied on by the EPA and IPCC as evidence of U.S. and global warming trends.[28]

These and numerous other errors, deficiencies and outright misrepresentations were further compounded by the IPCC's analytical and decision-making process, which is highly secretive, non-transparent and directed by scientists who frequently chose, evaluated and even modified colleagues' material, to build their case for alarming, human-caused global warming and prepare a first draft assessment report. At the second-draft stage, the review process is dominated by government officials, chosen to reflect their countries' climate policies and ensure diversity of national origin, though not the great diversity of expert opinion on critical climate issues. In fact, at both stages, world-renowned experts have been *excluded* if their studies and conclusions did not reflect the contrived "consensus" views on warming, severe weather, species extinction, sea level rise, droughts, diseases and other topics.[29]

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[28] Anthony Watts, *Is the U.S. Surface Temperature Reliable? How do we know global warming is a problem if we can't trust the U.S. temperature record?"* SurfaceStations.org: 2009, http://wattsupwiththat.com/2009/05/10/a-report-on-the-surfacestations-project-with-70-of-the-ushcn-surveyed/; Craig D. Idso and S. Fred Singer, *Climate Change Reconsidered: The report of the Nongovernmental International Panel on Climate Change* (NIPCC), pp. 114-30, Chicago: Heartland Institute, 2009.

Nevertheless, the IPCC's 2013 Fifth Assessment Report or AR5 says previous warnings that the West Antarctic and Greenland ice sheets will disintegrate, and tropical and boreal forests will collapse, are now seen as highly unlikely. Previous predictions of increasing global drought, AR5 notes, "were probably overstated. Changes in global ocean circulation are now also "not considered likely."[30]

The arbitrary nature of EPA's claim of "certainty" and "consensus" is further underscored by the agency's continued failure to acknowledge: a statement signed by 31,000 American scientists, saying they see "no convincing scientific evidence" that humans are causing dangerous climate change; a U.S. Senate report listing more than 700 international scientists who "dissent from" manmade global warming disaster claims; a poll by the American Meteorological Society that found fully 48 percent of U.S. meteorologists believe there is no evidence that humans are causing dangerous climate change; and the 986-page peer-reviewed report by 52 Nongovernmental International

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[29] Donna Laframboise, *The Delinquent Teenager Who Was Mistaken for the World's Top Climate Expert: An IPCC expose*; Toronto: Ivy Avenue Press (2011); especially pp. 106-109, 114-116, 152, 169, 214-219; Judith Curry, "Laframboise on the IPCC," October 19, 2011, http://judithcurry.com/2011/10/19/laframboise-on-the-ipcc/.

[30] Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis*, Table 12.4 and Chapter 2, Section 2.6.2.2

Panel on Climate Change (NIPCC) scientists, *Climate Change Reconsidered II: Physical Science*.[31]

Also missing from EPA's portfolio are studies that would help it better understand, assess and factor in the powerful, complex, interrelated *natural* forces that drive climate fluctuations, cycles and changes. Only then will we be able to discern and separate significant human influences – and begin to predict why, when, how and where Earth's climate is likely to change in the future. That is important, as more scientists note that the sun has entered a "quiet phase" and some are predicting a return to Little Ice Age conditions over the coming decades. However, EPA has shown no interest in such analyses.[32]

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[31] Oregon Institute of Science and Medicine, "Petition Project," http://www.oism.org/pproject/; U.S. Senate Minority Report: *More than 700 international scientists dissent over man-made global warming claims: Scientists continue to debunk 'consensus' in 2008*, http://www.hatch.senate.gov/public/_files/USSenate EPWMinorityReport.pdf; a Climate Depot report updates the Senate document, by adding 300 scientists to this list: Marc Morano, *Special Report: More than 1000 international scientists dissent over manmade global warming claims, challenge UN IPCC*, http://www.climatedepot.com/2010/12/08/special-report-more-than-1000-international-scientists-dissent-over-manmade-global-warming-claims-challenge-un-ipcc-gore-2/; Judith Curry, "The 52% 'consensus'," November 10, 2013, http://judithcurry.com/2013/11/10/the-52-consensus/; *Climate Change Reconsidered II: Physical Science*, *supra*.

[32] *See, e.g.*, Lawrence Solomon, "Why humans don't have much to do with climate change," Huffington Post, December 9, 2013 (article also discusses origin of IPCC's focus on manmade climate change and its marginalizing of natural factors),

Alan Carlin, a 37-year veteran EPA analyst, understood these problems and prepared a detailed paper, strongly advising the agency to look carefully at the science behind global warming claims and not rely on IPCC assessment reports. Carlin's supervisor tried to suppress the paper and refused to forward it to the EPA group preparing the final report that would guide the endangerment decision. His supervisor told him: "The administrator and administration has [sic] decided to move forward on endangerment, and *your comments do not help the legal or policy case for this decision.*"[33] [emphasis added]

In all these actions, EPA has acted like an unethical prosecutor, who is determined to get a conviction, has based his case on circumstantial evidence, and is willing to allow tainted evidence, hide exculpatory evidence, and deny defendant the right to present his defense or cross-examine adverse witnesses. Considering the severity of the impacts that these greenhouse gas regulations are likely to inflict, EPA's actions are no less egregious and intolerable.

Indeed, EPA's position now seems to be that any global warming or cooling, heat waves and cold outbreaks, floods and droughts, normal or unusual

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http://www.huffingtonpost.ca/lawrence-solomon/global-cooling_b_4413833.html

[33] Alan Carlin, "National Center for Environmental Economics comments on draft technical support document for endangerment analysis for greenhouse gas emissions under the Clean Air Act," March 2009, http://WattsUpWithThat.files.wordpress.com/200906/endangermentcommentsv7b1.pdf; "Controversy over EPA report prepared by Carlin," http://en.wikipedia.org/wiki/Alan_Carlin

snowfall or rainfall, more or fewer hurricanes and tornadoes of greater or lesser intensity – whatever happens to our weather or climate – is all the result of human GHG/CO_2 emissions, and proof of human-caused climate disruption. This "heads-I-win-tails-you-lose" game may be good politics, public relations and agenda promotion. But it is bad science, unprincipled public policy and misguided environmental regulation.

Despite these rampant deficiencies in the IPCC reports and the blatant politics involved in handling what Judge Kavanaugh called "the most burdensome, costly, far-reaching program ever adopted by a United States regulatory agency," the Environmental Protection Agency simply rubber-stamped the IPCC's 2007 conclusions and concluded that it is "very likely" (a "90-99 percent probability") that human greenhouse gas emissions caused "most" of the warming that Earth experienced during the second half of the twentieth century.[34]

That conclusion, EPA's endangerment finding and its GHG/CO_2 regulations have no foundation in reality or honest, objective, mainstream science. They are irrational, arbitrary and capricious and cannot justify this unprecedented expansion of regulatory authority, especially considering the severe impacts the decision will have on the environment, economy, human health and welfare, and Constitutional principles of our nation.

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[34] Environmental Protection Agency, *Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*, at 7 (December 7, 2009).

Congress never intended to let EPA control virtually the entire United States energy infrastructure and economy – especially on the basis of such faulty and fraudulent reasoning, and such unlawful and unlimited legislative and regulatory authority. This Court should reject EPA's counterfeit science and illegal rulemaking initiatives.

D. Even Full Compliance With EPA's Regulations Would Achieve Zero Benefits, Because Emissions From Other Countries Will Continue Increasing Total Atmospheric GHG Levels.

EPA's proposed remedy for allegedly dangerous global warming is also ineffective and pointless. Even the agency has admitted that its actions will reduce global temperatures by impossible-to-measure hundredths of a degree over the next century – even under the highly questionable assumption that greenhouse gases are now the dominant forces behind climate change.[35]

By 2030, coal will be the most widely used fuel worldwide, as developing countries bring electricity to billions of people who still have little or no access to power and are desperate to escape crushing poverty.

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[35] As Circuit Judge Brown noted in her opinion, "Nor does [EPA] dispute that the new rules will impose massive burdens on a struggling economy, or that its program of vehicle standards will affect global mean temperatures by no more than *0.01 degree Celsius by 2100.*" [emphasis in original]. *'Coalition for Responsible Regulation, Inc., supra*, at *9 n.3. (citing Joint Reply Brief for Non-State Petitioners and Supporting Interveners at *1, (Case No. 09-1322, Doc. No. 1341738 (Nov. 14, 2011)).

Even Europe has returned to coal in the last two years, with several countries using it to generate up to half their electricity, the International Energy Agency notes; these power plants will emit more carbon dioxide, sending atmospheric CO_2 levels steadily higher. For example, Germany is phasing out its "greenhouse-gas-friendly" nuclear power plants and replacing them with coal-fired facilities.[36]

China already accounted for 46 percent of global coal demand in 2011; its 2011-2012 *increase* in carbon dioxide emissions exceeded the United Kingdom's *total* CO_2 emissions by 200 million tons. Total manmade carbon dioxide from all U.S. sources represents barely 0.1 percent of the overall annual global increase in this important plant-fertilizing gas (from natural and manmade sources), and coal-fired power plants account for just a small fraction of that amount.[37]

No developing countries are willing to sign new binding carbon dioxide reduction commitments. Japan has abandoned its pledge to slash GHG emissions and will now allow them to rise. The European Union's climate change policy is verging on collapse, after the European Parliament voted against new subsidies for its CO_2 emissions trading program, and European leaders are calling for studies of how climate and renewable energy policies hurt families and industries, which are increasingly outraged over soaring energy prices, lost jobs, and elderly people dying of hypothermia because they can no longer afford adequate home heating.[38]

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[36] Patrice Hill, "As U.S. scales back, King Coal reigns as global powerhouse," *Washington Times*, March 4, 2013; Matt McGrath, "Green energy on the back foot after carbon trading blow," BBC News, April 18, 2013, http://www.bbc.co.uk/news/science-environment-22183232.

[37] Chris Booker, "The debt-ridden EU stares bankruptcy in the face," *The Telegraph* (London), April 20, 2013; *Climate Change Reconsidered II: Physical Science*, pp.151-65.

Underscoring the surreal nature of these EPA and IPCC actions, chief secretary of the U.N. Framework Convention on Climate Change Christiana Figueres has said the next climate treaty will bring about a "complete economic transformation of the world." IPCC Working Group III co-chair Ottmar Edendorfer has admitted that international climate policy is not even about environmental protection; it is about "how we redistribute the world's wealth."[39]

China, India, island nations and poor countries demand "compensation," "adaptation" and "mitigation" money, to pay for "losses and damages" from rapidly rising seas and more frequent, more intense storms and droughts. Contrary to empirical data and the views of numerous mainstream scientists, they insist these things are already happening, will worsen in the future and are the fault of industrialized nations that helped raise CO_2 levels to 400 ppm. They want at least $30 billion immediately, followed by upwards of $100 billion per year, plus free energy, pollution control and industrial technologies.[40]

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[38] Joshua Chaffin, Pilita Clark and Chris Tighe, "Europe is shifting away from carbon agenda," *Financial Times*, April 18, 2013; Sid Maher, "Europe's $287bn carbon waste: UBS," *The Australian*, November 23, 2011; *Wall Street Journal* editorial, "Cap and trade collapses," April 19, 2013; EurActiv, " EU leaders to square the circle of cheap energy," April 13, 2013, http://www.euractiv.com/energy/eu-leaders-sqare-circle-cheap-en-news-519606.

[39] William F. Jasper, "UN summit fails to enact 'complete transformation' of world," *The New American*, December 10, 2012; Anthony Watts, "IPCC Official: 'Climate policy is redistributing the world's wealth," November 18, 2010, http://wattsupwiththat.com/2010/11/18/ipcc-official-"climate-policy-is-redistributing-the-worlds-wealth"/

If EPA's endangerment policies are allowed to remain in force, the United States will soon be among very few nations that impose draconian and punitive GHG reduction schemes, regardless of their cost to human health and welfare and environmental values – and one of the few paying these losses and damages claims. The effect on global CO_2 emissions and global climate change will be zero.

Such a result would be pointless, inhumane, environmentally damaging, contrary to any reasonable interpretation of the Clean Air Act, a textbook example of arbitrary and capricious actions by unaccountable government regulators, and a clear violation of U.S. constitutional principles of separation of powers.

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[40] Environment News Service, "Warsaw climate talks end with deals on forests, financing," http://ens-newswire.com/2013/11/24/warsaw-climate-talks-end-with-deals-on-forests-financing/; Judith Curry, "Warsaw loss and damage mechanism: A climate for corruption?" November 24, 2013, http://judithcurry.com/2013/11/24/warsaw-loss-and-damage-mechanism-a-climate-for-corruption/.

CONCLUSION

For these reasons, and reasons discussed in the briefs of the Southeastern Legal Foundation and other petitioners, the judgment of the court of appeals should be reversed.

Respectfully submitted,

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U.S. ENVIRONMENTAL PROTECTION AGENCY, *Respondent*,

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United States Court of Appeals for the D.C. Circuit

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INTEREST OF *AMICUS CURIAE*

Amicus Constitutional Accountability Center (CAC) is a think tank, public interest law firm, and action center dedicated to fulfilling the progressive promise of our Constitution's text and history. CAC works in our courts, through our government, and with legal scholars to improve understanding of the Constitution and preserve the rights and freedoms it guarantees. CAC has a strong interest in preserving the balanced system of government laid out in our nation's charter, which reflects the principle of separation of powers. The Center also has an interest in protecting the constitutional authority of the elected branches to provide national solutions to national problems, including the pressing and pervasive problem of air pollution, as argued in CAC's *amicus* brief this Term in *E.P.A. v. EME Homer City Generation*. CAC accordingly has an interest in this case.[1]

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[1] Pursuant to Supreme Court Rule 37.6, *amicus curiae* states that no counsel for a party authored this brief in whole or in part, and no party or counsel for a party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *amicus curiae* or its counsel made a monetary contribution to its preparation or submission. Pursuant to Supreme Court Rule 37.3, *amicus curiae* states that all parties have consented to the filing of this brief; letters of consent have been filed with the Clerk of the Court.

INTRODUCTION AND SUMMARY OF ARGUMENT

Air pollution is a massive problem that inevitably crosses State lines and endangers the health and welfare of the American people, no matter where they may live. Facing a challenge at once immense and ever-changing, Congress enacted a broadly worded statute—the Clean Air Act (CAA)—to provide the Environmental Protection Agency (EPA) with a mandate as sweeping as the problem the CAA intended to address: both current and future air pollution challenges, guided by the best available scientific evidence. With the CAA, Congress tackled a complex and truly national problem. Moreover, the statute is a quintessential example of the Founders' design for the national government in action—a government in which Congress would have authority "to legislate in all Cases for the general Interests of the Union, and also in those Cases to which the States are separately incompetent, or in which the Harmony of the United States may be interrupted by the Exercise of individual Legislation."[2]

Taking up its charge under the CAA, EPA analyzed the threat posed by greenhouse gas emissions from mobile sources after this Court's ruling in ***Massachusetts v. EPA***, concluded that the threat was real, and issued regulations covering those emissions. From there, EPA extended an important permitting program to cover large stationary sources of greenhouse gas emissions, as required by the plain text of the CAA and as per EPA's longstanding interpretation of the Act. Finally, in the face of resource constraints and implementation challenges, EPA decided to phase in these new requirements over time, beginning with the largest emitters of greenhouse gases.

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[2] 2 THE RECORDS OF THE FEDERAL CONVENTION OF 1787 at 131-32 (Max Farrand, ed., rev. ed. 1966) (Resolution VI). The principle of Resolution VI was translated into constitutional provisions—specifically, the powers granted to Congress in Article I—affording the federal government the ability to provide national solutions to national problems.

The D.C. Circuit upheld EPA's actions in full, describing the agency's interpretation of the CAA as "unambiguously correct" and "statutorily compelled." *Coal. for Responsible Regulation v. EPA*, 684 F.3d 102, 113, 134 (D.C. Cir. 2012) ("*Coalition I*") (per curiam). Petitioners now ask this Court to reverse the D.C. Circuit's decision and, in the process, invalidate EPA's thirty-year-old interpretation of the CAA and upend important regulations addressing greenhouse gas emissions by large stationary sources.

To justify this bold request, Petitioners make the even bolder assertion that EPA's actions "contradict[] the Constitution's most fundamental principles of limited government and separation of powers." Brief of State Petitioners at 29. *See also Coal. for Responsible Regulation v. EPA*, Nos. 09-1322 et al., 2012 WL 6621785, at *22 (D.C. Cir. Dec. 20, 2012) (*Coalition II*) (Kavanaugh, J., dissenting from denial of rehearing en banc) (warning that EPA's actions in this case threaten "the bedrock underpinnings of our system of separation of powers"). As Judge Kavanaugh alleged in dissent below, critics of the agency fear that the lower court's unanimous decision risks "green-light[ing] a significant shift of power from the Legislative Branch to the Executive Branch" by permitting EPA to ignore the text of the CAA, circumvent the Framers' "cumbersome," "frustrating," and "laborious" legislative process, and "set" its own "economic and social policy as it sees fit." *Id.* On this view, shared by various Petitioners, EPA simply "rewrote" the CAA to suit its own policy goals rather than petitioning Congress to revise the CAA to specifically address global warming, as the Framers envisioned and as the statute allegedly requires. *Id.*; Brief of State Petitioners at 29 ("EPA believes it can disregard unambiguous, agency-constraining statutory rules and unilaterally establish a new regulatory regime to deal with novel environmental challenges").

These claims are baseless. Obviously, as "[t]he Framers specifically contemplated . . . there would be situations where the Executive Branch confronts a pressing need that it does not have current authority to address." *Coalition II*, 2012 WL 6621785, at *22. But this is not one of those situations.

Far from requiring EPA to return to Congress whenever a new challenge emerges, the CAA is a broadly worded statute that was purposefully crafted to deal with a complex, ever-changing problem like air pollution *without* requiring congressional action every time information arises about a particular new pollutant. As this Court recognized in *Massachusetts v. EPA*, 549 U.S. 497 (2007), Congress chose to define the air pollutants covered by the CAA in "sweeping," "capacious" terms—terms that easily cover greenhouse gases. *Id.* at 528-29, 532. Congress used similarly sweeping language when defining which air pollutants would trigger the permitting requirements at issue in this case ("any air pollutant" emitted above certain statutory thresholds, 42 U.S.C. 7407(d)(1)) and which air pollutants would be covered by that permitting scheme's central substantive provision requiring facilities to regulate emissions using the best available control technology ("each pollutant subject to regulation under [the CAA]," 42 U.S.C. 7475(a)).

Rather than forcing EPA to await congressional fine-tuning in the face of new scientific evidence or new technological advances, Congress charged the agency with crafting new regulations to address new air pollution challenges as they arise—just as EPA did here in the face of the growing threat of global warming. This was Congress's conscious choice, embodied in the plain text of the CAA. Far from "rewriting" the statute, EPA sought to address the bulk of the problem posed by greenhouse gas emissions as quickly as possible under the terms of the CAA and pursuant to the authority granted to the agency by Congress. If this Court reverses the D.C. Circuit's decision and overturns EPA's actions here, it risks not only subverting the core purposes of the CAA specifically, but also limiting the capacity of Congress and the President to address massive, complex, dynamic issues, more generally.

Simply put, in this case, each branch of government did its constitutionally prescribed job. Congress enacted a broadly worded statute intended to cover truly national problems of air pollution, both now and in the future, like global warming. The President, through EPA, sought to carry out Congress's broad mandate to execute the law as best he could, with limited resources and in the face of practical administrative challenges. Far from threatening "the bedrock underpinnings" of the Framers' system, this case is a prime example of that system working precisely as the Framers intended.

ARGUMENT

I. The Framers Created A Federal Government With The Power To Address Truly National Problems, With Congress Enacting Related Laws And The President "Faithfully" Carrying Out Those Laws With "Energy" And "Vigour."

In the summer of 1787, the Framers set out to create a national government worthy of their Revolution—a government "vested with sufficient powers for all general and national purposes," THE FEDERALIST NO. 3, at 17 (John Jay) (Robert A. Ferguson ed., 2006), but one that also remained accountable ultimately to the American people. Fearful of concentrating too much power in any one branch of government, the Framers' solution was to divide primary policy-making responsibilities between two branches of government—a Congress with the authority to "enact laws" that addressed truly national problems and a President who would "execut[e]" those laws with "energy" and "vigour." THE FEDERALIST NO. 75, at 414 (Alexander Hamilton); THE FEDERALIST NO. 70, at 391 (Alexander Hamilton); *see also Pub. Citizen v. U.S. Dep't of Justice*, 491 U.S. 440, 468 (1989) (Kennedy, J., concurring) ("The Framers of our Government knew that the most precious liberties could remain secure only if they created a structure of Government based on a permanent separation of powers."). While each branch was given "the necessary constitutional means, and personal motives, to resist encroachment from the other[]," THE FEDERALIST NO. 51, at 287-88 (James Madison), when acting together, Congress and the President would have sufficient power to govern our new nation effectively.

This new system was in sharp contrast to the feeble Articles of Confederation under which the Framers had toiled for nearly a decade. Ratified in 1781, the Articles established a confederacy built on a mere "league of friendship" that was comprised of only a single branch of government, a "Congress" made up of State delegations. ARTICLES OF CONFEDERATION of 1781, arts. III, V. This Congress paled in comparison to the vibrant national government embodied in our enduring Constitution.

Under the Articles, Congress struggled to procure troops and money during the Revolutionary War. *See* 18 THE WRITINGS OF GEORGE WASHINGTON 488 (John C. Fitzpatrick, ed. 1931) (Letter to Alexander Hamilton, March 4, 1783); AKHIL REED AMAR, AMERICA'S CONSTITUTION: A BIOGRAPHY 45-46 (2005). It could not ensure State compliance with international treaties. *Id.* at 47. And, without the power to impose taxes or regulate interstate commerce, it could not control inflation, secure the nation's long-term credit, or police interstate trade disputes. Larry D. Kramer, *Madison's Audience*, 112 HARV. L. REV. 611, 619 (1999).

When the Framers finally met in Philadelphia for the Constitutional Convention in 1787, they sought to fix these deficiencies and establish a government with sufficient power to govern the new nation. They settled upon dividing the legislative and executive domains—providing Congress with the power to enact laws that addressed truly national problems and the President with the power to execute those legislative commands energetically.

A. The Constitution Provides Congress With The Authority To Enact Laws That Address Truly National Problems.

Article I of the U.S. Constitution provides that "[a]ll legislative Powers herein granted shall be vested in a Congress of the United States." U.S. CONST. art. I, § 1. When considering which "legislative Powers" to "grant[]" this new Congress, the delegates to the Constitutional Convention adopted Resolution VI, which declared that Congress should have authority "to legislate in all Cases for the general Interests of the Union, and also in those Cases to which the States are separately incompetent, or in which the Harmony of the United States may be interrupted by the Exercise of individual legislation." 2 FARRAND'S RECORDS at 131-32. *See also Nat'l Fed'n of Indep. Bus. v. Sebelius*, 132 S. Ct. 2566, 2615 (2012) (Ginsburg, J., concurring in part and dissenting in part); AMAR, AMERICA'S CONSTITUTION, at 108; Jack M. Balkin, *Commerce*, 109 MICH. L. REV. 1, 8-12 (2010). The delegates then passed Resolution VI on to the Committee of Detail, which was responsible for transforming this structural constitutional principle into a list of enumerated powers. *Id.* at 10.

The Convention later settled upon Article I, section 8, of the Constitution, which set out the specific powers vested in the new Congress. Many of these powers corrected recognized deficiencies in the

Articles of Confederation, providing Congress with the authority necessary to govern the new nation, including the power to "borrow money on the credit of the United States," "lay and collect Taxes . . . to . . . provide for the common Defence and general Welfare," "raise and support Armies," and "regulate Commerce . . . among the several States." U.S. CONST. art. I, § 8.

Considered together, these powers were intended to capture the idea that "[w]hatever object of government extends, in its operation or effects, beyond the bounds of a particular state, should be considered as belonging to the government of the United States." 2 THE DEBATES IN THE SEVERAL STATE CONVENTIONS ON THE ADOPTION OF THE FEDERAL CONSTITUTION 424 (Jonathan Elliot ed., 2d ed. 1836) (Statement of James Wilson). In other words, Article I, section 8, was not an attempt to limit the federal government for its own sake, but rather was adopted "so that the new federal government would have power to pass laws on subjects and concerning problems that are federal by nature"—those that individual states could not "unilaterally solve" and that might, in turn, "hamper economic union in the short run and threaten political and social union in the long run." Balkin, 109 MICH. L. REV. at 12, 13.

B. The Framers Expected The President To "Faithfully Execute" Congressionally Enacted Laws With "Energy" And "Vigour."

Under our enduring Constitution, Congress's partner in carrying out national policy is the

President. Article II of the U.S. Constitution provides that "[t]he executive Power shall be vested in a President of the United States of America." U.S. CONST. art. II, § 1, cl. 1. By establishing a "single, independent Executive," the Framers sought to infuse the executive branch of their new government, above all, with "energy," THE FEDERALIST NO. 70, at 388 (Alexander Hamilton)—energy to carry out Congress's commands, energy to oversee an independent branch of government, and energy to "preserve, protect, and defend" the new Constitution, U.S. CONST. art. II, § 1, cl. 8. *See also* Steven G. Calabresi & Saikrishna B. Prakash, *The President's Power To Execute the Laws*, 104 YALE L.J. 541, 599-603 (1994) ("[T]he Constitution's clauses relating to the President were drafted and ratified to energize the federal government's administration."). This was in sharp contrast with the failed Articles of Confederation, which vested executive authority, quite feebly, in Congress. ARTICLES OF CONFEDERATION OF 1781, art. IX, §§ 4, 5.

Under the Articles, the "president" did not lead a separate branch of government, but rather merely "preside[d]" over Congress, and the presidency itself was limited to Congress's sitting Members. ARTICLES OF CONFEDERATION OF 1781, art. IX, § 5. In reimagining this office in Philadelphia, the Framers were looking for a President "who would be far more than a legislative presiding officer, a state governor, or a prime minister, but far less than a king." AMAR, AMERICA'S CONSTITUTION, at 131.

Unlike the "president" of the Articles of

Confederation, the Framers' new President would lead his own branch of government—a branch charged with executing the legislative commands of Congress and administering "good government," especially in its various "details." THE FEDERALIST NO. 72, at 399 (Alexander Hamilton); *cf. City of Arlington v. FCC*, 133 S. Ct. 1863, 1873 n.4 (2013). To those ends, the President was given the responsibility to "take Care that the Laws be faithfully executed," U.S. CONST. art. II, § 3.

The President would be aided in his considerable responsibilities by a team largely of his own choosing and "subject to his superintendence." THE FEDERALIST NO. 72, at 400 (Alexander Hamilton); *see also* THE FEDERALIST NO. 76, at 420 (Alexander Hamilton) ("It is also not very probable that [the President's] nomination would often be overruled [by the Senate]."). The First Congress quickly established the President's power to remove a subordinate officer unilaterally, therefore solidifying his control over the executive branch. AKHIL REED AMAR, AMERICA'S UNWRITTEN CONSTITUTION: THE PRECEDENTS AND PRINCIPLES WE LIVE BY 320 (2012). When it came time to act, the final decision was the President's and the President's alone. AMAR, AMERICA'S CONSTITUTION, at 188; *see also* THE FEDERALIST NO. 71, at 397 (Alexander Hamilton) (explaining that it is "desirable" that the President should "dare to act his own opinion with vigour and decision").

This vision of executive power was closely tied to the Framers' theory of republican accountability. *See Chevron U.S.A. Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984)

("While agencies are not directly accountable to the people, the Chief Executive is . . . ."). In their view, the American people's "two greatest securities" against executive abuse were the "restraints of public opinion" and "the opportunity of discovering with facility and clearness the misconduct of the persons they trust." THE FEDERALIST NO. 70, at 393 (Alexander Hamilton). By creating a single, "energetic Executive," the Framers sought to draw a clear line of responsibility from each executive action back to the President himself. *See id.* at 394 (arguing that a single executive will be "more narrowly watched and more readily suspected").

Of course, the Framers ultimately left Congress with a great deal of authority to either enlarge or restrict the President's discretion in any given policy area, as long recognized by this Court's decision in *Chevron*. As this Court explained just last Term, when crafting legislation, "Congress knows to speak in plain terms when it wishes to circumscribe, and in capacious terms when it wishes to enlarge agency discretion." *City of Arlington*, 133 S. Ct. at 1868. In the end, the President is left with the simple duty to carry out those commands as best he can, with "energy" and "vigour," and, of course, within the constraints imposed by Congress—just as he did in the present case.

II. In Enacting The Clean Air Act, Congress Identified A Massive, Ever-Changing, Truly National Problem—Air Pollution—And Provided The Executive Branch With The Tools Necessary To Address It.

Air pollution—including the massive challenge posed by greenhouse gas emissions—is precisely the sort of problem that the Framers envisioned our national government addressing. Air pollution inevitably crosses State lines, with decisions made in one State often affecting the air quality in others. *See* Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341, 2350 (1996). Relevant to this case, this is especially true of greenhouse gas emissions, as gases emitted in one State inevitably mix in the atmosphere with emissions from other States to cause global warming—a problem that, in turn, alters the climate in ways that affect citizens nationwide. *See* Brief for State Respondents at 1-2. This is a serious problem, beyond the ability of any individual State to address by itself. At the same time, it is one that falls squarely within the authority granted by Congress to EPA through the CAA.

The CAA was carefully crafted to deal with a complex, ever-changing problem like air pollution. As this Court recognized in *Massachusetts v. EPA*, 549 U.S. 497 (2007), Congress chose to define "air pollutant" in the CAA in "sweeping," "capacious" terms. *Id.* at 528-29, 532. Rather than limiting this key definition in any significant way, Congress defined an "air pollutant" as "*any* air pollution agent or combination of such agents, including *any* physical, chemical, biological, radioactive . . . substance or matter which is emitted or otherwise enters the ambient air." 42 U.S.C. 7602(g) (emphases added).

By choosing to define this term so broadly, Congress ensured that EPA had sweeping authority under the CAA to address new air pollutants—and, with them, new air pollution problems—as they arise, without requiring the President to return to Congress every time new scientific findings justify new regulatory actions. As such, while the animating goal of the CAA—combating air pollution—remains the same, the specific air pollutants requiring regulatory action at any given moment change as the underlying science changes. And, while Congress retains the authority, as always, to step in and clarify the executive branch's statutory mandate, the law itself is broad enough to ensure that the executive branch is not powerless in the face of an emerging threat and ongoing congressional deliberations.

This is a necessary feature of the CAA, not a bug, as this Court explicitly recognized in *Massachusetts*. There, the Court concluded that the CAA—and its definition of "air pollutant"—"unquestionably" and "unambiguous[ly]" encompassed greenhouse gases. *Massachusetts*, 549 U.S. at 528-29, 532. Even while Congress "might not have appreciated the possibility that burning fossil fuels could lead to global warming," it made the conscious choice to draft the CAA in broad language—language that "confer[red] the flexibility necessary to forestall . . . obsolescence." *Id.* at 532. Indeed, Congress understood that "without regulatory flexibility, changing circumstances and scientific developments would soon render the [CAA] obsolete." *Id.*

Turning to the specific CAA program at the center of this case—the Prevention of Significant Deterioration (PSD) permitting program—Congress used similarly capacious language. *See* Brief for State Respondents at 10-15. The PSD program was designed to prevent the significant deterioration of air quality in areas that were already complying with the national ambient air quality standards (NAAQS) for at least one criteria pollutant. 42 U.S.C. 7471; *see also* Brief for Federal Respondents at 40-41. To receive a preconstruction permit under this program, each covered facility must: (1) meet air pollution standards for NAAQS pollutants, 42 U.S.C. 7475(a)(3)(A) & (B); (2) satisfy "any . . . applicable emission standard or standard of performance under [the CAA]," 42 U.S.C. 7475(a)(3)(C); and (3) install the best available control technology (BACT) for each pollutant "subject to regulation under [the CAA]." 42 U.S.C. 7475 (a)(4).

When defining which "major emitting facilities" were covered by these permitting requirements, 42 U.S.C. 7475, Congress chose broad language, requiring the program to cover facilities emitting more than 100 or 250 tons per year (depending on the type of facility) of "*any* air pollutant," 42 U.S.C. 7407(d)(1) (emphasis added). Since 1978, EPA has interpreted this key phrase to include any air pollutant regulated by the CAA, 43 Fed. Reg. 26,380, 26,382 (June 19, 1978)—not limiting it to NAAQS pollutants (*e.g.*, Am. Chemistry Council Br. 2-3) or some other circumscribed list (*e.g.*, Southeastern Legal Found. Br. 9-18, 20), as Petitioners urge. *See*

Brief for Environmental Respondents at 23-25 (demonstrating that the related legislative history supports EPA's broad reading of the CAA); Brief for State Respondents at 16-19 (same).

Therefore, whenever EPA decides to regulate a new air pollutant under any other provision of the CAA, EPA interprets the Act as also requiring it to extend the PSD permitting program to any facility emitting that new pollutant above the relevant statutory threshold. 43 Fed. Reg. 26380, 26382 (June 19, 1978). Petitioners challenge this longstanding interpretation in the present case.

III. EPA's Longstanding Interpretation Of The Clean Air Act—Namely, That The PSD Permitting Program Applies To All Regulated Pollutants—Is Compelled By The Plain Text Of The Statute.

Following this Court's decision in *Massachusetts*, EPA issued regulations covering greenhouse gas emissions caused by light-duty motor vehicles. 75 Fed. Reg. 25,324, 25,398 (May 7, 2010). Under EPA's longstanding interpretation of the CAA, these new greenhouse gas regulations, in turn, required EPA to apply the PSD permitting requirements to certain large stationary sources responsible for emitting greenhouse gases. This interpretation of the CAA is plainly valid for at least two reasons.[3]

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[3] For Respondents' detailed responses to Petitioners' varied statutory arguments for limiting the PSD Program's scope, see Brief for Federal Respondents at 29-

First, and most important, this interpretation is compelled by the text of the statute itself, as recognized by the court below. *See Coalition I*, 684 F.3d at 132-44; *see also Pub. Citizen*, 491 U.S. at 469 (Kennedy, J., concurring) ("There is a ready starting point, which ought to serve also as a sufficient stopping point, for this kind of analysis: the plain language of the statute."). As outlined in Part II, *supra*, the CAA provisions addressing the PSD program extend its preconstruction permitting requirements to any "major emitting facility" being constructed or modified in any NAAQS-compliant area. 42 U.S.C. 7475(a). In turn, these provisions define a "major emitting facility" as a stationary source emitting at least 100 or 250 tons per year of "*any* air pollutant," 42 U.S.C. 7479(1) (emphasis added). This intentionally broad definition plainly includes greenhouse gases.

As discussed in Part II, *supra*, the CAA defines "air pollutant" quite broadly—a definition that this Court has called "sweeping" and has read to "embrace[] all airborne compounds of whatever stripe," including greenhouse gases. *Massachusetts*, 549 U.S. at 528, 529; *see also American Electric Power Co. v. Connecticut*, 131 S. Ct. 2527, 2537 (2011) (explaining that "emissions of carbon dioxide qualify as air pollution subject to regulation under the [CAA]"). Furthermore, both common sense and this Court's previous decisions dictate that Congress typically uses the "expansive" word "any" to further broaden the application of a given definition. *See*

33, 39-46, 52-55; Brief for Environmental Respondents at 14-23; Brief for State Respondents at 24-30.

United States v. Gonzales, 520 U.S. 1, 5 (1997); *see also Massachusetts*, 549 U.S. at 529 (explaining how Congress's "use of the word 'any'" reinforced Congress's expansive definition of "air pollutant"). Therefore, by placing "any" before the words "air pollutant" in the CAA's provisions addressing the PSD permitting program, Congress sought to broadly apply an already "sweeping" definition. As a result, the plain text of the statute itself compels EPA to apply the PSD permitting requirements to major greenhouse gas emitters in NAAQS-compliant areas.

To limit these requirements to major emitters of NAAQS pollutants or to exclude greenhouse gases altogether, as Petitioners urge, would be tantamount to rewriting clear statutory text. *See* Brief for Environmental Respondents at 37. Simply put, "any air pollutant" means *any* air pollutant, including greenhouse gases. *Coalition I*, 684 F.3d at 113, 134 ("[W]e have little trouble concluding that the phrase 'any air pollutant' includes *all* regulated air pollutants, including greenhouse gases."). And, under *Chevron*, EPA "must give effect to the unambiguously expressed intent of Congress." 467 U.S. at 843; *see also City of Arlington*, 133 S. Ct. at 1874.

Second, EPA's interpretation of the CAA's PSD program provisions—now challenged by Petitioners—is more than three decades old, Brief for Federal Respondents at 39-40, and was upheld by the D.C. Circuit in this case as "unambiguously correct" and "statutorily compelled," *Coalition I*, 684 F.3d at 113, 134. Over thirty years ago, EPA first interpreted the phrase "any air pollutant" to cover "any air pollutant regulated under the [CAA]." 43 Fed. Reg. 26380, 26382 (June 19, 1978). The agency has since reaffirmed this interpretation in regulations promulgated in 1980 and 2002, 67 Fed. Reg. 80,186 (Dec. 31, 2002); 45 Fed. Reg. 52,676 (Aug. 7, 1980). Importantly, this interpretation is also consistent with the landmark D.C. Circuit decision addressing the PSD program, during which industry groups made the same NAAQS-only argument that Petitioners are making now. *See Alabama Power Co. v. Costle*, 636 F.2d 323, 352 (D.C. Cir. 1980); Brief for Environmental Respondents at 4.

This longstanding interpretation extends the PSD permitting program to emissions from any regulated pollutants—not just NAAQS pollutants—but excludes any air pollutants not yet regulated by the CAA. Far from simply inventing this interpretation to cover greenhouse gases and greenhouse gases alone, EPA has been following it for decades, extending the PSD program to cover many other non-NAAQS pollutants, including fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, municipal waste combustor organics, acid gases, and solid waste landfill emissions, 40 C.F.R. 51.166(b)(23)(i). Therefore, a decision invalidating EPA's decades-old interpretation requiring the PSD permitting program to cover all regulated pollutants also risks unsettling EPA's regulations of other non-NAAQS pollutants. *See* Brief for Federal Respondents at 29; Brief for State Respondents at 31-35.

Finally, Congress set out a broad purpose for its PSD program, consistent with covering large stationary sources of greenhouse gas emissions. Indeed, in a section entitled "Congressional declaration of purpose," Congress explained that the "purpose," in part, of the PSD program was "to protect public health and welfare from any actual or potential adverse effect which in [EPA's] judgment may reasonably be anticipate to occur from air pollution." 42 U.S.C. 7470(1). Elsewhere, the CAA further explained that "[a]ll language referring to effect on welfare includes, but is not limit to, effects on . . . . weather . . . and climate." 42 U.S.C. 7602(h).

In the end, the plain text of the statute, longstanding interpretive practice, and Congress's stated purpose for the PSD program all support upholding EPA's longstanding interpretation that the CAA's PSD permitting program applies to all regulated pollutants.

IV. Far From "Rewriting" The Statute, EPA's Decision To Phase In The PSD Program's Permitting Requirements Was A Valid Attempt To Faithfully Execute Its Duties Under The CAA Within The Constraints Imposed By Congress.

By applying the PSD program's permitting requirements to major greenhouse gas emitters in NAAQS-compliant areas—as required by the CAA's plain text—EPA now faces serious implementation challenges. *See* Brief for Federal Respondents at 15-16, 47-48; Brief for State Respondents at 20-24.

Because greenhouse gases "are emitted in far greater volumes than other pollutants," the immediate extension of the PSD permitting program to all facilities exceeding the statutory thresholds for greenhouse gas emissions would potentially cover thousands of new sources, "overwhelm[] the resources of permitting authorities," and "severely impair[] the functioning of [related] programs." 75 Fed. Reg. 31,514, 31,514 (June 3, 2010); *see also* Brief for State Respondents at 21-23 (describing the burdens on State permitting authorities). All told, had it immediately extended the permitting program in this manner, EPA would have increased the total number of PSD preconstruction permits from 280 per year to over 81,000 per year—in turn, imposing new "permitting burdens" upon a "large number of small sources that . . . constitute a relatively small part of the environmental problem" and threatening to overwhelm the State permitting authorities' limited resources. 75 Fed. Reg. 31,514, 31,533, 31,554 (June 3, 2010).

Facing these serious implementation challenges, EPA did what the executive branch is charged with doing. It sought to carry out its statutory mandate as best it could within the constraints imposed by Congress. *See* Brief for Environmental Respondents at 8-9; Brief for State Respondents at 5-6. Given the regulatory burdens of immediately extending the PSD permitting program to greenhouse gas emissions, EPA decided to phase in enforcement of the PSD permitting requirements over time, "starting with the largest GHG emitters." 75 Fed. Reg. 31,514, 31,514 (June 3, 2010).

This approach is consistent with this Court's guidance in *Massachusetts*. There, while discussing the regulation of mobile sources of greenhouse gas emissions, this Court explained that EPA need not "resolve massive problems" like greenhouse gas emissions "in one fell regulatory swoop."

Massachusetts, 549 U.S. at 524. Instead, EPA may "whittle away at them over time, refining [its] preferred approach as circumstances change and as [EPA] develop[s] a more nuanced understanding of how best to proceed." *Id.*; *see also Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 1002 (2005) (upholding the FCC's step-by-step, "incremental[]" approach to regulating information-service providers). That is precisely what EPA is doing here.

EPA's approach—its Tailoring Rule—would immediately address the bulk of the related problem, covering "major emitting facilities" that "represent[] 86 percent of the coverage at full implementation of the statutory . . . thresholds." 75 Fed. Reg. 31,514, 31,571 (June 3, 2010). From there, EPA would phase in smaller sources "at threshold levels that are as close to the statutory levels as possible, and do so as quickly as possible." 75 Fed. Reg. 31,514, 31,523 (June 3, 2010). While EPA conceded that it may have to "stop the phase-in process short of the statutory threshold levels," it set out several specific steps before reaching that point. 75 Fed. Reg. 31,514, 31,523, 31,548 (June 3, 2010).

Again, EPA started by covering the largest greenhouse gas emitters first, beginning with any new facilities with the potential to emit 100,000 tons per year of greenhouse gases or modifications to any existing facilities that would increase greenhouse gas emissions by 75,000 tons per year. 75 Fed. Reg. 31,514, 31,523-24 (June 3, 2010). From there, EPA committed itself to studying how best to phase in smaller stationary sources—whether through de minimis exceptions, streamlined permitting, or some other measure—with a deadline for completing this assessment by 2015. 75 Fed. Reg. 31,514, 31,525 (June 3, 2010). Finally, EPA would issue a rule dealing with smaller sources by April 30, 2016, 75 Fed. Reg. 31,514, 31,573 (June 3, 2010), and "may continue the phase-in process with further rulemaking after 2016," 75 Fed. Reg. 31,514, 31,523 (June 3, 2010).

Far from "rewriting" the statute, as Petitioners contend, EPA is carrying out the CAA's requirements one step at a time. Brief for Environmental Respondents at 8-9. Consistent with good administration, EPA identified practical problems posed by enforcing the statute immediately and in full, and settled upon an approach that dealt with the largest emitters now, while setting a deadline for addressing smaller emitters later. *See* Brief for Federal Respondents at 50-51.[4]

This approach satisfied—and did not subvert—the central purpose of the CAA and its PSD permitting program, addressing the vast majority of greenhouse gas emissions by stationary sources at the outset and charting a path for expanding the program to cover additional sources later, based upon EPA's ongoing experience implementing the program. This is not a suspension of the relevant statutory provisions nor a failure to enforce the CAA as written. To the contrary, EPA is setting priorities based on both practical realities and its limited resources, biting off no more than it or, as important, the regulated entities themselves, can chew at any given time. This phase-in of the CAA's requirements is not a rewrite of the statute, and it is fully consistent with the executive authority vested in the President by Article II of our enduring Constitution and the separation of powers evidenced in the Framers' design.

---

[4] Congress, of course, retains the opportunity and authority to fine-tune the relevant statutory thresholds and deadlines as EPA's implementation of the current regulation proceeds.

CONCLUSION

EPA's regulation of greenhouse gas emissions under the PSD permitting program is a reasonable and valid interpretation of the CAA, and this Court should affirm the lower court's decision upholding it.

Respectfully submitted,

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BRIEF

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IN THE
Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *et al.*,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF OF FIVE U.S. SENATORS AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

December 16, 2013

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The Senators participating as *amici* are:

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SENATOR ROY BLUNT OF MISSOURI
Member of the Appropriations Committee, and its Interior, Environment, and Related Agencies Subcommittee, and the Commerce, Science, and Transportation Committee, former Member of the House Energy and Commerce Committee

SENATOR DEB FISCHER OF NEBRASKA
Member of the Environment and Public Works Committee and the Commerce, Science, and Transportation Committee

SENATOR JERRY MORAN OF KANSAS
Member of the Appropriations Committee, former Member of the House of Representatives

SENATOR PAT ROBERTS OF KANSAS
Ranking Member of the Agriculture Committee, former Chairman of the Senate Select Intelligence Committee, and former Chairman of the House Agriculture Committee

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INTEREST OF THE *AMICI CURIAE*[1]

Amici are five U.S. Senators.[2] All agree that the Environmental Protection Agency (EPA) impermissibly and incorrectly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered requirements for stationary sources that emit greenhouse gases to obtain permits under the Clean Air Act (CAA or the Act).

At issue in this case is a set of EPA regulations imposing permitting requirements regarding greenhouse gas emissions of stationary sources. These regulations represent the most sweeping regulatory expansion of EPA's authority in the agency's history. This vast new regulatory regime was not authorized or approved by Congress, but rather was based on EPA's unilateral and incorrect interpretation of the Act. We urge the Court to reject EPA's interpretation of the Act – which is both inconsistent with Congressional intent and leads to what EPA itself admits are "absurd results" – and to reject EPA's attempt to require stationary sources to obtain CAA permits based on their greenhouse gas emissions.

---

[1] No counsel for a party authored this brief in whole or in part, and no person or entity other than the *amici curiae* or its counsel made a monetary contribution intended to fund the preparation of this brief. The parties' letters consenting to the filing of *amicus* briefs are on file with the Clerk.

[2] A complete list of the *amici* appears on the inside cover.

INTRODUCTION AND SUMMARY OF ARGUMENT

The Court should hold that EPA improperly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered requirements for stationary sources that emit greenhouse gases to obtain permits under the Act.

This brief demonstrates that the legislative activity of Congress since the most recent amendments to the Act in 1990 supports the conclusion that EPA's interpretation of the Act is both contrary to Congressional intent and impermissible. Members of Congress have introduced a large number of bills proposing to regulate greenhouse gas emissions from stationary sources in a wide variety of ways, yet none of these bills contemplated regulation of stationary sources through traditional Prevention of Significant Deterioration (PSD) permits. The complete absence of any legislative proposals to regulate greenhouse gas emissions of stationary sources through the PSD program, in the context of a legislative environment where hundreds of bills have been proposed to address such emissions, supports the conclusion that requirements for stationary sources that emit greenhouse gases to obtain CAA permits are *not* triggered based on EPA's regulation of greenhouse gas emissions from new motor vehicles. It also supports the conclusion that EPA's interpretation of the Act is contrary to Congressional intent.

ARGUMENT

I. Stationary Sources That Emit Greenhouse Gases Are *Not* Required to Obtain CAA Permits Based on EPA's Regulation of Greenhouse Gas Emissions from New Motor Vehicles.

EPA's conclusion that its regulation of greenhouse gas emissions from new motor vehicles triggered requirements that stationary sources obtain permits based on their greenhouse gas emissions rests on at least two incorrect interpretations of the Act.

First, EPA failed to recognize that PSD permitting requirements only apply to stationary sources "in any area to which this part applies." 42 U.S.C. § 7475(a). PSD only "applies" to designated pollutants for which National Ambient Air Quality Standards (NAAQS) have been developed. *See* 42 U.S.C. § 7408(a) (setting forth the procedure for designating NAAQS pollutants). Greenhouse gases have not been designated as such a pollutant, so the PSD requirements do not apply to stationary sources based on their emissions of greenhouse gases.

Second, the stationary source permitting requirements only apply to "major emitting facilities," which are those facilities which emit more than a specified amount of "any air pollutant." 42 U.S.C. § 7479(1). This language should be interpreted as referring to "any *NAAQS* air pollutant," not as any pollutant regulated by any part of the Act, which is the interpretation EPA has adopted despite its admittedly absurd results.

These arguments have been ably set forth by the Petitioners and will not be repeated here.

II. The Complete Absence of Legislative Proposals to Grant EPA Authority to Require Stationary Sources to Obtain PSD Permits Based on Greenhouse Gas Emissions Demonstrates That EPA's Interpretation of the Act is Contrary to Congressional Intent.

The most recent major amendments to the Clean Air Act were the addition of the Title V permitting provisions in 1990. In drafting the 1990 amendments, "Congress considered — and *expressly rejected* — proposals authorizing EPA to regulate [greenhouse gasses] under the CAA." *Coalition for Responsible Regulation, Inc. v. EPA*, Nos. 09-1322 et al., 2012 WL 6621785, at *5 (D.C. Cir. Dec. 20, 2012) (Brown, J., dissenting from denial of rehearing *en banc*).

Since the 1990 amendments, Congress has declined to pass a large number of bills that would have authorized EPA to regulate greenhouse gas emissions from stationary sources. *See id.* at *6. These bills proposed a wide variety of approaches to regulating greenhouse gas emissions from stationary sources. *See, e.g.*, Clean Power Act of 2001, S. 556, 107th Cong. (2001) (proposing CO_2 emission caps for power plants); Clean Air Planning Act of 2002, S. 3135, 107th Cong. (2002) (proposing CO_2 emission caps for power plants); Clean Air Planning Act of 2003, H.R. 3093, 108th Cong. (2003) (proposing CO_2 emission caps for power plants); Clean Air Planning Act of 2003, S. 843, 108th Cong. (2003) (proposing

CO_2 emission caps for power plants); Clean Power Act of 2005, S. 150, 109th Cong. (2005) (proposing CO_2 emission caps for power plants); Clean Air Planning Act of 2006, S. 2724, 109th Cong. (2006) (proposing CO_2 emission caps for power plants); Safe Climate Act of 2006, H.R. 5642, 109th Cong. § 705(a) (2006) (proposing to grant EPA authority to promulgate regulations restricting greenhouse gas emissions, including regulations establishing "emissions performance standards, efficiency performance standards, best management practices, technology-based requirements, and other forms of requirements"); Safe Climate Act of 2007, H.R. 1590, 110th Cong. § 705(a) (2007) (same provision); Clean Air/Climate Change Act of 2007, S. 1168, 110th Cong. (2007) (proposing CO_2 emission caps for power plants); Clean Air Planning Act of 2007, S. 1177, 110th Cong. (2007) (proposing CO_2 emission caps for power plants); Clean Power Act of 2007, S. 1201, 110th Cong. (2007) (proposing CO_2 emission caps for power plants); Energy Independence, Clean Air, and Climate Security Act of 2007, S. 1554, 110th Cong. (2007) (proposing CO_2 emission caps for power plants); Lieberman-Warner Climate Security Act of 2007, S. 2191, 110th Cong. (2007) (proposing a cap-and-trade program for certain stationary sources); Investing in Climate Action and Protection Act, H.R. 6186, 110th Cong. (2008) (proposing a cap-and-trade program for certain industrial facilities emitting more than 10,000 tons of CO_2 in a calendar year); Clean Energy Jobs and American Power Act, S. 1733, 111th Cong. (2009) (proposing a cap-and-trade program for certain stationary sources).

However, none of these bills contemplated requiring stationary sources to obtain PSD permits based on their greenhouse gas emissions.[3] Rather, they proposed a variety of other approaches to address greenhouse gas emissions from stationary sources.

Indeed, a review of over 690 pieces of proposed legislation introduced between 1989 and 2010 addressing greenhouse gases indicates that Congress never proposed to grant EPA authority to regulate greenhouse gas emissions from stationary sources under the PSD program. *See* Marlo Lewis, *EPA Permitting of Greenhouse Gases: What Does Legislative History Reveal about Congressional Intent?* (Dec. 3, 2013), http://www.globalwarming.org/2013/12/03/epa-permitting-of-greenhouse-gases-what-does-legislative-history-reveal-about-congressional-intent/#more-18134 (last visited Dec. 15, 2013). A second review of proposed legislation introduced between 1989 and 2010 containing the term "prevention of significant deterioration" did not reveal a single bill that proposed to regulate greenhouse gases under the Act's PSD provisions. *See* Marlo Lewis, *EPA Permitting of Greenhouse Gases: A Breathtaking Absence of Congressional Intent* (Dec. 11, 2013), http://www.globalwarming.org/2013/12/11/epa-permitting-of-greenhouse-gases-a-breathtaking-absence-of-congressional-intent/ (last visited Dec. 15, 2013).

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[3] One bill would have divested EPA of authority under the Act to impose permitting requirements based on greenhouse gas emissions from stationary sources, in the context of imposing a cap-and-trade program regulating such emissions. *See* American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 834 (2009) (provision entitled "New Source Review," providing that "[t]he provisions of part C of title I shall not apply to a major emitting facility that is initially permitted or modified after January 1, 2009, on the basis of its emissions of any greenhouse gas").

However, the committee report accompanying this bill expressly stated that "[t]his language is intended to make clear on a going forward basis that New Source Review does not apply to greenhouse gases. *It is not an expression of congressional intent with respect to the application of New Source Review to greenhouse gases prior to that date.*" H.R. Rep. No. 111-137, at 418 (2009) (emphasis added). Accordingly, this proposed bill does not support the proposition that Congress believed EPA possessed authority to impose permitting requirements based on greenhouse gas emissions from stationary sources.

This complete absence of proposals to grant EPA authority to impose PSD permitting requirements on stationary sources based on greenhouse gas emissions, in the context of a legislative environment where hundreds of bills have been proposed to address such emissions, demonstrates that Congress never intended for EPA to have authority to impose such permitting requirements.[4]

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[4] *Amici* recognize that the Court has held that "subsequent legislative history is a 'hazardous basis for inferring the intent of an earlier' Congress," particularly where such subsequent history is based on "a proposal that does not become law." *Pension Benefit Guaranty Corp. v. LTV Corp.*, 496 U.S. 633, 650 (1990) (quoting *United States v. Price*, 361 U.S. 304, 313 (1960)).

(continued...)

Moreover, this subsequent legislative history underscores what EPA itself has admitted regarding Congressional intent:

> For our authority to take this action, we rely in part on the 'absurd results' doctrine, because applying the PSD and title V requirements literally (as previously interpreted narrowly by EPA) would not only be inconsistent with congressional intent concerning the applicability of the PSD and title V programs, but in fact would severely undermine congressional purpose for those programs.

75 Fed. Reg. 31,514, 31,541-42 (June 3, 2010).

EPA has recognized that its interpretation of the statute is inconsistent with Congressional intent,

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Still, "that does not mean that such subsequent legislative history is wholly irrelevant." *County of Washington v. Gunther*, 452 U.S. 161, 194 n.6 (1981) (Rehnquist, J., dissenting); *see also* Memorandum from John Roberts, Special Assistant to the Attorney General, to the Attorney General, at 2 (Dec. 8, 1981) (explaining that subsequent legislative history has at least "some probative value"), *available at* http://www.archives.gov/news/john-roberts/accession-60-88-0498/032-bob-jones/folder032.pdf (last visited Dec. 15, 2013).

Subsequent legislative history should be accorded additional weight where, as here, it consists not of isolated events but rather a consistent Congressional pattern. Further, in this case the subsequent legislative history is consistent with the other lines of evidence demonstrating that EPA's interpretation of the Act is incorrect. *Cf. Solid Waste Agency of N. Cook Cty. v. Army Corps of Eng'rs*, 531 U.S. 159, 169 n.5 (2001).

and the subsequent legislative history of the Act provides further confirmation of this conclusion.

CONCLUSION

For the foregoing reasons, the judgment of the District of Columbia Circuit should be reversed and the case remanded for further proceedings.

Respectfully submitted,

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12-1268, 12-1269, and 12-1272

In The
Supreme Court of the United States

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UTILITY AIR REGULATORY GROUP,

Petitioner,

v.

ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

◆

On Writs Of Certiorari To The United States Court Of Appeals For The District Of Columbia Circuit

◆

BRIEF OF THE INSTITUTE FOR POLICY INTEGRITY AT NEW YORK UNIVERSITY SCHOOL OF LAW AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENTS

◆

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ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

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ENERGY-INTENSIVE MANUFACTURERS WORKING GROUP ON GREENHOUSE GAS REGULATION, ET AL.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

◆

SOUTHEASTERN LEGAL FOUNDATION, INC., ET AL.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

◆

STATE OF TEXAS, ET AL.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

◆

CHAMBER OF COMMERCE
OF THE UNITED STATES, ET AL.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,

Respondents.

QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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Letter from John S. Seitz, Dir. of Office of Air Quality Planning and Standards, to Robert Kalish, Envtl. Servs. Dep't of the Dow Chemical Co. (May 4, 1995) 15

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INTEREST OF THE AMICUS CURIAE[1]

The Institute for Policy Integrity at New York University School of Law[2] ("Policy Integrity") is dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy. Policy Integrity is a collaborative effort of faculty at New York University School of Law; a full-time staff of attorneys, economists, and policy experts; law students; and a Board of Advisors composed of leaders in public policy, law, and government.

Policy Integrity and its directors have produced extensive scholarship on the legality and economics of regulating greenhouse gas pollution under the Clean Air Act. An area of special concern for Policy Integrity is ensuring that federal environmental regulations are as efficient and effective as possible, within statutory constraints. The question presented, above, directly bears on these issues. As such, Policy Integrity has a significant interest in the outcome of this case—particularly in protecting long-standing EPA interpretations of the Clean Air Act's carefully balanced structure against the incongruous readings offered by petitioners.

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[1] The parties have submitted letters to the Clerk granting blanket consent to the filing of amicus briefs. No counsel for any party authored this brief in whole or in part, and no person or entity other than amicus and its counsel made a monetary contribution intended to fund the preparation or submission of this brief.

[2] No part of this brief purports to present New York University School of Law's views, if any.

SUMMARY OF THE ARGUMENT

Petitioners' various readings of the Prevention of Significant Deterioration ("PSD") program would produce incongruous outcomes and would upset EPA's long-standing interpretation of the Clean Air Act's carefully balanced structure.

First, decades of regulatory history and statutory amendments confirm that Congress intended PSD's trigger and its best available control technology ("BACT") requirements to cover all regulated pollutants, not just "criteria" or local pollutants. For over thirty years—through five rulemakings under five different presidential administrations of both parties—the Environmental Protection Agency ("EPA") has consistently interpreted PSD's permitting structure to apply to all regulated pollutants, including non-criteria pollutants like fluorides, as well as pollutants like ozone-depleting chemicals that have predominantly global air quality effects. Since 1980, industry groups have repeatedly tried to persuade EPA to restrict "any air pollutant" to only certain air pollutants; each time, EPA rejected those narrower interpretations. This Court should provide additional deference to EPA's longstanding consistent interpretation of the scope of the PSD program, both because the duration of the interpretation, and because the Clean Air Act's preclusion of review provision, Section 307(b)(1), reflect Congress's intent to promote stability in the Act's regulatory programs.

Congress also directly weighed in on the scope of the permitting provisions. In 1990, after a decade of

EPA's broad interpretation of "any air pollutant," Congress amended the Clean Air Act and selectively exempted only hazardous air pollutants from the PSD program. Because Congress did not exempt any other non-criteria or non-local pollutant from the PSD program, the 1990 amendments confirm that Congress agreed with EPA's interpretation of "any air pollutant."

Second, petitioners' various interpretations of "any air pollutant" would upset the Act's carefully crafted structure, in which PSD complements Section 111 in balancing the treatment of new, modified, and existing sources. The Act embodies a compromise between the regulation of new and modified sources, on the one hand, and the treatment of existing sources, on the other. Existing sources receive temporary transition relief under statutory provisions like PSD and Section 111, but once they undertake "any physical change" that "increases the amount of any air pollutant emitted," these modifying sources must come into compliance. *See* 42 U.S.C. § 7411(a)(4). EPA's interpretation of "any air pollutant" is necessary to maintain the robust framework that Congress intended for transitioning grandfathered sources into regulatory programs as they undertake changes that increase emissions. Petitioners' narrow understanding of the PSD program would interfere with that aim and could exacerbate the negative effects of grandfathering.

Petitioners' readings would also force EPA to adopt incompatible interpretations of the single statutory definition of "modification" shared by PSD and Section 111, preventing EPA from using PSD as the complement to Section 111 that Congress intended. While Section 111 takes a measured, one-broad-category-at-a-time approach, PSD offers a more individualized and timely source-by-source approach. Applying PSD to greenhouse gases provides coverage for dangerous and controllable emissions from new and modified stationary sources until such time as Section 111 performance standards can be developed for each individual greenhouse gas source category. Petitioners' interpretations would upset that carefully designed statutory structure.

Third, the statutory language confirms that restricting the trigger for PSD permitting to only criteria or local pollutants is incorrect. The relevant inquiry is whether a source is located in an "area to which this part applies." A plain reading makes clear that this inquiry is purely geographic and does not depend on which pollutants the source emits. Yet some petitioners' interpretations could cause certain greenhouse gas sources to magically move from an "area to which this part" does not apply into an "area to which this part applies" without changing physical locations, just by virtue of beginning to emit other, non-greenhouse gas pollutants. Problematically, under such interpretations some sources would not fit into any of the three categories of areas that Congress created to classify all regions of the nation; petitioners would force such sources into a "no man's land" that is wholly at odds with the statute's structure.

Finally, petitioners' interpretations give rise to additional absurdities. In particular, by restricting the PSD program to only criteria or local pollutants, petitioners would alter the regulatory status of multiple other non-criteria and global pollutants besides greenhouse gases that are already regulated under PSD. Such pollutants would be subject to PSD if emitted by facilities constructed *before* EPA began regulating greenhouse gases, but would be exempt if emitted by facilities built *after* EPA issued greenhouse gas regulations. But the timing of greenhouse gas regulations should be irrelevant to determining whether other pollutants are subject to PSD permitting. Moreover, facilities that already obtained a permit and expended resources to comply with PSD's requirements before EPA found that greenhouse gases endanger public welfare would be disadvantaged relative to future competitors that are exempted from the requirement under petitioners' approach. Such an interpretation creates instability and undermines the predictability of the regulatory regime.

ARGUMENT

I. MULTIPLE PRESIDENTIAL ADMINISTRATIONS OVER SEVERAL DECADES HAVE CONSISTENTLY APPLIED THE PREVENTION OF SIGNIFICANT DETERIORATION PERMITTING SCHEME TO ALL POLLUTANTS REGULATED UNDER THE CLEAN AIR ACT

For over three decades, under both Republican and Democratic presidential administrations, EPA has interpreted the triggering mechanism of the permitting scheme for the Prevention of Significant Deterioration ("PSD") program to apply to all pollutants regulated under the Clean Air Act (the "Act"). Contrary to petitioners' assertions that EPA's broad interpretation had no "significant practical impact" until the Greenhouse Gas Tailoring Rule was proposed, *e.g.*, Am. Chemistry Council ("ACC") Br. 8-11, EPA has received public comments over multiple decades seeking to limit the scope of the pollutants covered by the PSD program. Each time, EPA has affirmed that the statutory language mandates a broad interpretation of the phrase "any air pollutant" that includes all regulated pollutants.

A. For over Three Decades, EPA Has Consistently Interpreted the PSD Program to Apply to All Pollutants Regulated Under the Clean Air Act

Since 1980, under five presidential administrations—both Republican and Democratic—EPA has interpreted the PSD program to apply to all pollutants regulated under the Clean Air Act. Because EPA has for decades consistently interpreted PSD permitting to apply to all regulated pollutants, if this Court does not conclude that the plain statutory language alone compels EPA's interpretation, then this Court should afford additional deference to the agency's consistent interpretation of the Act. This Court has repeatedly recognized the importance of "accord[ing] particular deference to an agency interpretation of longstanding duration." *Alaska Dept. of Envtl. Conservation v. EPA*, 540 U.S. 461, 487 (2004) (quoting *Barnhart v. Walton*, 535 U.S. 212, 220 (2002)) (internal quotation omitted); *see also Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208, 224 (2009) (explaining that EPA's consistent interpretation of a statutory provision for over three decades, "[w]hile not conclusive, . . . surely tends to show that the EPA's current practice is a reasonable and hence legitimate exercise of its discretion"). EPA's thirty-year history of consistent interpretation of PSD requirements similarly warrants "particular deference."

As noted in respondents' briefs, when Congress created the PSD program in the 1977 Clean Air Act Amendments, it specifically considered the question of which pollutants can trigger PSD permitting requirements. In particular, the House passed a version of the bill that applied the PSD permitting requirements only to major sources that emitted sufficient quantities of so-called "criteria" pollutants—i.e., pollutants subject to National Ambient Air Quality Standards ("NAAQS"). However, in conference, Congress adopted the Senate's broader version of the program that applied the PSD permitting requirements to major sources emitting "any air pollutant" under the Act. *See* Envtl. Org. Resp'ts Br. 23-25; Fed. Resp'ts Br. 53-54; State Resp'ts Br. 17. The D.C. Circuit then weighed in on the scope of the PSD program, holding—despite industry arguments to the contrary—that all of the PSD program's major substantive provisions apply "without qualification . . . with regard to each pollutant subject to regulation under the Act." *Ala. Power Co. v. Costle*, 636 F.2d 323, 405-06 (D.C. Cir. 1980).

Following the decision in *Alabama Power*, in 1980, the EPA under President Carter interpreted the PSD permitting scheme for both new and modified sources to apply to all regulated pollutants. *See* 45 Fed. Reg. 52,676, 52,681 (Aug. 7, 1980) ("Any net significant emissions increase of any pollutant subject to regulation under the Act (not just those pollutants for which the source is major) now qualifies as a PSD modification.").[3] The 1980 rule applied the PSD program to a number of pollutants for which NAAQS had not been promulgated, including asbestos, beryllium, mercury, vinyl chloride, fluorides, sulfuric acid, total reduced sulfur/reduced sulfur, hydrogen sulfide, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, carbon disulfide, and carbonyl sulfide. *Id.* at 52,708-09.

The EPA under President George H.W. Bush reiterated that PSD review applies to all pollutants regulated under the Act. In discussing which pollution increases count as "modifications" that trigger PSD permitting requirements, EPA explained that it had always "equated 'any air pollutant' with pollutants 'subject to regulation under (the Act)' as that term is used in section 165(a)(3)," in contrast to the New Source Performance Standard ("NSPS") program where it had "consistently treated 'any air pollutant' as referring only to those pollutants for which a performance standard has been promulgated under Section 111 for the specific source category in question." 54 Fed. Reg. 27,286, 27,297 (June 28, 1989).

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[3] EPA had promulgated an even earlier regulation clarifying that the Best Available Control Technology ("BACT") requirements of the PSD program apply to all pollutants regulated under the Act, and it has consistently applied this interpretation for over 35 years. 43 Fed. Reg. 26,388, 26,397 (June 19, 1978); 40 C.F.R. §§ 52.21(b)(50) & (j).

Likewise, the EPA under President Clinton affirmed that, for both new and modified sources, PSD permitting applies to all pollutants regulated under the Act, not just NAAQS pollutants, noting that "[f]or pollutants for which no NAAQS have been promulgated . . . the PSD requirements apply everywhere as long as an area is designated as attainment or unclassifiable for at least one pollutant for which NAAQS do exist." 58 Fed. Reg. 31,622, 31,623 n.3 (June 3, 1993). When the Clinton EPA chose to regulate organic gases from municipal solid waste landfills[4] under Section 111, it explained that, as "a consequence," "PSD rules now apply to all subject stationary sources which have increases in landfill gas above the significance level." 61 Fed. Reg. 9905, 9912 (Mar. 12, 1996).[5]

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[4] Landfill gas is not a criteria pollutant, but is instead a mixture of primarily organic gases—including methane and non-methane compounds—released from landfills during the decomposition process. *See* 61 Fed. Reg. at 9906.

[5] EPA actively considered regulating methane (a greenhouse gas) under the PSD program in the landfill gas rule. Though it eventually decided to directly regulate only the non-methane organic compounds in the landfill gas, "methane reductions were quantified and considered in selecting the stringency level

In response to a commenter's request to clarify the scope of pollutants covered by the PSD program, President George W. Bush's EPA defined a new term, "regulated NSR [New Source Review] pollutant," which it used to determine the scope of pollutants that would trigger PSD requirements for both new sources and major modifications. 67 Fed. Reg. 80,186, 80,189, 80,240 (Dec. 31, 2002). EPA interpreted that term broadly to encompass a list of pollutants, including ozone-depleting substances [6] and "[a]ny pollutant that otherwise is subject to regulation under the Act."[7] *Id.* at 80,278.

Currently, the PSD regulations explicitly apply to numerous non-NAAQS pollutants aside from greenhouse gases, including: fluorides; sulfuric acid mist; hydrogen sulfide; total reduced sulfur; reduced sulfur compounds; municipal waste combustor

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of the rule," as well as monetized as an ancillary benefit. Emissions Standards Division, EPA, Air Emissions from Municipal Solid Waste Landfills 1-27 (1995) (cited as Background Information Document in final rule at 61 Fed. Reg. at 9905), *available at* http://epa.gov/ttn/atw/landfill/bidfl.pdf. EPA also explained that it planned to "reduce emissions of methane and other greenhouse gases" according to the "directives contained in the [U.S. Climate Change] Action Plan" released in October 1993. *Id.* Thus, industry groups were clearly on notice, at least by 1996, that regulating greenhouse gases under the PSD program was a possibility.

[6] Ozone-depleting substances are described in the definition of "regulated NSR pollutant" as "[a]ny Class I or II substance subject to a standard promulgated under or established by title VI of the Act," 40 C.F.R. § 52.21(b)(50)(iii); 67 Fed. Reg. at 80,278; *see* 53 Fed. Reg. 30,566 (Aug. 12, 1988) (imposing standards on ozone-depleting substances).

[7] Except hazardous air pollutants, which had been excluded from PSD review by Congress in the Clean Air Act Amendments of 1990, as discussed further below.

organics, metals, and acid gases; municipal solid waste landfill emissions; and ozone-depleting chemicals. 40 C.F.R. §§ 51.166(b)(23)(i), 52.21(b)(50). These pollutants have effects at a variety of geographic scales. Most relevant to the application of PSD to greenhouse gases, the ozone-depleting chemicals covered by the PSD program also primarily affect air quality on a global scale. 53 Fed. Reg. at 30,566.

Five of the non-NAAQS pollutants (fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, and reduced sulfur compounds) have been covered since EPA's 1980 rule determined that PSD applied to all regulated pollutants, not just criteria pollutants. 45 Fed. Reg. at 52,709. EPA regulated ozone-depleting pollutants in 1988, which is when they became covered by the PSD program. *See* 53 Fed. Reg. at 30,566; EPA, Draft New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Area Permitting, at A-18, A-20–21 tbl.A-4 (1990), *available at* http://www.epa.gov/ttn/nsr/gen/wkshpman.pdf. Two other sets of pollutants became covered by PSD when EPA promulgated rules regulating them under Section 111. Municipal waste combustor organics, metals, and acid gases were added in 1991, and municipal solid waste landfill emissions were added in 1996. 56 Fed. Reg. 5488, 5506 (Feb. 11, 1991); 61 Fed. Reg. at 9918.

Due to EPA's consistent interpretation over decades that PSD permitting can be triggered by all pollutants regulated under the Act, this Court should afford additional deference to the agency's interpretation.

B. Over More than Three Decades, Industry Commenters and Permittees Have Repeatedly Encouraged EPA to Narrow the Scope of the Pollutants that Trigger PSD Review, but EPA Has Consistently Found that the Statute Mandates a Broad Interpretation

For decades, EPA has received public comments requesting that it limit the scope of pollutants that trigger the PSD permitting requirements, and it has consistently found that the statute prohibits it from doing so. Contrary to petitioners' assertion that the scope of pollutants covered by the PSD program was inconsequential until the promulgation of the Greenhouse Gas Tailoring Rule, ACC Br. 8-11, industry groups and EPA have repeatedly engaged with this question for over thirty years. EPA has consistently found that the statute requires it to apply PSD permits to sources exceeding emissions thresholds for any pollutant regulated under the Act.

When extending the notice-and-comment period for its 1980 regulations on PSD, following the final *Alabama Power* decision, EPA explicitly requested comment on "whether the Act supports the application of PSD review to any source or modification which would emit only non-criteria (non-NAAQS) pollutants in major amounts. For example, should a major source that would emit only hydrogen sulfide be subject to PSD?" 45 Fed. Reg. 6802, 6803 (Jan. 30, 1980). In response, EPA received numerous comments requesting that it limit the pollutants covered by the PSD program to only criteria pollutants.

Specifically, "[f]ourteen commenters argued" that "EPA should not apply PSD review to noncriteria pollutants, because the lack of NAAQS and increments for noncriteria pollutants indicates that Congress did not consider these pollutants to be able to cause significant deterioration and felt that the extent of harm by these pollutants has yet to be demonstrated." 45 Fed. Reg. at 52,713. In addition, "[t]wo commenters urged" that "if EPA decides to regulate . . . sources of noncriteria pollutants, it should do so . . . only if section 111 or 112 (NSPS and [National Emission Standards for Hazardous Air Pollutants ('NESHAP')], respectively) has been made applicable after appropriate rulemaking to such sources of noncriteria pollutants." *Id.*

EPA rejected these arguments, finding that the statute prohibited limiting the scope of PSD review to only NAAQS pollutants. The agency explained that "section 169(1) refers to sources with the potential to emit 'any' pollutant above certain amounts. Moreover, section 165(a)(4) states that BACT must apply to 'each pollutant subject to regulation under this Act' emitted by a source. Neither of these provisions is limited to criteria pollutants." *Id.* With respect to whether PSD review for non-criteria pollutants should be limited to pollutants regulated under Sections 111 or 112, EPA found that "[t]he difficulty with this approach is that the Act requires PSD review, regardless of whether another rule already applies to the source except in the case of nonattainment pollutants." *Id.* Moreover, "the suggested approach could allow an unacceptably large number of sources to escape review, since many sources may not have an applicable . . . NSPS or NESHAP limit." *Id.* From the very early days of implementing the relevant statutory provisions, EPA engaged with comments on whether the scope of PSD review should be limited to NAAQS pollutants and found that the statute prohibited such an approach.

More recently, during the comment period for the 1989 rule on New Source Review ("NSR"),[8] commenters argued that the goals of protecting public health and welfare from pollutants covered by the NSPS and NESHAP programs (and not by NAAQS) "should be pursued exclusively through the NSPS and NESHAP programs, not through NSR." 54 Fed. Reg. at 27,297. In response, EPA explained that, under the statute, the PSD program serves a special role that requires the agency to consider all air pollutants in administering the program. In particular, "the PSD program addresses all major sources and is designed 'to protect public health and welfare from any actual or potential adverse effect' from any air pollutant (Section 160(1))." *Id.* The program also "possesses an inherent speed and flexibility in its ability to protect public health and welfare" that other Clean Air Act "programs lack." *Id.* The PSD and nonattainment NSR programs

> provide timely and focused responses to health and welfare issues arising from specific sources. These responses complement the type of long-range and general studies performed pursuant to Sections 111 and 112. The NSR programs also address all pollutants from each source in every

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[8] New Source Review encompasses both the PSD program and the Nonattainment New Source Review program, which applies to areas that do not meet the NAAQS for a particular criteria pollutant. 42 U.S.C. §§ 7501-7515.

> source category, while the NSPS and NESHAP programs do not.

Id. Thus, under the George H.W. Bush administration, EPA continued to maintain that PSD's statutory structure and purpose require a broad interpretation of "any air pollutant" to cover all pollutants regulated under the Act.

In other instances, permittees asked for clarification regarding whether PSD regulations apply to non-criteria pollutants. For example, in 1995, Dow Chemicals inquired whether a modification that increased emissions of fluorides would trigger PSD requirements even without an increase in criteria pollutants. Letter from John S. Seitz, Dir. of Office of Air Quality Planning and Standards, to Robert Kalish, Envtl. Servs. Dep't of the Dow Chemical Co. (May 4, 1995), *available at* http://www.epa.gov/region07/air/nsr/nsrmemos/noncrit.pdf. EPA responded that this increase in the emissions of fluorides would, indeed, result in PSD applicability. *Id.*

C. The Argument for Deferring to EPA's Longstanding Interpretation Is Strengthened by the Preclusion of Review Provision of Section 307(b)(1), Which Reflects a Congressional Intent to Promote the Stability of the Clean Air Act's Regulatory Programs

Industry groups have had notice since at least 1980 that the scope of the PSD permitting provision covers all pollutants regulated under the Act. Section 307(b)(1) requires any legal challenge to nationally applicable regulation under the Act to be "filed within sixty days" from the promulgation date, unless it is "based solely on grounds arising after" promulgation. 42 U.S.C. § 7607(b)(1). When revising Section 307, Congress expressed "concern" that "the statutory deadline (and the underlying policies of expedition and finality) may be circumvented," and it consequently "reaffirm[ed] its intent to strictly limit" challenges "to those which are actually filed within" the sixty-day time limit. H.R. Rep. No. 95-294, at 322 (1977). Courts addressing this provision have recognized that this requirement serves the purpose of promoting the stability of longstanding regulatory frameworks. *See, e.g., Med. Waste Inst. & Energy Recovery Council v. EPA*, 645 F.3d 420, 427 (D.C. Cir. 2011) (holding a challenge to EPA's "longstanding" policy was barred under Section 307(b)(1)); *Natural Res. Def. Council v. EPA*, 571 F.3d 1245, 1265 (D.C. Cir. 2009) (same).

Before the D.C. Circuit, the government argued that section 307(b)(1) barred all of the petitioners' claims. *Coal. for Responsible Regulation v. EPA*, 684 F.3d 102, 129 (D.C. Cir. 2012). This issue is a jurisdictional one. *See Med. Waste Inst. & Energy Recovery Council*, 645 F.3d at 427 (holding that Section 307(b)(1) is jurisdictional); *Natural Res. Def. Council*, 571 F.3d at 1265 (same). As a result, this Court can address it even though respondents did not present the argument in a cross petition or in defense of the judgment below. But even if this Court decides not to address this jurisdictional matter, because of the important policy of regulatory stability reflected in Section 307(b)(1), it should accord additional deference to EPA's consistent decades-long interpretation of the PSD permitting framework, beyond the deference normally given to longstanding interpretations.

D. Congress's Targeted Amendment of the Statutory Provisions Governing PSD Confirms EPA's Broad Interpretation of the Program's Scope to Include All Regulated Pollutants

After a decade of EPA's consistent, broad interpretation of the scope of pollutants that can trigger the PSD program, Congress amended the Clean Air Act. Among other changes, the new law exempted from the PSD program any hazardous chemicals covered by the NESHAP program. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 112(b)(6), 104 Stat. 2399, 2537. This targeted exemption for hazardous air pollutants was the only change Congress made to the scope of the PSD program: with respect to all other non-NAAQS pollutants, Congress did not alter EPA's consistent interpretation of PSD's trigger and BACT requirements.

Congress had a full decade between the promulgation of EPA's 1980 interpretation applying the PSD program to all regulated pollutants and the 1990 amendments to the Clean Air Act. After a long period in which it could observe the effects of EPA's interpretations, Congress chose to exempt only hazardous air pollutants from PSD coverage. After the initial enactment of a provision, "subsequent acts" of Congress "can shape or focus" the meaning of the statute. *Food & Drug Admin. v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 143 (2000). Petitioners have turned *Brown & Williamson* on its head, arguing that Congress's failure to pass a comprehensive legislative scheme for greenhouse gases precludes EPA's inclusion of them in the PSD program. However, *Brown & Williamson* actually supports respondents' position. In that case, this Court found that the "consistency" of the agency's longstanding position "bolster[ed] the conclusion" that Congress understood the agency's authority when it later legislated in that area. *Id.* at 157. This Court has further explained that "[w]hen Congress revisits a statute giving rise to a longstanding administrative interpretation without pertinent change, the congressional failure to revise or repeal the agency's interpretation is persuasive evidence that the interpretation is the one intended by Congress." *Sebelius v. Auburn Reg'l Med. Ctr.*, 133 S. Ct. 817, 827-28 (2013) (quotation omitted). Congress's decision to exclude hazardous air pollutants—but not other non-criteria pollutants or pollutants with global effects—from the scope of PSD permitting indicates that Congress agreed with EPA's longstanding interpretation of the scope of the PSD's trigger and BACT requirements to include all regulated pollutants.

II. PETITIONERS' INTERPRETATIONS WOULD UPSET THE CLEAN AIR ACT'S CAREFULLY CRAFTED STRUCTURE, IN WHICH PSD COMPLEMENTS SECTION 111 IN BALANCING THE TREATMENT OF NEW, MODIFIED, AND EXISTING SOURCES

The Clean Air Act embodies a compromise between the regulation of new and modified sources, on the one hand, and the treatment of existing sources, on the other. Existing sources are given temporary transition relief under statutory provisions like PSD and Section 111, but once they undertake "any physical change" that "increases the amount of any air pollutant emitted," these modifying sources must come into compliance. *See* 42 U.S.C. § 7411(a)(4).[9] EPA's compatible interpretations of "any air pollutant" under both PSD and Section 111 are necessary to maintain the robust definition of "modification" that is essential to this statutory balance. Petitioners' narrow interpretations of the PSD program would interfere with that aim and could exacerbate the negative effects of grandfathering.

The Clean Air Act further balances two different regulatory frameworks for new and modified stationary sources: a measured, one-broad-category-at-a-time approach under Section 111, and a more individualized and timely source-by-source approach under PSD. EPA's interpretation of "any" and "each air pollutant" is necessary to maintain PSD as the complement to Section 111 that Congress intended for both new and modified sources. Again, petitioners' interpretations would upset that carefully designed statutory structure.

A. EPA's Interpretation of "Any Air Pollutant" Is Necessary to Achieve the Balance Congress Struck Between New and Modified Sources, on the One Hand, and Existing Sources, on the Other

When Congress designed the PSD program and other key elements of the 1977 amendments to the Clean Air Act, an overarching goal was to strike the proper balance by promoting economic growth while still protecting the public welfare through enhanced air quality. *New York v. EPA*, 413 F.3d 3, 13 (D.C. Cir. 2005); *Wis. Elec. Power Co. v. Reilly*, 893 F.2d 901, 909 (7th Cir. 1990) [hereinafter *WEPCO*] (quoting *Chevron U.S.A. Inc. v. Natural Res. Def. Council*, 467 U.S. 837, 851 (1984) & H.R. Rep. No. 95-294, at 211 (1977)); *see also* 42 U.S.C. §§ 7470(1)-(3) (listing public welfare, enhanced air quality, and economic growth among the congressional purpose for the PSD program). To achieve this goal, Congress "carved out a significant difference between existing sources on the one hand and new or modified sources on the other." *New York*, 413 F.3d at 13.

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[9] Both new and existing sources are, of course, subject to regulations under other provisions as well, such as through state implementation plans under Section 110 and for hazardous air emissions under Section 112. *See* 42 U.S.C. §§ 7410, 7412.

Under the PSD program, new and modified major stationary sources are subject to pre-construction permits and must install BACT for significant emissions of any regulated pollutant. 42 U.S.C. § 7475; *see also* 40 C.F.R. § 51.166(b)(23) (defining significance levels that exempt de minimis modifications). Notably, both new and modified sources are identified by their emission of "any air pollutant": new sources include major emitters of "any air pollutant," 42 U.S.C. § 7479(1); and modified sources—defined by reference to Section 111 of the statute—similarly include sources that significantly increase their emissions of "any air pollutant," 42 U.S.C. § 7479(2)(C) (referencing § 7411(a)(4)).

By contrast, the PSD program does not regulate existing, unmodified sources. Congress determined that retrofitting existing plants would be much more expensive compared to integrating pollution controls into either new construction or planned upgrades. *WEPCO*, 893 F.2d at 901 (quoting H.R. Rep. No. 95-

294, at 185). Moreover, Congress predicted that most of the significant, existing polluters would retire and be replaced in the near future. *See* Jonathan Remy Nash & Richard L. Revesz, *Grandfathering and Environmental Regulation: The Law and Economics of New Source Review*, 101 Nw. U.L. Rev. 1677, 1682 nn.19-20 & 1684 n.31 (2007) (citing legislative history). In particular, Congress assumed many old plants only had "relatively short remaining useful lives." H.R. Rep. No. 95-294, at 186; *accord*. S. Rep. No. 95-127, at 128 (1977) (additional views of Sen. Baker) (explaining that the 200 coal-fired power plants in the United States over the age of 20 years were becoming relatively expensive to continue operating, and that "[m]ost will be totally phased out of operation in the next 5 to 20 years").

As a result, Congress thought that the cost of applying PSD permits to existing sources would be high, while the benefits would be limited, since most unmodified sources had only short remaining lives during which they could continue impairing air quality. Congress thus granted existing sources temporary transition relief, until they upgraded or else became obsolete and were replaced by new construction. *Ala. Power Co. v. Costle*, 636 F.2d 323, 350 (D.C. Cir. 1979) (explaining the goal was to "minimize disruption" at existing sources "until 'modifications' of those facilities increased emissions"). Crucially, Congress did not intend to give existing sources "a perpetual immunity from all standards." *Id.* at 400; *accord WEPCO*, 893 F.2d at 909 ("Congress did not permanently exempt existing plants . . . ."). Rather, as the industrial stock expeditiously turned over, Congress anticipated that the PSD program would facilitate the steady reduction of all air emissions. *See* 75 Fed. Reg. 31,514, 31,561 (June 3, 2010).

The mechanism to transition existing sources into the regulatory regime as they upgrade or make other modifications, therefore, is essential to the balance struck by Congress. To that end, the definition of "modification" must be given its intended meaning, requiring any existing stationary sources that significantly increase their emissions of "any air pollutant" to become subject to the PSD requirements. As the Seventh Circuit observed, "[a] too restrictive interpretation of 'modification' might upset the economic-environmental balance in unintended ways." *WEPCO*, 893 F.2d at 909. EPA correctly interprets the phrase "any air pollutant" to include greenhouse gases for purposes of triggering PSD both for new sources and for modifying existing sources. This approach advances congressional intent by continuing the robust framework to transition existing sources into PSD's regulatory regime as they undertake significant modifications.

B. Petitioners' Narrow Interpretations of "Any Air Pollutant" Would Create Inconsistencies with Section 111 and Could Exacerbate the Undesirable Effects of Grandfathering

Like PSD, Section 111 also reflects a carefully drawn balance among new, modified, and existing source regulation. *See* 42 U.S.C. §§ 7411(a)-(d) (requiring new and modified sources to achieve performance standards consistent with the best, adequately demonstrated system of emissions reductions, but allowing some tailoring of existing source performance standards to "the remaining useful life of the existing source"). Crucially, the PSD program expressly adopts Section 111(a)'s definition of "modification." 42 U.S.C. § 7479(2)(C) (referencing § 7411(a)(4)). In other words, the two programs share a single statutory definition of the term that is essential to securing the Clean Air Act's "economic-environmental balance." *See WEPCO*, 893 F.2d at 909.

Petitioners all argue that the phrase "any air pollutant" under the PSD program should mean something less than *any* regulated air pollutant. *E.g.*, Coal. for Responsible Regulation Br. 16-25 (arguing PSD addresses only criteria pollutants); Util. Air Regulatory Grp. Br. 25-32 (arguing PSD addresses only local pollutants). Though petitioners focus almost exclusively on how PSD should regulate new sources of only *certain* air pollutants, the necessary implication of their readings is that PSD would also apply to modifications that increase only *certain* (not any) air pollutants. Otherwise, petitioners' interpretations would produce the incongruous outcome in which greenhouse gas emissions from newly constructed sources would not initially trigger PSD requirements, but any subsequent modifications that caused any significant increase in greenhouse gas emissions would suddenly trigger PSD. Instead, petitioners implicitly must want to erase the word "any" from Section 111(a)'s definition of "modification."

Yet erasing the word "any" from the definition of "modification" would undermine PSD's congressionally designed role as a supplement to Section 111. In 1977, Congress concluded that Section 111 had not achieved the desired air quality goals by itself, and so enacted the PSD program, "which aimed at giving added protection to air quality." *See Envtl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 567 (2007). The Act clearly envisions the PSD program working in conjunction with Section 111. PSD permits must require compliance with Section 111 performance standards, 42 U.S.C. § 7475(a)(3)(C), and BACT must be at least as stringent as applicable performance standards, *see* 42 U.S.C. § 7479(3).

This Court has already determined it is "plain" that Section 111 "speaks directly" to greenhouse gas emissions. *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527, 2537 (2011) (explaining Section 111 applies to new and modified sources in stationary categories that contribute significantly to dangerous pollution, including greenhouse gases). EPA has in fact begun developing greenhouse gas performance standards for modified power plants under Section 111. *See* 78 Fed. Reg. 39,535, 39,536 (July 1, 2013) (setting a June 2015 deadline to finalize standards for modified power plants). EPA "plainly" has authority, under Section 111(a)(4)'s reference to "any air pollutant," to regulate modifying sources that increase their greenhouse gas emissions. Yet petitioners would incongruously block EPA from regulating the increased greenhouse gas emissions from the exact same modifying sources under the PSD program—a program that Congress intended as a complement to Section 111 and that shares Section 111(a)(4)'s definition of "modification." *See also* Fed. Resp'ts Br. 45-46 (noting the inconsistency that petitioners' interpretations would cause with Section 111(a)(3)); State Resp'ts Br. 15-16 (explaining why PSD cannot be read to have a narrower scope than Section 111).

The bizarre and confusing outcome of petitioners' interpretations should be avoided, especially since a plain reading yields much more harmonious results. While under certain circumstances an agency may have discretion to apply different regulatory interpretations to recurring statutory text, *see Envtl. Def.*, 549 U.S. at 575-76, it would be unprecedented for a court to *require* an agency to apply two such incompatible interpretations to a single statutory phrase. *See also id.* at 584 (Thomas, J., concurring in part) (encouraging EPA to pursue a unified regulatory definition of "modification," which "better serves PSD's goals").

The particular interpretation put forward by the American Chemistry Council ("ACC") would further risk exacerbating the negative effects of grandfathering. As described above, Congress deliberately exempted, or "grandfathered," existing sources from PSD regulation, intending to offer temporary and environmentally benign transition relief to existing sources.[10] Unfortunately, the PSD program's history has not borne out Congress's original expectations for grandfathering. The disparity between regulatory standards for old and new sources "distort[s] the economic analysis that existing plant owners undertake when deciding whether to modernize or replace a plant." Nash & Revesz, *supra*, at 1708. Grandfathered, aging sources gain a crucial advantage in their operating costs relative to new competitors, which might otherwise be more efficient but are also more regulated. The economic incentive for these increasingly obsolete grandfathered plants is to continue operating rather than upgrade and incur new regulatory costs. *See generally id.*; *see also* Richard L. Revesz & Allison L. Westfahl Kong, *Regulatory Change and Optimal Transition Relief*, 105 Nw. U.L. Rev. 1581, 1616 (2011).

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[10] Excessive grandfathering is one of several less-than-economically-efficient aspects of the PSD provisions. Amici for petitioners note that the PSD program's command-and-control structure does not allow the market-based approaches that would provide the most efficient regulation of pollutants like greenhouse gases. Economists Amicus Br. 12. This statutory constraint on regulatory design, however, is not specific to greenhouse gases, but applies to any pollutants regulated under the PSD program that might be more efficiently controlled through a market-based regime. *See generally* Inst. for Policy Integrity, *The Road Ahead* (2009), *available at* http://policyintegrity.org/files/publications/TheRoadAhead.pdf (detailing the availability of market-based mechanisms under the Act). Though we may wish for a more economically efficient statute, that desire does not give EPA or courts license to ignore the plain statutory language.

Consequently, grandfathering extends the operating lives of old, dirtier plants, discourages the introduction of new, more efficient upgrades or plants, and can actually lead to worse environmental quality than if no regulation had ever been enacted. *See* Nash & Revesz, *supra*, at 1708-1710 (citing empirical evidence for these negative effects); *see also WEPCO*, 893 F.2d at 912 (noting that the company admitted its plans for extensive renovation "represent a *life extension* of the units from their *planned retirement dates*") (citations omitted). In one telling empirical study, grandfathering led to an 8% delay in capital retirement for every doubling of stringency of new source regulations relative to existing sources. Michael T. Maloney & Gordon L. Brady, *Capital Turnover and Marketable Pollution Rights*, 31 J.L. & Econ. 203, 226 (1988). That slowed turnover of the old, less efficient industrial stock correlated with an overall increase in sulfur dioxide emissions compared to if no regulations had been enacted—with emissions rates up to 27% higher in states with the strongest grandfathering distortions. *Id.*

Grandfathering has given rise to additional poor incentives. First, it discourages polluters from efficiently anticipating changes in legal rules. While a firm might rationally choose to anticipate stricter regulations by investing now in better technology to save on future compliance costs, a grandfathered firm lacks that motivation. Revesz & Westfahl Kong, *supra*, at 1590, 1594-96. Second, grandfathering encourages polluters to devote significant resources to arguing before Congress, EPA, and the courts for further extensions of their transition relief, to maintain the artificial advantage that grandfathering granted them against prospective competitors. Nash & Revesz, *supra*, at 1729. For decades, industry has routinely lobbied legislators and regulators and has persistently fought in the courts to continue the PSD exemptions for existing sources, Revesz & Westfahl Kong, *supra*, at 1628-32—a trend of rent-seeking behavior that has continued in the present debate over the application of PSD to greenhouse gas emissions, *see* 75 Fed. Reg. at 31,592 (noting that industry commenters asked for even more transition relief under the Tailoring Rule). Though under certain circumstances, some limited, temporary grandfathering may be cost-benefit justified, *see generally* Revesz & Westfahl Kong, *supra*, at 1583-84, given the history of the PSD program, any further extension of grandfathering is, at this time, "a poor option." Nash & Revesz, *supra*, at 1717.

Yet the ACC's interpretation would risk exacerbating these negative consequences of grandfathering. ACC claims that "any air pollutant" should mean just criteria air pollutants, for purposes of triggering PSD, ACC Br. 12; as explained above, this interpretation would also exclude greenhouse gases from the definition of "modification." But for purposes of applying BACT requirements, ACC reads "each air pollutant" to include greenhouse gases. *Id.* at 18 n.7 & 29 n.12; *see also* J.A. 177 (Kavanaugh, J., dissenting from the denials of rehearing en banc) ("By its terms, Section 7475(a)(4) . . . applies to greenhouse gases."). The result would be that large new sources, like new power plants—which would likely already trigger PSD by virtue of their other, non-greenhouse gas pollutants—would have to install BACT for greenhouse gases. However, existing, modifying sources, like a coal power plant undergoing an upgrade that increases its emissions, would not have to install BACT for greenhouse gases, since modifying sources only have to install BACT for the pollutants that the modification significantly increased, and ACC's interpretation would exempt greenhouse gas from the definition of "modification." *See* 40 C.F.R. § 51.166(j)(3) ("A major modification shall apply best available control technology for each a [sic] regulated NSR pollutant for which it would be a significant net emissions increase at the source."). Consequently, ACC's interpretation would lead to new sources facing more stringent emissions standards than modifying sources. This increased disparity would exacerbate all the ills of grandfathering.

In short, all of petitioners' various interpretations of the phrases "any" and "each air pollutant" will lead to statutory inconsistencies and economic inefficiencies. The Court should instead uphold EPA's interpretations as consistent with congressional intent.

C. EPA's Interpretation of "Any" and "Each Air Pollutant" to Include Greenhouse Gases Under PSD Complements Section 111 and Fills Regulatory Gaps that Would Otherwise Result

EPA is in the process of developing greenhouse gas performance standards for new power plants under Section 111. 79 Fed. Reg. 1430 (proposed Jan. 8, 2014). Once finalized, those performance standards will in turn trigger statutory requirements to regulate modified and existing power plants for their greenhouse gas emissions as well. *See* 42 U.S.C. §§ 7411(b) & (d); *see also* Comments from Policy Integrity, to EPA, on Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources 5-7 (June 25, 2012), *available at* http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2011-0660-9908. These regulatory plans do not make the application of PSD to greenhouse gases irrelevant. To the contrary, Congress designed PSD to supplement Section 111, and PSD fills several important gaps.

First, as noted previously, the Clean Air Act clearly envisions the PSD program working in conjunction with Section 111 performance standards. *See Envtl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 567 (2007). PSD permits must require compliance with Section 111 performance standards, 42 U.S.C. § 7475(a)(3)(C), and BACT must be at least as stringent as applicable performance standards, while allowing for case-by-case adjustments to require even more stringent limits, *see* 42 U.S.C. § 7479(3). Note that many non-criteria pollutants subject to the PSD program are also regulated under Sections 111(b) and (d). *Compare supra* pp. 10-11 (listing non-criteria pollutants regulated by PSD) *with* 40 C.F.R. pt. 60 (regulating "designated pollutants" like sulfuric acid mist and fluorides under Section 111). Far from being redundant, the two provisions are clearly meant to work in harmony.

Second, finalized performance standards for new, modified, and existing power plants under Section 111 are still several years away at the earliest; in particular, issuing a rule on existing sources will only start another potentially time-consuming process of states developing implementation plans. *See* 78 Fed. Reg. at 39,536 (targeting completed standards by June 2016); *but see* 42 U.S.C. § 7410 (describing the lengthy process for developing state implementation plans). Litigation, and attendant delay, is essentially inevitable for the Section 111 performance standards for both new and existing power plants. Meanwhile, the PSD program will continue to apply the latest pollution control techniques to all new major power plants and to significant modifications at existing power plants.

Third, these initial regulatory plans under Section 111 cover only power plants, and not other stationary sources of significant greenhouse gas emissions. For example, EPA has yet to announce a new schedule for issuing greenhouse gas standards for refineries under Section 111, after missing earlier deadlines set by settlement agreement. *See* James E. McCarthy, *EPA Standards for Greenhouse Gas*

Emissions from Power Plants 3 (Cong. Res. Serv. Report R43127, 2013), *available at* http://www.fas.org/sgp/crs/misc/R43127.pdf. Refineries contribute over 200 million metric tons of greenhouse gases annually—about 3% of all U.S. emissions. *See* Office of Air Quality Standards and Planning, EPA, *Available and Emerging Technologies for Reducing Greenhouse Gas Emissions from the Petroleum Refining Industry* 3 (2010), *available at* http://www.epa.gov/nsr/ghgdocs/refineries.pdf. Other significant stationary sources of greenhouse gases not yet regulated under Section 111 include natural gas systems; cement plants; producers of lime, nitric acid, and other chemicals; and landfills and waste treatment facilities, among others. *See* EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2011* ES5–ES7 (2013), *available at* http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2013-Main-Text.pdf. Though some of these categories may eventually become subject to greenhouse gas standards under Section 111, *see* 40 C.F.R. pt. 60 (listing some of these sources as regulated categories under Section 111), EPA would have to issue individual Section 111 regulations for each separate category, one by one. By contrast, EPA has already released guidance on applying greenhouse gas-related PSD and BACT requirements to refineries, cement plants, paper and pulp plants, landfills, nitric acid plants, iron and steel plants, and other large industrial emitters of greenhouse gases. *See* EPA, Clean Air Act Permitting for Greenhouse Gases, http://www.epa.gov/nsr/ghgpermitting.html (last visited Jan. 27, 2014) (listing available GHG Control Measure White Papers); *see also, e.g.*, EPA Clean Air

Tech. Ctr., RACT/BACT/LAER Clearinghouse: RBLC ID OH-0357, http://cfpub.epa.gov/rblc/index.cfm (follow "Search Database" hyperlink; then follow "RBLC ID Search" hyperlink; then search for "OH-0357) (last visited Jan. 27, 2014) (listing a PSD permit issued by Ohio in 2013 to a modifying refinery for its greenhouse gas emissions). Because PSD is source-specific rather than category-specific, it can regulate pollutants like greenhouse gases in a more timely and individualized manner.

Fourth, applying BACT to the significant greenhouse gas emissions of new and modified sources on a continuous and case-by-case basis fills an important gap during periods when Section 111 performance standards are waiting for revision. Performance standards under Section 111 are required to be revised only every eight years. 42 U.S.C. § 7411(b). Yet often revisions take significantly longer. *See, e.g.*, Comments from Policy Integrity, to EPA, on New Source Performance Standards for Nitric Acid Plants 2 (Nov. 28, 2011), *available at* http://policyintegrity.org/documents/IPI_Comments_on_Nitric_Acid_NSPS_Final1.pdf (noting EPA's nitric acid performance standards had not been revised in nearly forty years). Meanwhile, without the PSD program, new and modifying sources would have limited incentive to research and invest in increasingly efficient greenhouse gas control technologies. Exempting greenhouse gas emissions from the PSD program would remove some of the incentive for industry to anticipate and develop new technologies. Indeed, one of "the basic goals of the 1977 Amendments," which created the PSD program, was "technology forcing." *WEPCO* at 909-10 (citing legislative history); *see also* S. Rep. No. 95-127, at 18

(1977) ("[T]o augment the innovative character of industry in reaching for more effective, less-costly systems to control air pollution . . . [p]ossibly most important is that portion of the bill that establishes a system . . . to prevent significant deterioration of air quality.").

EPA's consistent interpretation of the phrases "any" and "each air pollutant" enables PSD to continue serving the role Congress intended, as an essential complement to Section 111. Petitioners' attempts to exempt greenhouse gases from the PSD program would undermine this carefully balanced statutory structure.

III. THE ARGUMENT THAT THE PERMITTING REQUIREMENT OF SECTION 165(A) CAN BE TRIGGERED ONLY BY NAAQS POLLUTANTS IS UNTENABLE

The permit requirement of Section 165(a) is triggered by the following statutory provision: "No major emitting facility on which construction is commenced after August 7, 1977, may be constructed in any area to which this part applies unless (1) a permit has been issued for such proposed facility . . . ." 42 U.S.C. § 7475(a).

The ACC argues that this provision is triggered only by criteria pollutants and not any other pollutants, including greenhouse gases. *See* ACC Br. 15-16. A key interpretive question concerns the meaning of "any area to which this part applies." "This part" refers to Part C of Subchapter I of the Clean Air Act, which is labeled "Prevention of Significant Deterioration of Air Quality." Under Section 161, 42 U.S.C. § 7471, covered areas are those designated under Section 107, 42 U.S.C. § 7407, "as attainment or unclassifiable." For each criteria pollutant, all areas in all states must be designated as either nonattainment, attainment, or unclassifiable. 42 U.S.C. § 7407(d). It thus follows that "this part applies," by its terms, to any area that is not classified as nonattainment for every criteria pollutant.

The plain meaning of the statute makes clear that the relevant inquiry is purely geographic. It concerns whether a major emitting facility is located in an area that meets the NAAQS for at least one pollutant. There is, in contrast, no plausible interpretation under which whether a facility is located in "an area to which this part applies" would depend instead on what types of pollutants the facility emits.

Under the ACC's interpretation, a facility emitting greenhouse gases would not be in an "area to which this part applies" even though an adjoining facility emitting pollutants regulated by NAAQS would be in such an area. And if the facility emitting greenhouse gases were to subsequently start emitting criteria pollutants, it would thereby move from an area "to which this part" does not apply and into area "to which this part applies," without, of course, changing its location at all. No plausible interpretation of the term "area to which this part applies" can support the ACC's position.

The ACC's position also gives rise to a "no man's land" that is inconsistent with the structure of the Act. As indicated above, under Section 107(d) all areas in the country are placed in one of three categories (nonattainment, attainment, and unclassifiable) for each NAAQS pollutant. 42 U.S.C. § 7407(d). Two of these categories (attainment and unclassifiable) are covered by the PSD program under Section 161. 42 U.S.C. § 7471. The statute does not contemplate the possibility that certain sources would be in no area at all, which is what the ACC's position implies.

IV. PETITIONERS' APPROACHES—FAR FROM AVOIDING "ABSURD RESULTS"—WOULD GIVE RISE TO THEIR OWN SET OF ABSURDITIES

The ACC and other petitioners argue that the only way to eliminate the "absurdity" that they claim would result from the Tailoring Rule is to read Section 165(a) as applying to only criteria pollutants or only pollutants with local effects. *See, e.g.*, ACC Br. 28. But these interpretations would create a host of other problems and their own set of absurdities.

There is no way for EPA to have known, back in 1977 when the PSD provisions were enacted, that more than 30 years later it would make an endangerment finding for an air pollutant emitted in large quantities by a large number of relatively small polluters. The "absurdity" argument raised by petitioners does not call into question EPA's consistent approach, over 30 years, to apply the Section 165(a) trigger to all other air pollutants regulated under the Act. Indeed, because other pollutants that EPA has regulated under the PSD program are emitted in small quantities, the alleged "absurdity" is not present with respect to those pollutants. Instead, petitioners' argue that the agency should now, for the first time, begin to read Section 165(a) to be restricted to either criteria pollutants or pollutants with only local effects, in order to avoid requiring PSD permitting for too many sources.

What happens, then to the non-NAAQS or global pollutants that were previously regulated? The only plausible answer under petitioners' readings is that they would be exempted going forward. As a result, the facilities that already obtained a permit and expended resources to comply with the PSD permitting requirements before EPA found that greenhouse gases endanger public welfare would be placed at a disadvantage relative to competitors that built their facilities later and therefore become exempted from the requirement under petitioners' approach. Such an approach creates instability and undermines the predictability of the regulatory regime.

Most importantly, the statutory interpretation question of whether non-criteria or non-local pollutants other than greenhouse gases can trigger the PSD permitting provisions should not depend on whether or when EPA makes an endangerment finding for greenhouse gases. For the regulatory status of all other non-criteria and non-local pollutants to change simply because EPA begins regulating dangerous greenhouse gases would violate the "independence of irrelevant alternatives" precept, which is a key requirement for rationality. *See* R. Duncan Luce & Howard Raiffa, *Games and Decisions* 27 (1957) (introduction of third alternative should not affect preference relationship between two original alternatives); *see also* Amartya Sen, *Social Choice Theory: A Re-Examination*, 45 Econometrica 53, 58-59 (1977) (analyzing attributes of social welfare functions). Non-criteria pollutants and global pollutants other than greenhouse gases would be subject to the PSD permitting provisions if they are emitted by facilities constructed *before* EPA begins regulating greenhouse gases, but would be exempt from these provisions if they are emitted by facilities built *after* such greenhouse gas regulations. But the timing of greenhouse gas regulations should be irrelevant to determining whether other pollutants are subject to the PSD program's permitting requirement.

So, petitioners are simply wrong when they claim that the problem caused by the statutory thresholds of 250 and 100 tons could be solved simply by adopting their interpretations of the triggering provision.

CONCLUSION

For the foregoing reasons, this Court should affirm the judgment of the court of appeals.

Respectfully submitted,

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Petitioners,
v.
U.S. ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Writ of Certiorari
To the United States Court of Appeals
For the District of Columbia Circuit

BRIEF OF THE STATES OF KANSAS, KENTUCKY, MONTANA, OHIO, WEST VIRGINIA, AND WYOMING AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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INTEREST OF AMICI CURIAE[1]

Amici States of Kansas, Kentucky, Montana, Ohio, West Virginia, and Wyoming have direct and substantial interests in this case. The decision below, affirming the Environmental Protection Agency's (EPA) new pre-construction permitting regime for greenhouse gas (GHG) emissions, will impose immense administrative costs upon the States that carry out the program. According to EPA's own estimates, if greenhouse gas emissions trigger pre-construction permitting requirements for industry under the Clean Air Act's plain terms and volumetric thresholds, then States would be forced to review *millions* of permit applications, costing the States *billions* of dollars. J.A. 550-51. Furthermore, EPA's regulatory regime will impose immense costs on the States' economies, as explained in this brief.

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[1] The parties have consented to the filing of this brief, and their letters of consent have been filed with the Clerk. No party's counsel authored this brief in whole or in part, and no person or entity other than *amici* or their counsel made a monetary contribution intended to fund to its preparation or submission.

INTRODUCTION AND SUMMARY OF ARGUMENT

"Congress could hardly preemptively prohibit every discharge of carbon dioxide unless covered by a permit." *Am. Elec. Power Co.* v. *Connecticut*, 131 S. Ct. 2527, 2538 (2011). That was the Court's commonsense explanation of the absurdity of regulating greenhouse gas emissions, in small increments, through *ex ante* permit requirements. "Of necessity," the unanimous Court observed, "Congress selects different regulatory regimes to address problems." *Id.* And it did not select a permit-based regime to micromanage small emissions of greenhouse gases.

Yet that is precisely how EPA now interprets Title I of the Clean Air Act. According to EPA, Congress unambiguously intended "air pollutant" to include greenhouse gas emissions, for purposes of the Prevention of Significant Deterioration (PSD) and Title V permitting programs. Therefore, EPA reasons, Congress required States to impose *ex ante* permit requirements for greenhouse gas emissions of as little as 100 or 250 tons per year. EPA concludes that only EPA can save the States and the public from the burdens that Congress has imposed upon them. EPA further declares that it must accomplish this by unilaterally replacing Congress's statutory volumetric thresholds with more lenient standards devised by the agency itself, to be tightened or loosened at any future time in EPA's sole discretion.

As the State and Industry Petitioners explain, EPA's interpretation is unfaithful to the Act's text, purpose, structure, and history. The *amici* States respectfully submit this brief to offer further perspective on the ramifications of EPA's statutory interpretation at the heart of this case; to explain how EPA's misuse of the "absurd results" doctrine highlights the fundamental error of EPA's underlying statutory interpretation; and to restore the PSD and Title V programs to what Congress itself saw to be their "basic purpose": protecting air quality from local pollutants. J.A. 427.

The Clean Air Act recognizes that "air pollution control at its source is the primary responsibility of States and local governments," not the Federal government. 42 U.S.C. § 7401(a)(3). And in carrying out that responsibility, the States know firsthand the impacts of EPA's vast expansion of the Act's pre-construction permit programs, the PSD and Title V programs. As explained below, those impacts include not just the program's economic costs within the States, but also the immense burdens that EPA's PSD and Title V programs will impose on the State agencies tasked with administering them. These impacts on the States threaten the Act's very nature as a "cooperative federalism" program.

These burdens, and the other "absurd results" invoked by EPA in its attempt to justify the "Tailoring Rule," are all problems of EPA's own making. They would not have occurred if EPA had not insisted upon construing the Act in a manner unsupported by the Act's text, purpose, structure, and history. And they reflect EPA's attempt to aggrandize its own power and discretion, at the expense of the States.

ARGUMENT

I. "Any Air Pollutant," As That Term Is Used In The Clean Air Act's Pre-Construction Permitting Framework, Does Not Include Greenhouse Gas Emissions

The Clean Air Act imposes a pre-construction permitting requirement for power plants and other stationary sources, a requirement that is triggered by the emission of "any air pollutant" above statutorily defined threshold amounts by a "major emitting facility." 42 U.S.C. §§ 7479(1), 7475(a). As EPA itself notes, this program, known as Prevention of Significant Deterioration (PSD), was originally intended to protect local air quality: "the basic purpose of the PSD program . . . is to safeguard maintenance of the NAAQS"—that is, the National Ambient Air Quality Standards. J.A. 427 (citing S. Rep. No. 95-127, at 27 (1977), *reprinted in* 3 *A Legislative History of the Clean Air Act Amendments of 1977*, at 1371, 1401 (1979) (hereinafter "*Legislative History*")).

But, according to EPA, in this statutory context the term "any air pollutant" unambiguously includes greenhouse gas emissions, now that such emissions are "regulated" for purposes of the Act's automobile emissions program in a separate title of the Act. EPA rejects the notion that the Act's stationary source program covers only emissions that actually deteriorate local air quality. See, *e.g.*, J.A. 478 n.44.

As the D.C. Circuit recognized, EPA's interpretation of the statute does not actually reflect the statute's "literal statutory definition." J.A. 237. Specifically, EPA construes the statutory term, "any air pollutant," to refer only to any "regulated" air pollutant, even though the statute "nowhere requires that 'any air pollutant' be a *regulated* pollutant." *Id.* Nevertheless, even after departing from the statute's literal text, both EPA and the court below conclude that the Clean Air Act commands this and only this interpretation. *Id.* at 235-41. Their analysis misapplies *Massachusetts* v. *EPA*, 549 U.S. 497, 532 (2007), obstructs Congress's clear intent, and undermines the law's long-understood meaning.

A. *Massachusetts* v. *EPA* Does Not Dictate EPA's Favored Interpretation

In affirming EPA's interpretation of "any air pollutant," 42 U.S.C. § 7479(1), the D.C. Circuit largely ascribed its conclusion to this Court's decision in *Massachusetts* v. *EPA*: "we are faced with a statutory term—'air pollutant'—that the Supreme Court has determined unambiguously includes greenhouse gases." J.A. 237 (citing *Massachusetts*, 549 U.S. at 529, and 42 U.S.C. § 7602(g)).

But *Massachusetts* v. *EPA* did not interpret the term "any air pollutant" in the context of the Clean Air Act's PSD and Title V framework for stationary sources (*i.e.*, 42 U.S.C. § 7479(1)). Rather, the Court in that case interpreted "air pollutant" strictly in the separate context of the Act's Title II framework for motor vehicle regulations. *Massachusetts*, 549 U.S. at 506, 532.

The distinction between Titles I and II is not pedantic; rather, the differences between them are crucial to the task of interpreting each of the Titles, even when both employ the term "air pollutant." Sometimes "the same phrase used in different parts of the same statute means different things." *Barber* v. *Thomas*, 130 S. Ct. 2499, 2506 (2010); cf. *Nat'l Ass'n of Mfrs.* v. *NLRB*, 717 F.3d 947, 954 n.7 (D.C. Cir. 2013) (noting that "[e]ven within the Federal Register Act, the term 'promulgated' seems to have different meanings in different contexts").

And, in fact, this Court already has recognized that the Clean Air Act is precisely such a law, in a case decided on the same day as *Massachusetts* v. *EPA*. In *Environmental Defense* v. *Duke Energy Corp.*, the Court held that a single word in the statute could mean two different things: "modification" has one meaning for purposes of the Act's PSD program, and another meaning for the Act's "new source performance standards" program. 549 U.S. 561, 573-76 (2007). The Court recognized that "most words have different shades of meaning and consequently may be variously construed, not only when they occur in different statutes, but when used more than once in the same statute or even in the same section." *Id.* at 574 (brackets omitted).

This is true "even when the terms share a common statutory definition, if it is general enough." *Id.* (In *Environmental Defense*, for example, the statute provided only one definition of "modification." *Id.* at 576.) The "natural presumption that identical words used in different parts of the same act are intended to have the same meaning" is "not rigid"; it "readily yields whenever there is such variation in the connection in which the words are used as reasonably to warrant the conclusion that they were employed in different parts of the act with different intent." *Id.* at 574. A "given term in the same statute may take on distinct characters from association with *distinct statutory objects* calling for *different implementation strategies*." *Id.* (emphasis added).

Those are precisely the considerations that belie EPA's and the lower court's conclusions that *Massachusetts* v. *EPA*'s interpretation of "air pollutant" for mobile sources unambiguously commands an identical interpretation for stationary sources. The two programs regulate "distinct statutory objects," each "calling for different implementation strategies." *Id.*

Furthermore, such practical considerations were central to the Court's task of interpreting "air pollutant" for the motor vehicle program in *Massachusetts* v. *EPA*. There, the Court concluded that to include greenhouse gas emissions as "air pollutants" for motor vehicle regulations would not lead to "extreme" consequences. 549 U.S. at 531. The Court's certainty reflected the successful petitioners' assurances that the Court's decision regarding the Act's application to motor vehicles would have *no* bearing on the separate question of whether EPA could also regulate stationary sources:

> The federal program for controlling air pollution from motor vehicles was first created in 1965, five years before the 1970 Act created the NAAQS program.[2] *The programs were not merged, and they retain significant independent status and effects*. Organizationally, mobile sources are regulated under Title II of the Act,

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[2] And twelve years before the 1977 Act created the statutory PSD framework.

> which is separate from Title I . . . Furthermore, *the two programs cover different pollutants.*"

Brief for Petitioners at 28, *Massachusetts* v. *EPA*, 549 U.S. 497 (2007) (No. 05-1120) (emphasis added).[3]

In short, the Court in *Massachusetts* v. *EPA* tested its statutory interpretation against what it saw to be the practical consequences of that interpretation, in the narrow context of motor vehicle regulations under Title II of the Act. In that case, as in *Environmental Defense* v. *Duke Energy*, "[c]ontext counts." 549 U.S. at 576.

Context counts here, too. As EPA administers the Clean Air Act's PSD and Title V framework, it should interpret the Act in light of the consequences of its interpretation, not in spite of them.

B. EPA's Interpretation Of The PSD And Title V Frameworks Is Incompatible With Congress's Express Intent And Evident Understanding Of The Law

EPA's attempt to stretch Title I's PSD and Title V frameworks to include greenhouse gas emissions contradicts more than just the assurances of *Massachusetts* v. *EPA*'s pro-regulation petitioners. It also contradicts the expectations of the Congress that enacted the PSD program in the first place. If legislative history is relevant to the task of interpreting statutes in Step One of *Chevron*'s two-step process,[4] then this factor is fatal to EPA's statutory interpretation in this case.

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[3] The petitioners in that case went so far as to assert that critics' concerns that Title II mobile-source regulation might trigger Title I stationary-source regulation were merely an attempt to "change the subject," a "classic debater's trick." *Id.*

EPA did not demonstrate that its interpretation of the statute "give[s] effect to the unambiguously expressed intent of Congress." *Chevron U.S.A.* v. *Natural Res. Def. Council*, 467 U.S. 837, 843 (1984). The legislative record of Congress's 1977 enactment of the PSD program lacks any evidence of congressional intent to cover greenhouses gas emissions, or any evidence that Congress understood the Act to accomplish this result.[5]

Instead, the legislative history is replete with statements of Congress's understanding and intention that the PSD program would apply only to a small set of large industrial facilities and local NAAQS pollutants. The PSD program's *ex ante* permit requirement might be feasible "for very large sources, such as new electrical generating plants or new steel mills," the Senate Report explains, but it would "prove costly and potentially unreasonable if imposed on construction of storage facilities for" smaller sources that "have the potential to emit 100 tons of pollution annually." S. Rep. No. 95-127, at 96 (1977), *reprinted in* 3 *Legislative History* at 1470.

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[4] In *Chevron* Step One's evaluation of whether the statute's commands are unambiguous, the Court applies "the traditional tools of statutory construction." *Chevron, U.S.A.* v. *Natural Res. Def. Council*, 467 U.S. 837, 843 n.9 (1984). Some courts have included among those tools not just "text, structure, [and] purpose," but also "legislative history." See, *e.g.*, *Pharm. Research & Mfrs. of Am.* v. *Thompson*, 251 F.3d 219, 224 (D.C. Cir. 2001) (relying on legislative history that "makes quite clear" what "Congress's purpose" was).

[5] And as the State Petitioners explain, Congress repeatedly rejected efforts to expressly place greenhouse gas emissions within EPA's PSD jurisdiction, in the years after the 1977 Act. See Texas Br. 16.

Congress intended and understood the PSD framework's 100 or 250 tons per year thresholds to exempt all but the largest emitters; the Act's regulatory reach would not extend to smaller sources, such as "dairies, farms, highways, hospitals, schools, grocery stores, and other such sources." Senate Debate on S. 252, June 8, 1977, *in* 3 *Legislative History* 705, 725. But, as the State Petitioners note, those are the types of small companies and organizations that would be subject to statutory PSD and Title V permitting requirements if greenhouse gases are deemed "air pollutants" for Title I of the Act. See Texas Br. at 3.

To deem greenhouse gas emissions to be "air pollutants" triggering PSD permitting requirements is wholly incompatible with these statements of congressional intent. For that reason, even EPA admits that its inclusion of greenhouse gas emissions "result[s] in a program that would have been unrecognizable to the Congress that designed PSD" and "intended that PSD be limited to a relatively small number of large industrial sources." J.A. 454-55. EPA's interpretation, by contrast, results in PSD and Title V programs that would govern virtually all industrial sources, because "virtually all sources emit at least 100 [tons per year of carbon dioxide] annually." *Id.* at 456 n.39.

When EPA's interpretation collides with Congress's intent, the solution cannot be to allow EPA to unilaterally "tailor" the Clean Air Act's volumetric thresholds by degrees of magnitude, and subsequently to expand them in the agency's sole discretion. Rather, the proper solution is to enforce the Act as written, reasonably interpreting the term "any air pollutant" in a way that respects the Act's unambiguous volumetric thresholds and the congressional intent they embody.

This solution, unlike EPA's, would "follow the cardinal rule that a statute is to be read as a whole." *King* v. *St. Vincent's Hosp.*, 502 U.S. 215, 221 (1991). It would honor "one of the most the basic interpretive canons," that a "statute should be construed so that effect is given to *all* its provisions, so that no part will be inoperative or superfluous, void or insignificant." *Corley* v. *United States*, 556 U.S. 303, 314-15 (2009) (quoting *Hibbs* v. *Winn*, 542 U.S. 88, 101 (2004)). And in honoring not just the absurd results doctrine but also these other canons of construction, it would avoid treating the absurd results doctrine as "conclusive," to the detriment of other equally important canons of construction. *Chickasaw Nation* v. *United States*, 534 U.S. 84, 94 (2001); *see also id.* at 95 ("Specific canons 'are often countered . . . by some maxim pointing in a different direction.'") (quoting *Circuit City Stores* v. *Adams*, 532 U.S. 105, 115 (2001)).

Again, "Congress selects different regulatory regimes to address different problems." *Am. Elec. Power Co.*, 131 S. Ct. at 2538. In this case, Congress did not select the PSD regulatory regime to address greenhouse gas emissions.[6]

II. EPA's Preconstruction Permit Program Will Impose Immense Costs Upon The States And The Public

As the primary administrators of EPA's PSD and Title V permit programs, the States know firsthand the immense costs that would be imposed if "air pollutant" were to include greenhouse gases for purposes of those programs. Indeed, the States bear much of those costs directly.

If greenhouse gas emissions are covered by the PSD and Title V programs, then the Clean Air Act's 100 and 250 tons per year thresholds "would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the title V program." J.A. 355. In the absence of "streamlined permit procedures," the result would be "administrative strains" leading "to multi-year backlogs in the issuance of PSD and title V permits, which would undermine the purposes of those programs." *Id.* at 356. Worse still, "the addition of enormous numbers of additional sources would provide *relatively little benefit* compared to the costs to sources and the burdens to permitting authorities." *Id.* (emphasis added).

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[6] The unanimous Court's analysis in *American Electric Power Co.* v. *Connecticut* is relevant for another reason. After noting the implausibility of attempting to regulate greenhouse gas emissions through an *ex ante* permit regime, the Court focused on EPA's other regulatory priority, the pending "New Source Performance Standards" rulemaking pursuant to 42 U.S.C. § 7411. See 131 S. Ct. at 2538-39. That focus was instructive, because the Court declined to mention at all EPA's pending PSD and Title V permit rulemaking, which had been the predominant focus of the Government's brief in that case. See Brief for Tenn. Valley Auth. at 47-50 (PSD), 50-51 (NSPS), *Am. Elec. Power Co.* v. *Connecticut*, 131 S. Ct. 2527 (2011) (No. 10-174).

EPA's own estimates of the new costs and administrative burdens are shocking:

> On the PSD side, annual permit applications would increase by over 300-fold, from 280 to almost 82,000; costs to the permitting authorities would increase more than 100-fold, from $12 million to $1.5 *billion*; and the permitting authorities would need to hire, train, and manage 9,772 FTEs [*i.e.*, full-time equivalent workers]. For title V, total permit applications would increase by over 400-fold, from 14,700 to 6.1 million; costs to the permitting authorities would increase from $62 million to $21 *billion*; and the permitting authorities would need to hire, train, and manage 229,118 FTEs.

J.A. 550-51 (emphasis added). In short, EPA's interpretation of the PSD and Title V statutes would have Congress commanding States to accomplish "an impossible administrative task." *Id.*

The States already are beginning to bear burdens of reviewing greenhouse gas emissions in administering the Clean Air Act for stationary sources. In *amicus* West Virginia, for example, the inclusion of greenhouse gas emissions as "Best Available Control Technology," for PSD and Title V permits triggered by non-greenhouse-gas pollutants, already has increased the State's administrative burden by approximately five to ten percent, according to the State's internal estimates. If EPA's interpretation of the PSD and Title V frameworks withstands judicial review and carbon dioxide itself triggers PSD and Title V permitting requirements, then West Virginia will also incur the much more substantial costs of reviewing additional permit applications triggered by greenhouse gas emissions.

Those costs will increase over time, especially as EPA revises its tailoring rule downward in years to come, toward the statutory 100 or 250 tons per year thresholds—a trajectory that EPA purports to commit to its own exclusive discretion. See, *e.g.*, J.A. 288 ("we cannot say at this point how close to the statutory thresholds we will eventually reach . . . we do not find it necessary to answer these questions in this rule, and instead we expect to resolve them through future rulemaking").

Of course, regulators are not the only ones who bear the cost of regulation. People and businesses will bear the greatest burdens of this new regulatory program. According to EPA, if greenhouse gas emissions are "pollutants" for PSD purposes, then the annual number of PSD permit applications would increase from 280 to 82,000 sources per year, and "commercial and residential sources—the great majority of which are small businesses—would each incur, on average, almost $60,000 in PSD permitting expenses." J.A. 455. "This result," EPA adds, "would be contrary to Congress's careful efforts to confine

PSD to large industrial sources that could afford these costs." *Id.*

Moreover, EPA's interpretation would place 6.1 *million* sources above the 100 tons per year threshold for purposes of the Title V permit program. J.A. 485. At a per-application cost of $23,175 (for commercial or residential sources) or $46,350 (for industrial sources), EPA's interpretation would cost "a staggering $49 billion per year over a 3 year period"—much of these costs incurred for "relatively little benefit." *Id.* at 487.

The imposition of PSD's and Title V's *ex ante* permitting requirements could also deter or greatly delay the development of new facilities. The permitting process can take up to nearly two years, not counting judicial review of a permit decision. See J.A. 303 (Title V permits). EPA recognizes that under a GHG permitting regime, "the number of PSD permits will be about twice what we estimated at proposal, and the average processing time for both PSD and title V permits will be two or three times greater than what we estimated at proposal." J.A. 385-86. Those delays would be further exacerbated by the time it would take State and local permitting authorities to hire and train an immense new workforce: "it would take the permitting authorities 2 years, on average, to hire the staff necessary to handle a ten-fold increase in PSD permits and a 40-fold increase in title V permits, and that 90 percent of their staff would need additional training in all aspects of permitting for GHG sources." *Id.* at 386. All told, the opportunity costs of permit delays caused by such a vast new regulatory program may be incalculable, but they are certainly enormous.

EPA has not attempted to calculate the total costs that would be imposed by its broad interpretation of "air pollutant" for PSD and Title V purposes. But its analysis suggests that if greenhouse gases are deemed "air pollutants" under these statutes, then the costs of such a program would be astonishing. EPA estimates that just the first two and a half years of applying the PSD and Title V programs to facilities exceeding the statute's 100/250 tons per year emissions thresholds would cost over $193 *billion*. J.A. 647.

Yet EPA candidly admits that if greenhouse gas emissions are "air pollutants" within the meaning of the PSD and Title V statutes and if Congress's volumetric thresholds were enforced, then "the addition of [these] enormous numbers of additional sources would provide *relatively little benefit* compared to the costs to sources and the burdens to permitting authorities." J.A. 356 (emphasis added).

Ultimately, the administrative burdens and economic costs may threaten the sustainability of the Clean Air Act's "cooperative federalism" character. Congress created the Act's PSD and Title V programs to be "an experiment in cooperative federalism." *Michigan* v. *EPA*, 268 F.3d 1075, 1083 (D.C. Cir. 2001); see also *Luminant Generation Co.* v. *EPA*, 675 F.3d 917, 921 (5th Cir. 2012) (same). But by expanding the PSD and Title V programs to cover greenhouse gas emissions, and thus forcing States to bear millions or billions of dollars in new administrative burdens, EPA risks transforming these programs from "cooperative federalism" to national micromanagement.

Just weeks after promulgating the Timing and Tailoring Rules, EPA published a proposed "SIP Call," indicating that thirteen EPA-approved State implementation plans (SIPs) were inadequate to implement EPA's new greenhouse gas requirements. 75 Fed. Reg. 53892 (Sept. 2, 2010). That list included several of the Petitioner and *Amici* States in this case. *Id.* at 53899. EPA finalized that rule just months later, demanding that the States update their SIPs to cover greenhouse gas emissions. 75 Fed. Reg. 77698 (Dec. 13, 2010). When Texas failed to revise its SIP to EPA's satisfaction, EPA replaced Texas's SIP with a Federal Implementation Plan (FIP). 76 Fed. Reg. 25178 (May 3, 2011).

Of course, EPA's power to impose a FIP and displace a State's program, in a particular case, does not by itself signal the end of cooperative federalism; after all, the Clean Air Act does provide for FIPs. But as a practical matter, the magnitude of the burden that the States face under EPA's re-interpretation of the PSD and Title V programs, among others, places the Act's cooperative federalism "experiment" under unprecedented strain. Cf. Patrick Morrisey, Attorney General of West Virginia, *et al.*, *Last Call For Cooperative Federalism? Why EPA Must Withdraw SIP Call Proposal On Startup, Shutdown, and Maintenance*, Washington Legal Foundation Legal Backgrounder (Sept. 13, 2013). Many States, including Petitioners and *Amici* States, have apprised EPA that the "recent increase in the level of federal regulatory activity under the Clean Air Act has generated a corresponding increase in concerns among the States regarding the preservation of their role in environmental protection." Jon Bruning, Attorney General of Nebraska, *et al.*, *Perspective of*

18 States on Greenhouse Gas Emission Performance Standards for Existing Sources under § 111(d) of the Clean Air Act 1-2 (Sept. 11, 2013).

The Act requires none of these problems. When EPA's interpretation of "any air pollutant" would require States to carry out "an impossible administrative task," J.A. 551, EPA should consider seriously the possibility that its interpretation of the statute is fundamentally wrong.[7]

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[7] Such caution is particularly warranted when the agency is establishing a regulatory model that may be difficult or impossible to later replace with market-based reforms. EPA noted in its 2008 advance notice of proposed rulemaking that market mechanisms, "when well-suited to the environmental problem, offer important advantages over non-market-oriented approaches." 73 Fed. Reg. 44354, 44409 (July 30, 2008). But the institution of non-market regulatory regimes can entrench interests that become very difficult to overcome. See, *e.g.*, Todd J. Zywicki, *Environmental Externalities and Political Externalities: The Political Economy of Environmental Regulation and Reform*, 73 Tul. L. Rev. 845, 915 (1999) ("Deregulation . . . may come about only if the distributive consequences to entrenched interest groups and politicians is large enough to offset the rents they are sacrificing."); Nathaniel O. Keohane *et al.*, *The Choice of Regulatory Instruments in Environmental Policy*, 22 Harv. Envtl. L. Rev. 313, 365 (1998) ("aggregate demand for a market-based instrument is likely to be greatest (and the opportunity costs of legislator support is likely to be least) when the environmental problem has not previously been regulated").

III. The "Absurd Results" Doctrine Does Not Allow EPA To Save Itself From Absurdities Of Its Own Making, Nor Does It Free EPA To Alleviate The "Absurdity" By Any Means That It Chooses

In re-interpreting the PSD and Title V statutes to include greenhouse gas emissions as "air pollutants," EPA recognized that its interpretation was incompatible with the statutory 100/250 tons per year thresholds triggering the statutes' permitting requirements. J.A. 447-502. But EPA's nominal effort to cabin and correct this absurdity, through the Tailoring Rule, fails to consider that these were absurd results of EPA's making, not Congress's. Cf. J.A. 454-55 ("It is not too much to say that applying PSD requirements literally to GHG sources at the present time . . . would result in a program that would have been unrecognizable to the Congress that designed PSD").

As explained below, an agency cannot invoke the "absurd results" doctrine to remedy absurdities of the agency's own making, any more than the patricidal defendant can invoke the court's mercy as an orphan. And in the rare cases where the doctrine's application actually is warranted, it requires a court to select the alternative statutory construction that does the *least* violence to Congress's enacted text. EPA's failure to heed both of these doctrinal limitations illustrates the fundamental constitutional problems inherent in allowing agencies a free hand to re-write statutes to solve problems that the agency itself created.

A. The "Absurd Results" Doctrine Does Not Apply When The "Absurdity" Results From The Agency's Untenable Interpretation Of The Statute

The "absurd results" doctrine is a narrow exception to the normal rules of statutory construction. Courts and agencies must "begin with the understanding that Congress says in a statute what it means and means in a statute what it says there[.]" *Hartford Underwriters Ins. Co.* v. *Union Planters Bank, N.A.*, 530 U.S. 1, 6 (2000) (quotation marks omitted). Thus, "when the statute's language is plain, the sole function of the courts—at least where the disposition required by the text is not absurd—is to enforce it according to its terms." *Id.* (quotation marks omitted).

The absurd results exception that the Court noted parenthetically is limited strictly. The Constitution commits the legislative power to Congress, not to agencies or courts. Thus, resort to the absurd results doctrine to "override the literal terms of a statute" is appropriate "only under rare and exceptional circumstances." *Crooks* v. *Harrelson*, 282 U.S. 55, 60 (1930); see also *Barnhart* v. *Sigmon Coal Co., Inc.*, 534 U.S. 438, 441 (2002) ("the Court rarely invokes such a test to override unambiguous legislation"). In those rare cases where Congress's intentions are embodied in generally stated laws that, if applied literally, would direct results plainly at odds with Congress's intent and understanding of the law, it falls to the courts to employ a limiting construction to avoid such results.

But in doing so, the courts must take care not to put the cart before the horse. The absurd results doctrine applies only when the absurdity in question is the product of a statute's *unambiguous* direction. When an interpretation of ambiguous text produces absurd results, those results should signal that the statute's "proper scope" has been misconstrued to begin with. *Pub. Citizen* v. *U.S. Dep't of Justice*, 491 U.S. 440, 454 (1989).[8]

In this case, EPA's interpretation of the statute produces results so absurd that they would be "unrecognizable to the Congress that designed" the statute. J.A. 454-55. But EPA fails to take the next obvious step of asking whether these results cast doubt upon its interpretation of "air pollutant" for purposes of PSD and Title V. The fact that Congress could not possibly have intended the specific 100/250 tons per year threshold to apply to greenhouse gases proves that the agency misinterpreted the Act's general "any air pollutant" phrase, not that Congress intended EPA to have broader discretion to address the matter in spite of the statutes.

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[8] See also *Chem. Mfrs. Ass'n* v. *Natural Res. Def. Council*, 470 U.S. 116, 125-26 (1985) (because the "broadest sense" of a statutory phrase leads to a nonsensical result, that statutory phrase "has no plain meaning" for purposes of *Chevron*'s Step One); *Chapman* v. *United States*, 500 U.S. 453, 476 (1991) (Stevens, J., dissenting) ("There is nothing in our jurisprudence that compels us to interpret an ambiguous statute to reach such an absurd result."); *Nixon* v. *Mo. Mun. League*, 541 U.S. 125, 144 (2004) (Stevens, J., dissenting) ("Before nullifying Congress' evident purpose in an effort to avoid hypothetical absurd results, I would first decide whether the statute can reasonably be read so as to avoid such absurdities, without casting aside congressional intent.").

EPA should have relinquished its preferred interpretation and accepted an interpretation that makes sense of the *whole* statutory scheme. Here, as elsewhere, "EPA may not construe the statute in a way that completely nullifies textually applicable provisions meant to limit its discretion." *Whitman* v. *Am. Trucking Ass'ns*, 531 U.S. 457, 485 (2001). If EPA had interpreted "any air pollutant" in the PSD context as covering only regulated pollutants that deteriorate local air quality—which EPA itself recognizes was "the basic purpose" of the PSD and Title V statutes (J.A. 427)—then the results would not have been absurd.

B. The Absurd Results Doctrine Requires A Court To Select The Limiting Construction That Does The Least Violence To The Statute

Proceeding from the mistaken premise that the term "air pollutant," in the PSD and Title V context, necessarily includes greenhouse gas emissions, the agency attempts to redress the absurd consequences of its interpretation by effectively amending Congress's statute. And the court of appeals, proceeding from the mistaken premise that *Massachusetts* v. *EPA* controlled the interpretation of "air pollutant" in this context, agreed. In a profound understatement, the court acknowledged the strain that EPA's interpretation of "air pollutant" puts on the cohesiveness of the PSD and Title V programs as a whole: "That EPA adjusted the statutory thresholds to accommodate regulation of greenhouse gases emitted by stationary sources may indicate that the [Clean Air Act] is a regulatory scheme less-than-perfectly tailored to dealing with greenhouse gases." J.A. 205.

Even if the court and EPA were correct that Congress's choice of terms, rather than EPA's interpretation of those terms, is what gave rise to the absurd results, the appropriate remedy would be to adopt the narrowing construction that "does *least* violence to the text." *Green* v. *Bock Laundry Mach. Co.*, 490 U.S. 504, 529 (1989) (Scalia, J., concurring in the judgment).[9] This ensures the doctrine's core purpose of preserving legislative intent in the face of a result Congress could not possibly have intended. See *Pub. Citizen*, 491 U.S. at 471 (Kennedy, J., concurring); see also *Mova Pharm. Corp.* v. *Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998) ("When the agency concludes that a literal reading of a statute would thwart the purposes of Congress, it may deviate no further from the statute than is needed to protect congressional intent.").

In this case, if EPA had been correct that the absurd results were of Congress's making rather than EPA's, then the best option would have been the simplest one: not to negate plainly stated numerical thresholds, but rather to adjust the construction of "any air pollutant" to cover only "pollutants" that actually deteriorate local air quality—which, EPA itself notes, was "the basic purpose" of Congress in enacting the statute. J.A. 427. Such construction "adds a qualification that the [phrase] does not contain but . . . does not give the [phrase] a meaning . . . it simply will not bear." *Bock Laundry*, 490 U.S. at 529 (Scalia, J., concurring in the judgment). As the lower court acknowledged, "nothing in the [Clean Air Act] requires regulation of a substance simply because it qualifies as an 'air pollutant' under this broad definition." J.A. 238. Moreover, the term "air pollutant" is, "in some contexts, capable of narrower interpretations." *Id.* at 251. Extending the narrower interpretation to the very same term in § 7479(1) requires the least statutory revision and is the most consistent Congress's decision to legislate one set of thresholds for all "air pollutants." It would avoid all of the unintended consequences that flow from EPA's interpretation of the Act.

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[9] See also *id.* at 533 (Blackmun, J., dissenting) (urging an interpretation that does least violence to the Congress's intent); *Mova Pharm. Corp.* v. *Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998) (invalidating a rule that avoided absurd results but was "gravely inconsistent with the text and structure of the statute," rejecting the agency's "adventurous transplant operation in response to blemishes in the statute that could have been alleviated with more modest corrective surgery").

But instead of choosing the narrowest alternative construction of "any air pollutant," EPA insisted on the *broadest* possible construction of that term, despite the cascade of absurdities that result and the more drastic regulatory fixes necessary to remedy them. To shoehorn its interpretation of "any air pollutant" into this context, EPA substituted its own greenhouse-gas-specific emissions limit for

Congress's clear thresholds, completely negating the thresholds that Congress had carefully devised.[10]

Moreover, in insisting upon its interpretation of the Act's more general term ("air pollutant") and adjusting the Act's specific numerical thresholds, EPA ignored this Court's caution that the absurd results doctrine allows only for slight adjustment to a statute's "[g]eneral terms," *United States* v. *Kirby*, 74 U.S. 482, 486 (1868), not wholesale revisions of its *specific* terms. This limitation, too, is intended to preserve the supremacy of congressional intent, by limiting the potential for courts and agencies to encroach on legislative intent. See *Holy Trinity Church* v. *United States*, 143 U.S. 457, 459 (1892).[11]

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[10] See also D. Wiley Barker, *The Absurd Results Doctrine,* Chevron, *and Climate Change*, 26 BYU J. Pub. L. 73, 97 (2012) (concluding that EPA's approach in this case "does the most violence to the statutory language by changing the clear numbers of the statute"); Katherine Kirklin O'Brien, *Beyond Absurdity: Climate Regulation and the Case for Restricting the Absurd Results Doctrine*, 86 Wash. L. Rev. 635, 653 (2011) ("EPA's Tailoring Rule may represent the broadest interpretation of the absurd results doctrine to date, as it revises unambiguous, numerical statutory standards").

[11] As the Court explained in *Holy Trinity Church*:

> This is not the substitution of the will of the judge for that of the legislator; for frequently words of general meaning are used in a statute, words broad enough to include an act in question, and yet a consideration of the whole legislation, or of the circumstances surrounding its enactment, or of the absurd results which follow from giving such broad meaning to the

In this case, by contrast, EPA has substituted its own will for that of Congress in the most egregious way—by construing a general statutory term so as to force an alteration of Congress's specific numerical standard—an alteration that "satisf[ies] the policy preferences of the [agency]," but that presumes to decide unilaterally "battles that should be fought among the political branches and the industry." *Barnhart*, 534 U.S. at 462 (2002).

EPA cannot say that all of this was done in the interests of preserving Congress's literal words, "any air pollutant." For even after rewriting the emissions threshold, EPA's position still relies upon construing "any air pollutant" to mean any "*regulated* pollutant," in order to avoid bringing facilities within the purview of PSD based solely on their emissions of harmless chemicals. J.A. 237-38.[12]

In sum, EPA surveyed the plausible alternative constructions of the statute, and chose the one that does the most violence to the Act—and that maximizes EPA's own power and discretion at the

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> words, makes it unreasonable to believe that the legislator intended to include the particular act.

Holy Trinity Church, 143 U.S. at 459.

[12] That construction of "air pollutant" also results in the Act requiring the "useless" exercise of collecting "continuous [GHG] air quality monitoring data" for every designated area, even though GHGs dissipate into the global atmosphere and do not measurably alter ambient air quality. See Brief of Util. Air Regulatory Group at 27.

expense of the States. If the Act itself gives rise to absurd results, all of those unintended consequences can and must be avoided by a limiting construction of "any air pollutant" to refer only to pollutants that actually deteriorate local air quality.

* * *

This case demonstrates the risk inherent in expanding the absurd results doctrine to allow agencies to revise congressional statutes as EPA did here. An agency motivated to regulate in a manner inconsistent with the express intent of Congress has a clear incentive to identify "plain meanings" and "absurd results" in the legislative text where the text may in fact be ambiguous and the alleged absurdities illusory. As Publius noted, executive departments exercise not "merely judgment," but "force," The Federalist No. 78 (Alexander Hamilton). For that very reason, courts must take care to "keep agencies tethered to Congress and to our representative system of government." David S. Tatel, *The Administrative Process and the Rule of Environmental Law*, 34 Harv. Envtl. L. Rev. 1, 7 (2010). EPA has "programs it is eager to execute. But those programs will be legitimate—and will be sustained in court—only if their implementation conforms to the rule of law." *Id.* at 8.

When EPA nullifies Congress's plainly stated volumetric thresholds and replaces them with new thresholds of the agency's own making, EPA becomes the author of the laws it administers. This "violate[s] a fundamental principle of separation of powers—that the power to write a law and the power to interpret it cannot rest in the same hands." *Decker* v. *Nw. Envtl. Def. Ctr.*, 133 S. Ct. 1326, 1341 (2013)

(Scalia, J. concurring in part and dissenting in part) (citing Montesquieu, *Spirit of the Laws* bk. XI, ch. 6, pp. 151–152 (O. Piest ed., T. Nugent transl. 1949)).

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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December 16, 2013

AMICUS
CURIAE
BRIEF

RECORD
AND
BRIEFS

Nos. 12-1146, 12-1248, 12-1254,
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In the

Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, *et al.*,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

**On Writ of Certiorari to the United States
Court of Appeals for the District of Columbia Circuit**

BRIEF OF AMICI CURIAE SENATOR MITCH MCCONNELL AND OTHER MEMBERS OF THE UNITED STATES CONGRESS IN SUPPORT OF PETITIONERS

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INTEREST OF AMICI CURIAE[1]

Amicus curiae Mitch McConnell is the Senate Republican Leader. Other amici curiae are Senator Rand Paul; United States Representatives Andy Barr, Brett Guthrie, Thomas Massie, Hal Rogers, Ed Whitfield; and United States Representative Lamar Smith, Chairman of the House Committee on Science, Space, and Technology.

As the Senate Republican Leader, the Chairman of a House Committee having legislative jurisdiction over the policy matters at issue in this case, and Members of Congress, amici have a significant interest in protecting Congress's exclusive constitutional prerogative to legislate national policy through its exclusive constitutional authority to enact, amend, and repeal statutes. In this case, the Environmental Protection Agency ("EPA") has usurped Congress's exclusive authority by improperly exercising legislative power and unilaterally amending a statute.

Furthermore, amici represent States and congressional districts whose citizens have been adversely affected by the costly, controversial, and unlawful regulation at issue in this case. Amici's constituents' ability to participate in the democratic lawmaking process through their elected officials in

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[1] The parties' letters consenting to the filing of amicus briefs are on file with the Court. *See* SUP. CT. R. 37.3(a). No counsel for any party authored this brief in whole or in part, nor did any person or entity, other than amici or their counsel, make a monetary contribution to the preparation or submission of this brief. *See* SUP. CT. R. 37.6.

Congress has been undermined by the EPA's actions, and their lives and livelihoods have been harmed by it.

INTRODUCTION AND SUMMARY OF ARGUMENT

In this case the EPA has construed specialized provisions of the Clean Air Act designed to regulate a limited number of air pollutants for which the EPA has established "National Ambient Air Quality Standards" to apply to *any* airborne compound regulated under *any* provision of the Clean Air Act, including carbon dioxide and other greenhouse gases. To avoid the sweeping costs and staggering administrative burdens resulting from its expansive interpretation, the EPA effectively *amended* specific, numerical permitting thresholds that Congress itself had unambiguously written into the Clean Air Act.

This the EPA cannot do. Our Constitution reserves the power to enact, amend, or repeal statutes to Congress alone. *See, e.g.*, *Clinton v. City of New York*, 524 U.S. 417 (1998). To be sure, the EPA, like many other agencies, has been delegated authority to promulgate rules that *implement* the will of Congress as expressed by statute, and it may do so by filling in the details of general legislative commands and clarifying ambiguous statutory provisions. But neither the EPA nor any other entity in the Executive Branch may *override* the will of Congress by amending or disregarding specific, unambiguous statutory text. *See, e.g.*, *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 213-14 (1976); *INS v. Chadha*, 462 U.S. 919, 953 n.16 (1983). As Justice Frankfurter explained:

> It is one thing to draw an intention of Congress from general language and to say that Congress would have explicitly written what is inferred, where Congress has not addressed itself to a specific situation. It is quite impossible, however, when Congress did specifically address itself to a problem , . . . to find secreted in the interstices of legislation the very grant of power which Congress consciously withheld. To find authority so explicitly withheld is not merely to disregard in a particular instance the clear will of Congress. It is to disrespect the whole legislative process and the constitutional division of authority between President and Congress.

Youngstown Sheet & Tube Co. v. Sawyer, 343 U.S. 579, 609 (1952) (Frankfurter, J., concurring).

The power claimed by EPA to amend specific, unambiguous provisions of a duly enacted statute not only intrudes on the lawmaking authority reserved by the Constitution to Congress, it also obscures accountability for significant policy decisions, such as the controversial and costly regulation at issue here. *See, e.g., Loving v. United States*, 517 U.S. 748, 757-58 (1996). More important still, the power claimed by the EPA threatens to undermine our liberty, which "is always at stake when one or more of the branches seek to transgress the separation of powers." *Clinton*, 524 U.S. at 450 (Kennedy, J., concurring).

ARGUMENT

I. Background

As explained in detail by petitioners, this case involves the Prevention of Significant Deterioration ("PSD") program of the Clean Air Act, codified in sections 7420 to 7479 of Title 42. This program is designed to control emissions by stationary sources of pollutants for which the EPA has established National Ambient Air Quality Standards. To date the EPA has established standards for six air pollutants, which are referred to as NAAQS pollutants. Specifically at issue here are provisions of the PSD program that require certain specified stationary facilities to obtain permits before beginning new construction if they "emit, or have the potential to emit, one hundred tons per year or more of any air pollutant," and which impose the same permitting requirement on "any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant." 42 U.S.C. § 7479(1) (defining "major emitting facility"); *see also id.* § 7475(a)(1) (imposing permitting requirement on major emitting facilities).

In the context of the Clean Air Act's motor vehicle emissions program, this Court interpreted the phrase "air pollutant" to include "all airborne compounds of whatever stripe"—regardless of their potential for harm. *Massachusetts v. EPA*, 549 U.S. 497, 528-29 (2007). The EPA has never interpreted the *stationary source* provisions at issue here, however, to require permits for facilities that emit 100 (or 250) tons per year of any sort of airborne compound, no matter how harmless. And all agree that this is correct—to read the statute to require permits for every stationary facility that emits 100 (or 250) tons per year of a harmless airborne compound (steam, for example) would impose untold costs on countless facilities that in no way endanger ambient air quality.[2]

Rather, the dispute in this case is whether the stationary source provisions should be read to apply to air pollutants regulated under any program of the Clean Air Act, or to apply only to the NAAQS pollutants that are the target of the PSD program. For the reasons set forth by Judge Kavanaugh in his dissent from the denial of rehearing en banc, *see* Joint Appendix ("J.A.") 170-190, amici agree with petitioners that the latter reading is correct.

The EPA, however, adopted the former reading, and in order to mitigate the enormous practical problems created by that interpretation, it claimed the power to rewrite the very specific numerical thresholds set forth in the statute that trigger the permitting requirement under the PSD program. Thus, the EPA determined that facilities that emit greenhouse gases (which are not NAAQS pollutants but which are newly regulated under the motor vehicle emissions program) will be subject to the permitting requirement not if they emit or have the potential to emit *100 (or 250) tons per year* of greenhouse gases, but only if they emit or have the potential to emit *100,000 tons per year* of such gases. *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 75 Fed. Reg. 31514, 31516 (June 3, 2010). What is more, the EPA claimed the power to make further alterations to these numerical thresholds on an ongoing basis. *See id.* at 31516-17. It is the EPA's startling assertion of the legislative power to rewrite (and continue to rewrite) statutes that is addressed in the balance of this brief.

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[2] The motor vehicles emissions program at issue in *Massachusetts v. EPA* did not regulate all "air pollutants," but only such air pollutants that the EPA determined "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 549 U.S. at 506 n.7 (quoting 42 U.S.C. § 7521(a)(1)).

II. The Constitution Bars EPA from Rewriting a Duly Enacted Statute.

The Constitution does not authorize the President to enact, to amend, or to repeal statutes. *Clinton*, 524 U.S. at 438. To the contrary, "[t]he Founders of this Nation entrusted the law making power to the Congress alone." *Youngstown Sheet*, 343 U.S. at 589. To be sure, "some administrative agency action—rule making, for example—may resemble 'lawmaking.' " *Chadha*, 462 U.S. at 953 n.16. But such "administrative activity cannot reach beyond the limits of the statute" authorizing it. *Id.* In this case, however, the EPA seeks to arrogate to itself the power to amend specific statutory terms established by Congress, and to continue to revise those terms on an ongoing, ad hoc basis. It thus asserts power "not merely to disregard in a particular instance the clear will of Congress," but "to disrespect the whole legislative process and the constitutional division of authority between President and Congress." *Youngstown Sheet*, 343 U.S. at 609 (Frankfurter, J., concurring). Not only does the EPA's action usurp the authority to make "important choices of social policy" from "the branch of our Government most responsive to the popular will," *Industrial Union Dep't v. American Petroleum*

Inst., 448 U.S. 607, 685 (1980) (Rehnquist, J., concurring in judgment), it also undermines the separation of governmental powers that our Constitution deems "essential to the preservation of liberty." THE FEDERALIST No. 51, at 321 (James Madison) (Clinton Rossiter ed., 1961).

A. Our Constitution Reserves the Legislative Power to Congress.

1. The Constitution explicitly defines the respective roles of the Congress and of the Executive in the legislative process. *Chadha*, 462 U.S. at 945. Article I provides that "[a]ll legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives." U.S. CONST. art. I, § 1. "This text permits no delegation of those powers." *Whitman v. American Trucking Assoc.*, 531 U.S. 457, 472 (2001). By contrast, Article I grants the Executive only a limited role in the lawmaking process: before bills passed by Congress may become law, they must "be presented to the President of the United States," who may "sign" bills that he "approve[s]" or "return" (veto) bills to which he objects. U.S. CONST. art. I, § 7. Article I further qualifies this check granted the President on Congress: if a bill returned by the President is reconsidered and approved by two thirds of each House of Congress, "it shall become a Law." *Id.*[3]

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[3] As a technical matter, it appears that the Framers regarded the President's role in approving or returning bills as a check on the Legislative power, not as part of that power *per se*. As James Wilson explained at the Pennsylvania ratifying convention:

The history of the framing and ratification of the Constitution leave no doubt not only that "the prescription for legislative action in Article I, §§ 1, 7 represents the Framers' decision that the legislative power of the Federal government be exercised in accord with a single, finely wrought and exhaustively considered, procedure," *Chadha*, 462 U.S. at 951, but also that "[t]hese provisions of Article I are integral parts of the constitutional design for the separation of powers," *id.* at 946.

In addition to his Article I power to sign or return bills, the President's only other constitutionally mandated role in the legislative process is to "recommend to [Congress's] Consideration such Measures as he shall judge necessary and expedient." U.S. CONST. art II, § 3. But this power, "granted

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> Sir, the Convention observed, on this occasion, strict propriety of language: "If he approve the bill, when it is sent, he shall sign it, but if not, he shall return it;" but no bill passes in consequence of having his assent: therefore, he possesses no legislative authority.
>
> The *effect* of this power, upon this subject, is merely this: if he disapproves a bill, two thirds of the legislature become necessary to pass it into a law, instead of a bare majority. And when two thirds are in favor of the bill, it becomes a law, not by his, but by authority of the two houses of the legislature.

2 THE DEBATES IN THE SEVERAL STATE CONVENTIONS ON THE ADOPTION OF THE FEDERAL CONSTITUTION 473 (Jonathan Elliot ed., 1901). Alexander Hamilton likewise described the President's ability to veto a bill not as legislative power, but as "a salutary check upon the legislative body." THE FEDERALIST No. 73, at 443 (Alexander Hamilton) (Clinton Rossiter ed., 1961).

to the President, serves only to emphasize that it is his function to recommend and that it is the function of the Congress to legislate." *Youngstown Sheet*, 343 U.S. at 632 (Douglas, J., concurring). The Constitution thus expressly limits the President's role in the lawmaking process: he can only recommend laws and veto bills; he cannot make a law himself. *Id.* at 587 (majority); *see also id.* at 655 (Jackson, J., concurring).

More generally, Article II mandates that the President "shall take Care that the Laws be faithfully executed." U.S. CONST. art. II, § 3. And the President can execute only duly enacted laws. *Youngstown Sheet*, 343 U.S. at 587; *see also id.* at 633 (Douglas, J., concurring) ("the power to execute the laws starts and ends with the laws Congress has enacted"). Thus, as this Court explained in the landmark *Steel Seizure Case*, which struck down an executive order purporting to authorize the seizure of steel mills without statutory approval, "[i]n the framework of our Constitution, the President's power to see that the laws are faithfully executed refutes the idea that he is to be a lawmaker." 343 U.S. at 587; *accord Chadha*, 462 U.S. at 953 n.16.

In short, the Constitution separates the power to make law from the duty to execute the law. And "[t]he Founders of this Nation entrusted the law making power to the Congress alone." *Youngstown Sheet*, 343 U.S. at 589. It follows that the President may not enact law. The Constitution just as surely prohibits "unilateral Presidential action that either repeals or amends parts of duly enacted statutes," *Clinton*, 524 U.S. at 439, for it is well settled that "[a]mendment and repeal of statutes, no less than enactment, must conform with Article I," *Chadha*, 462 U.S. at 954. Indeed, in *Clinton v. City of New York* this Court struck down provisions of the Line Item Veto Act purporting to authorize the President to "cancel" certain types of duly enacted tax and spending measures. 524 U.S. at 436. As this Court explained, "[t]here is no provision in the Constitution that authorizes the President to enact, to amend, or to repeal statutes." *Id.* at 438.[4]

2. To be sure, although Article I makes clear "that the lawmaking function belongs to Congress, and may not be conveyed to another branch or entity," *Loving*, 517 U.S. at 758 (citation omitted), it does not follow "that only Congress can make a rule of prospective force," *id.* "To burden Congress with all federal rulemaking would divert that branch from more pressing issues, and defeat the Framers' design of a workable National Government." *Id.*; *see also id.* (quoting 5 WORKS OF THOMAS JEFFERSON 319 (P. Ford ed., 1904) (letter to E. Carrington, Aug. 4, 1787)) ("Nothing is so embarrassing nor so mischievous in a great assembly as the details of execution."). This Court has thus long since concluded that separation of powers principles "do not prevent Congress from obtaining the assistance of its coordinate Branches." *Mistretta v. United States*, 488 U.S. 361, 372 (1989). And "Congress has found it frequently

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[4] Indeed, though the Constitutional Convention ultimately granted the President a qualified veto over legislation, it unanimously rejected a proposal that would have allowed the President the power even temporarily "to suspend any legislative act." 1 THE RECORDS OF THE FEDERAL CONVENTION OF 1787, at 103-04 (Max Farrand ed., 1911).

necessary to use officers of the executive branch within defined limits, to secure the exact effect intended by its acts of legislation, by vesting discretion in such officers to make public regulations interpreting a statute and directing the details of its execution . . . ." *J.W. Hampton, Jr., & Co. v. United States*, 276 U.S. 394, 406 (1928).

While this Court has thus permitted Congress to delegate some authority that it could exercise itself, *Loving*, 517 U.S. at 758, it has nonetheless made clear that "rulemaking power granted to an administrative agency charged with the administration of a federal statute is not the power to make law," *Ernst & Ernst*, 425 U.S. at 213. "Rather, it is the power to adopt regulations to carry into effect the will of Congress as expressed by the statute." *Id.* at 213-14 (quotation marks omitted).

The vast majority of this Court's cases upholding congressional delegations of authority that Congress could exercise itself have followed the pattern of *Wayman v. Southard*, 23 U.S. (10 Wheat.) 1 (1825), a seminal case in which this Court held, in an opinion written by Chief Justice Marshall, that Congress may establish "general provision[s]" by statute and delegate "power . . . to those who are to act under such general provisions to fill up the details." *Id.* at 43. As then Justice Rehnquist observed a century-and-a-half later, these cases have addressed circumstances where Congress has enacted statutes that "lay down the general policy and standards that animate the law," leaving those assigned to administer the statutes "to refine those standards, 'fill in the blanks,' or apply the standards to particular cases." *Industrial Union Dep't*, 448 U.S. at 675 (Rehnquist, J., concurring in judgment).[5] In all of these cases, this Court has required that "Congress shall lay down by legislative act an intelligible principle to which the person or body authorized to [administer the statute] is directed to conform." *J.W. Hampton, Jr., & Co.*, 276 U.S. at 409. This requirement enforces the constitutional requirement that Congress may not delegate the power to make laws but may only delegate the authority to take actions, including making rules, that implement its statutes. *Loving*, 517 U.S. at 771.

In a handful of cases dating back to the *Brig Aurora v. United States*, 11 U.S. (7 Cranch) 382 (1813), this Court has also upheld statutes permitting the Executive to suspend, alter, or cause to take effect provisions set forth in the statute itself, but only if a legislatively specified finding has been made. Almost without exception, however, these cases have addressed statutes governing foreign relations, a field in which the President has broad constitutional authority under Article II that "does not require as a basis for its exercise an act of Congress." *United States v. Curtiss-Wright Export Corp.*, 299 U.S. 304, 320 (1936). As this Court has recognized, "congressional legislation . . . within the international-al field must often accord to the President a degree of discretion and freedom from statutory restriction which would not be admissible were domestic affairs alone involved." *Id.*; *accord Clinton*, 524 U.S. at 445; *see also Marshall Field & Co. v. Clark*, 143 U.S. 649, 691 (1892). *Marshall Field & Co.* and *J.W. Hampton, Jr. & Co.*, for example, both upheld tariffs that could be suspended and reinstated, or raised and lowered, based upon the President's finding of certain facts involving international commerce.

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[5] Examples of such cases abound. *See, e.g.*, *Whitman*, 531 U.S. 457; *Loving*, 517 U.S. 748; *Touby v. United States*, 500 U.S. 160 (1991); *Skinner v. Mid-America Pipeline Co.*, 490 U.S. 212 (1989); *Mistretta*, 488 U.S. 361; *FEA v. Algonquin SNG, Inc.*, 426 U.S. 548 (1976); *Lichter v. United States*, 334 U.S. 742 (1948); *American Power & Light Co. v. SEC*, 329 U.S. 90 (1946); *Yakus v. United States*, 321 U.S. 414 (1944); *NBC v. United States*, 319 U.S. 190 (1943); *New York Central Secs. Corp. v. United States*, 287 U.S. 12 (1932).

More important, in all of the cases of this type, the President's action "was simply in execution of the act of Congress. It was not the making of law. He was the mere agent of the law-making department to ascertain and declare the event upon which its expressed will was to take effect." *Marshall Field & Co.*, 143 U.S. at 693; *accord J.W. Hampton, Jr., & Co.*, 276 U.S. at 410-11. This understanding of the constitutional limitations on the Executive's regulatory power was echoed more recently in *Clinton v. City of New York*. The Court distinguished the unfettered executive authority to cancel duly enacted tax and spending measures at issue there from the statutes upheld in prior cases in which "Congress itself made the decision to suspend or repeal the particular provisions at issue upon the occurrence of particular events subsequent to enactment, and it left only the determination of whether such events occurred up to the President." 524 U.S. at 445. The cases thus uniformly establish not that Congress may "delegate its power to make a law," but only that it "can make a law to delegate a power to determine some fact or state of things upon which the law makes, or intends to make, its own action depend." *Marshall Field & Co.*, 143 U.S. at 694.[6]

In short, although some administrative action may resemble lawmaking, and although this Court has sometimes described such action as "quasi-legislative," *Chadha*, 462 U.S. at 953 n.16, such administrative authority "is not the power to make law," *Ernst & Ernst*, 425 U.S. at 213. An Agency's "administrative activity cannot reach beyond the limits of the statute that created it," *Chadha*, 462 U.S. at 953 n.16, and the "scope" of any rules it promulgates "cannot exceed the power granted [it] by Congress," *Ernst & Ernst*, 425 U.S. at 214. Thus, executive action, even performed under delegated authority, must adhere to the dictates of the underlying statute, and "[t]he courts, when a case or controversy arises, can always ascertain whether the will of Congress has been obeyed and can enforce adherence to statutory standards." *Chadha*, 462 U.S. at 953 n.16 (quotation marks and citation omitted).

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[6] As this Court explained, the power to legislate conditionally is an essential part of Congress's law making authority:

> To assert that a law is less than a law, because it is made to depend on a future event or act, is to rob the legislature of the power to act wisely for the public welfare whenever a law is passed relating to a state of affairs not yet developed, or to things future and impossible to fully know.

Id. (quotation marks omitted).

B. The EPA Has Improperly Arrogated to Itself the Legislative Power.

As explained above, *see supra* Part I, the EPA has in this case effectively *amended* a duly enacted statute, purporting to alter—indeed to increase by a magnitude of *40 to 100* times—specific numerical thresholds expressly established by Congress itself. More startling still, the EPA has expressly claimed the power to make additional changes to the statutory thresholds on an ongoing, ad hoc basis. Far from a permissible exercise of rulemaking authority, the EPA's action on its face constitutes an impermissible attempt by an Executive agency to exercise Legislative authority in violation of Article I of the Constitution and well settled separation of power principles.

This is not a case like *Wayman* and its numerous progeny where an agency has simply "fill[ed] up the details" of "general provisions" established by Congress. *Wayman*, 23 U.S. (10 Wheat.) at 43. Rather, the EPA has purported to *alter* specific details of a statutory scheme that Congress itself elected to establish in black and white. Nor is this a case like the *Brig Aurora* and similar cases where Congress has authorized the Executive to suspend or alter a statutory term *if a legislatively specified finding has been made*. Leaving aside the obvious constitutional differences between the Clean Air Act and the statutes governing foreign relations at issue in the cases like the *Brig Aurora*, nothing in the Clean Air Act remotely authorizes the EPA to alter or suspend the specific statutory thresholds at issue here.

It is thus clear that the power asserted by the EPA here is nothing less than a "unilateral power to change the text of duly enacted statutes." *Clinton*, 524 U.S. at 447. The exercise of such power by the Executive Branch cannot be reconciled with constitutional precept, practice, or precedent. *See, e.g.*, *id.* at 439; *Chadha*, 462 U.S. at 953 n.16; *Ernst & Ernst*, 425 U.S. at 214. Indeed the unilateral, unbounded power claimed by the EPA in this case goes well beyond the item veto power invalidated in *Clinton v. City of New York*, which Congress had expressly authorized by statute and which was limited to specific tax and spending measures.

The EPA's attempt to rewrite the specific statutory thresholds established by Congress not only contradicts, but defies, well-settled delegation principles and fundamental precepts of administrative law. Again, rulemaking power is simply "the power to adopt regulations to carry into effect the will of Congress as expressed by the statute." *Ernst & Ernst*, 425 U.S. at 213-4. Accordingly, an agency may promulgate regulations only to address matters that Congress has left for it to decide. *See Chevron v. National Res. Def. Council, Inc.*, 467 U.S. 837, 843-44 (1984). Thus, "[i]f Congress has explicitly left a gap for the agency to fill, there is an express delegation of authority to the agency to elucidate a specific provision of the statute by regulation." *Id.* This Court has further held that where a statute "is silent or ambiguous with respect to [a] specific issue," *id.* at 843, there is an "implicit" delegation to the agency to address that "particular question," *id.* at 844. But where "Congress has directly spoken to the precise question at issue. . . , that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 842-43. The unambiguous, specific numerical thresholds established by the Clean Air Act thus demonstrate that Congress did not delegate to the EPA any authority to alter those provisions. In addition, the EPA's asserted power to amend specific numerical thresholds of the Clean Air Act cannot be reconciled with the fundamental principle that "[e]xecutive action under legislatively delegated authority . . . is always subject to check by the terms of the legislation that authorized it." *Chadha*, 462 U.S. at 953 n.16; *see also Whitman*, 531 U.S. at 485 ("The EPA may not construe the statute in a way that completely nullifies textually applicable provisions meant to limit its discretion."). Embracing the power asserted in this case would eliminate any meaningful constraint on agency rulemaking.

More fundamentally, the fact that the EPA would alter the terms unambiguously specified in a duly enacted statute makes clear that the power it asserts is not Article II authority to adopt regulations implementing the will of Congress, but rather Article I power "to make law" by amending specific provisions of that statute. *Ernst & Ernst*, 425 U.S. at 213-14. Indeed, by purporting to exercise authority that Congress unambiguously withheld, the EPA does not "merely . . . disregard in a particular instance the clear will of Congress." *Youngstown Sheet*, 343 U.S. at 609 (Frankfurter, J., concurring). Rather, it "disrespect[s] the whole legislative process and the constitutional division of authority between President and Congress." *Id.*[7]

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[7] The EPA contends that rewriting the statutory thresholds is justified, *inter alia*, to avoid absurd results. But given that "[i]t is the Government's own misreading that cre-

C. The Power Asserted by the EPA Here Infringes on the Constitutional Prerogatives of Congress, Undermines Government Accountability, and Threatens Liberty.

1. To permit the Executive Branch to issue regulations that actually alter specific details of a statutory framework that Congress has itself established with specificity—here the specific numerical permitting thresholds in the PSD program that EPA has effectively amended from *100 (or 250) tons per year* to *100,000 tons per year*—would, in the words of Judge Kavanaugh, "green-light a significant shift of power from the Legislative Branch to the Executive Branch," effectively giving the Executive Branch "the authority to set economic and social policy as it sees fit." J.A. 188. Amici, as Members of Congress, are of course deeply concerned with the EPA's blatant intrusion on Congress's lawmaking authority in this case.[8]

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ates the need to 'fix' " the statute, the proper remedy is not to rewrite the statutory thresholds but to "reject the Government's odd view" that the permitting requirement applies to non-NAAQS pollutants so that "no absurdity arises in the first place." *Kloeckner v. Solis*, 133 S. Ct. 596, 607 (2012); *see also Green v. Bock Laundry Mach. Co.*, 490 U.S. 504, 529 (1989) (Scalia, J., concurring in judgment) (when construing statute to avoid absurd results, court should adopt interpretation that "does least violence to the text" while still avoiding absurdity).

[8] It bears emphasis that Congress is well aware of the issue that EPA sought to address here. As Judge Kavanaugh explained:

> In 2009, the House of Representatives passed a global warming bill that was supported

2. Vindicating Congress's exclusive authority to make the laws also promotes government accountability. As this Court has explained, "Article I's precise rules of representation, member qualifications, bicameralism, and voting procedure make Congress the branch most capable of responsive and deliberative lawmaking." *Loving*, 517 U.S. at 757-58. The Executive Branch is, by contrast, "[i]ll suited to that task." *Id.* at 758. Invalidating agency action that infringes upon Congress's Article I lawmaking power thus ensures that important matters of public policy are decided by the people's representatives. In this regard, the separation of powers promotes accountability since the policy makers will have to answer to the electorate for the choices they have made. *Id.*

3. To be sure, "[l]egislative action may indeed often be cumbersome, time-consuming, and apparently inefficient." *Youngstown Sheet*, 343 U.S. at 629 (Douglas, J., concurring). By contrast, "executive power—from the reign of ancient kings to the rule of modern dictators—has the outward appearance of efficiency." *Id.* But "[c]onvenience and efficiency are not the primary objectives—or the hallmarks—of democratic government . . . ." *Chadha*, 462 U.S. at 944. And while "a government with distributed authority . . . labors under restrictions from which oth-

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> by the President. But the Senate did not pass it. In the early 2000s, Senators McCain and Lieberman sought to pass global warming legislation, but no law was ultimately enacted. Numerous other bills have been introduced over the years, and various legislative efforts are ongoing.

J.A. 189.

er governments are free[,] [i]t has not been our tradition to envy such governments." *Youngstown Sheet*, 343 U.S. at 613 (Frankfurter, J., concurring). Indeed, "it is crystal clear from the records of the Convention, contemporaneous writings and debates, that the Framers ranked other values higher than efficiency." *Chadha*, 462 U.S. at 958-59.

Foremost among these values are the preservation of liberty and the "[d]eterrence of arbitrary or tyrannical rule." *Loving*, 517 U.S. at 757. Having "lived under a form of government that permitted arbitrary governmental acts to go unchecked," *Chadha*, 462 U.S. at 959, those who framed and ratified the Constitution believed separation of powers to be "essential to the preservation of liberty." THE FEDERALIST No. 51, at 321 (James Madison); *see also, e.g.*, *Mistretta*, 488 U.S. at 380; *Metropolitan Wash. Airports Auth. v. Citizens for the Abatement of Aircraft Noise*, 501 U.S. 252, 272 (1991). As particularly relevant here, the Framers believed, with Montesquieu, that "[t]here can be no liberty where the legislative and executive powers are united in the same person, or body of magistrates." THE FEDERALIST No. 47, at 302 (James Madison) (quoting Montesquieu). Indeed, "[t]he abuses by the monarch recounted in the Declaration of Independence provide dramatic evidence of the threat to liberty posed by a too powerful executive." *Metropolitan Wash. Airports Auth.*, 501 U.S. at 273.

Amici respectfully submit that experience has demonstrated the wisdom of the Framers' design. This Court should not countenance the EPA's attempt to exercise lawmaking power, for "[l]iberty is always at stake when one or more of the branches seek to transgress the separation of powers." *Clinton*, 524 U.S. at 450 (Kennedy, J., concurring). In the memorable words of Justice Jackson, "[w]ith all its defects, delays and inconveniences, men have discovered no technique for long preserving free government except that the Executive be under the law, and that the law be made by parliamentary deliberations." *Youngstown Sheet*, 343 U.S. at 655 (Jackson, J., concurring).

CONCLUSION

For the foregoing reasons, this Court should reverse the judgment of the Court of Appeals.

Respectfully submitted,

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AMICUS
CURIAE
BRIEF

RECORD
AND
BRIEFS

Nos. 12-1272, 12-1146, 12-1248,
12-1254, 12-1268, 12-1269

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In The
Supreme Court of the United States

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CHAMBER OF COMMERCE OF THE
UNITED STATES OF AMERICA, *et al*.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, *et al*.,

Respondents.

◆

**On Writs Of Certiorari To The
United States Court Of Appeals For
The District Of Columbia Circuit**

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AMICUS CURIAE BRIEF OF MOUNTAIN STATES LEGAL FOUNDATION IN SUPPORT OF PETITIONERS

◆

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QUESTION PRESENTED

Whether the Environmental Protection Agency ("EPA") permissibly determined that its regulation of greenhouse gas ("GHG") emissions from new motor vehicles triggered permitting requirements under the Clean Air Act ("CAA") for stationary sources that emit greenhouse gases.

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AMICUS CURIAE BRIEF OF MOUNTAIN STATES LEGAL FOUNDATION IN SUPPORT OF PETITIONERS

Pursuant to Supreme Court Rule 37.3(a), Mountain States Legal Foundation ("MSLF") respectfully submits this amicus curiae brief, on behalf of itself and its members, in support of Petitioners.[1]

◆

IDENTITY AND INTEREST OF AMICUS CURIAE

MSLF is a non-profit, public interest legal foundation organized under the laws of the State of Colorado. MSLF is dedicated to bringing before the courts those issues vital to the defense and preservation of individual liberties, the right to own and use property, the free enterprise system, and a limited and ethical government.

MSLF has members residing or doing business in every state. Federal regulation of greenhouse gas emissions has an adverse effect on all individuals, businesses, and industries in the United States. Since its creation in 1977, MSLF and its attorneys have worked to ensure that federal agencies do not act outside the scope of their congressionally granted powers, in order to safeguard a limited and ethical government. In the instant case, the D.C. Circuit's ruling sanctions a serious and unprecedented expansion of federal agency power and conflicts with established precedent from this Court. Accordingly, MSLF respectfully submits this amicus curiae brief in support of Petitioners.

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[1] The parties have consented to the filing of this amicus curiae brief by filing blanket consents with the Court. *See* Supreme Court Rule 37.3(a). Pursuant to Supreme Court Rule 37.6, the undersigned affirms that no counsel for a party authored this brief in whole or in part, and no person or entity other than MSLF, its members, or its counsel, made a monetary contribution specifically for the preparation or submission of this brief.

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STATEMENT OF THE CASE

I. STATUTORY AND REGULATORY BACKGROUND.

A. The Clean Air Act.

Congress passed the CAA "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. § 7401(b)(1). Because air pollutants come from many different sources, Congress was unable to enact a one-size-fits-all solution to adequately protect and enhance air quality nationwide. Instead, Congress decided to create multiple programs under the CAA, each of which confers limited powers upon the EPA, and all of which target particular types of air pollution and any direct effects caused thereby. For example, Title II of the CAA provides emission standards for mobile sources including cars and aircraft. *Id.* §§ 7521-54, 7571-74, 7581-90. Under Title II, if the EPA determines that an emission from a mobile source "may reasonably be anticipated to endanger public health or welfare," it must promulgate regulations to limit the emissions of that pollutant from that source. *Id.* § 7521; *Massachusetts v. E.P.A.*, 549 U.S. 497, 533 (2007) ("*Massachusetts*") ("If EPA makes a finding of endangerment, the Clean Air Act requires the Agency to regulate emissions of the deleterious pollutants from new motor vehicles.").

Under Title I, part A of the CAA, the EPA is charged with creating and enforcing National Ambient Air Quality Standards ("NAAQS"). 42 U.S.C. §§ 7401-31. NAAQS presently exist for six criteria pollutants: (1) carbon monoxide; (2) lead; (3) nitrogen dioxide; (4) ozone; (5) particulate matter; and (6) sulfur dioxide. *See* Environmental Protection Agency, "National Ambient Air Quality Standards (NAAQS)," http://www.epa.gov/air/criteria.html; *see also Whitman v. Am. Trucking Ass'n,* 531 U.S. 457, 462-63 (2001). Adverse human health effects result from direct exposure to any of these criteria pollutants. *See* Environmental Protection Agency, "National Ambient Air Quality Standards (NAAQS)," http://www.epa.gov/air/criteria.html; *see also* Gary E. Marchant, *Genetic Susceptibilities: The Future Driver of Ambient Air Quality Standards?*, 43 ARIZ. ST. L.J. 791, 792-94 (2011). The NAAQS Program requires states to create State Implementation Plans ("SIPs"). 42 U.S.C.

§ 7410(a)(1). SIPs establish the methods and procedures utilized by each state to ensure compliance with the NAAQS. *Id.* § 7410(2).

To further ensure that each state complies with the NAAQS program, Congress created the Prevention of Significant Deterioration of Air Quality Program ("PSD Program"). *Id.* §§ 7470-79. The principal purposes of the PSD Program are "to protect public health and welfare . . . notwithstanding attainment and maintenance of all national ambient air quality standards"; and "to assure that emissions from any source in any State will not interfere with any portion of the applicable implementation plan to prevent significant deterioration of air quality for any other States." *Id.* § 7470(1), (4). To ensure that States continue to control NAAQS emissions, even when they are in compliance with their SIPs, the PSD Program requires States to issue pre-construction permits for any stationary sources having the potential to emit more than 100 tons annually or 250 tons annually of criteria air pollutants. *Id.* § 7475(1). The provisions found in Title V of the CAA govern state-issued operating permits for facilities that emit certain amounts of criteria pollutants annually. *Id.* §§ 7661-61f.

B. EPA's Greenhouse Gas Emission Regulations.

In *Massachusetts*, this Court directed the EPA to either regulate greenhouse gas emissions from new motor vehicles, or provide a "reasonable explanation as to why it cannot or will not exercise its discretion[.]" 549 U.S. at 501. Faced with this choice, the EPA promulgated an Endangerment Finding, *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act,* 74 Fed. Reg. 66,496 (Dec. 15, 2009) ("Endangerment Finding") regarding greenhouse gas emissions, followed by four separate rules attempting to regulate such emissions. Such a result was not required by this Court's decision in *Massachusetts.* Indeed, this Court made it clear that it was not deciding whether the EPA was required to issue an endangerment finding regarding greenhouse gases; its only command was that the "EPA must ground its reasons for action or inaction in the [CAA]." *Massachusetts,* 549 U.S. at 535.

By issuing the Endangerment Finding, the EPA was asserting its belief that emissions of carbon dioxide and other greenhouse gases are "reasonably anticipated to endanger public health and welfare." 74 Fed. Reg. at 66,499. Consequently, the EPA turned its attention to the regulation of mobile source emissions of greenhouse gases. Five months later, the EPA promulgated what has come to be known as the "Tailpipe Rule." *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule,* 75 Fed. Reg. 25,324 (May 7, 2010). The Tailpipe Rule imposes greenhouse gas emission standards on new cars and light trucks. *Id.*

Neither this Court's decision in *Massachusetts* nor the CAA itself impose an affirmative duty on the EPA to regulate greenhouse gas emissions from stationary sources after it issues an endangerment finding. However, the EPA further decided that because issuing the Endangerment Finding created a duty to regulate greenhouse gas emissions from mobile sources under the CAA, the agency was also obligated to regulate greenhouse gas emissions from stationary sources under the PSD Program and under Title V of the CAA. Thus, on June 3, 2010, EPA issued a rule addressing greenhouse gas emissions from stationary sources. *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule,* 75 Fed. Reg. 31,514 (June 3, 2010). Because greenhouse gas emissions are vastly different than the six existing criteria pollutants regulated under the PSD program, the EPA admitted that regulating greenhouse gas emissions under this program would lead to "absurd results." 75 Fed. Reg. at 31,517; *id.* at 31,547 (regulating greenhouse gases from stationary sources undermines the congressional intent behind creating the CAA); *id.* at 31,555 ("Congress intended that PSD be limited to a relatively small number of large industrial sources."); *id.* at 31,557 (the number of permit applications resulting from applying the PSD Program to greenhouse gas emissions would "overwhelm permitting authorities and slow their ability to process permit applications to a crawl.").

In an attempt to mitigate the absurd results, the EPA issued the Timing and Tailoring Rules, which altered the carefully crafted statutory framework of the CAA in a feeble attempt to support its new greenhouse gas emissions regulations. Importantly, this was done without first seeking authority from Congress. First, the Timing Rule delayed regulation of any major stationary emitter of greenhouses gases until January 2, 2011. *Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs,* 75 Fed. Reg. 17,004, 17,019 (Apr. 2, 2010). Second, the Tailoring Rule raised the emitting thresholds for stationary sources from between 100 and 250 tons annually to 75,000 or 100,000 tons annually. *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule,* 75 Fed. Reg. at 31,523-24. The EPA stated that this shift was necessary because greenhouse gases are emitted in such large quantities. *Id.* at 31,535. Thus:

> The reason for the extraordinary increase in PSD applicability lies simply in the fact that it takes a relatively large source to generate emissions of conventional pollutants in the amounts of 100/250 [tons per year] or more, but many sources combust fossil fuels for heat or electricity, and the combustion process for even small quantities of fossil fuel produces quantities of [greenhouse gases] that are far in excess of the sources' quantities of conventional pollutants and that, for even small sources, equal or exceed the 100/250 [tons per year] levels.

Id.

Without the Tailoring Rule, individual homes and small businesses, which Congress never intended to be regulated under the CAA, would fall under the jurisdiction of the statute, costing millions of dollars in compliance costs. *See* 75 Fed. Reg. at 31,555. By the EPA's own estimate, regulating stationary sources of greenhouse gas emissions from stationary sources would cost the nation over $1.1 billion in compliance and administrative costs. *See Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 74 Fed. Reg. 55,292, 55,339 (Oct. 27, 2009). The EPA later provided that if applied to stationary sources, "the PSD program would expand . . . from the current 280 sources per year to almost 82,000 sources, virtually all of which would be smaller than the sources currently in the PSD program and most of which would be small commercial and residential sources." 75 Fed. Reg. at 31,556. The EPA also granted itself the authority to reduce its improperly created greenhouse gas emissions thresholds over time if necessary, forewarning of the devastating effects of its actions. 75 Fed. Reg. at 31,524-25.

II. PROCEDURAL BACKGROUND.

In response to the EPA's greenhouse gas regulations, over 90 challenges to the rulemakings were raised before the D.C. Circuit. Many of these challenges were brought by various states, industry groups, legal foundations, and environmental nonprofit organizations. The court consolidated the challenges and ultimately upheld the EPA's unprecedented actions. *See Coalition for Responsible Regulation, Inc. v. E.P.A.,* 684 F.3d 102 (D.C. Cir. 2012) ("*Coalition I*").

Rehearing en banc was timely sought, but the court denied those petitions, leaving the EPA's greenhouse gas emission regulations in place. *Coalition for Responsible Regulation, Inc. v. E.P.A.,* 2012 WL 6621785 (D.C. Cir. 2012) ("*Coalition II*"). In so doing, the D.C. Circuit ignored the precedent limiting the regulatory authority of the EPA, erroneously noting that "[t]he underlying policy questions and the outcome of this case are undoubtedly matters of exceptional importance. The legal issues presented, however, are straightforward, requiring no more than the application of clear statutes and binding Supreme Court precedent." *Id.* at *3.

Judge Brown and Judge Kavanaugh both wrote separate dissents expressing their beliefs that the D.C. Circuit erred in denying the petitions for rehearing en banc. Both dissenting opinions expressed strong concerns that the panel opinion sanctioned an unprecedented expansion of agency power. Judge Brown's dissent explains that neither the CAA, nor this Court's holding in *Massachusetts* compel the EPA to regulate the greenhouse gas emissions of stationary sources under the PSD or Title V Programs. *Id.* at **3-4. She noted that the panel "read *Massachusetts* to its illogical ends and it is American industry that will have to pay." *Id.* at *13. Judge Kavanaugh "conclude[d] that EPA has exceeded its statutory authority" and warned that it is the duty of the court to "carefully but firmly enforce the statutory boundaries." *Id.* at *14, *23.

Nine separate petitions for a writ of certiorari were filed. This Court granted six of those petitions and has agreed to decide whether, by regulating mobile sources of greenhouse gas emissions, the EPA triggered an affirmative duty to regulate stationary sources of greenhouse gas emissions as well.

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SUMMARY OF ARGUMENT

This Court should reverse the D.C. Circuit's erroneous reading of the CAA. The structure of the CAA precludes EPA's determination that it must regulate greenhouse gas emissions from stationary sources. Therefore, the EPA lacks authority to regulate greenhouse gas emissions under the PSD Program and Title V of the CAA. Regulating greenhouse gas emissions despite the fact that greenhouse gases are not "criteria pollutants" under the NAAQS Program, is illogical, defies the intent of Congress, and leads to admitted absurd results. The EPA's decision to regulate greenhouse gas emissions from stationary sources further conflicts with this Court's decision in *Environmental Defense v. Duke Energy Corporation*, 549 U.S. 561 (2007) (holding that the meaning of a statutory term in the CAA may vary based on the particular program at issue). The D.C. Circuit's support for the EPA's unprecedented actions necessitates reversal by this Court.

◆

ARGUMENT

I. REGULATING GHG EMISSIONS FROM MOBILE SOURCES UNDER TITLE II OF THE CAA DOES NOT TRIGGER A DUTY TO REGULATE GHG EMISSIONS FROM STATIONARY SOURCES.

The CAA is a lengthy, comprehensive statutory scheme, created to regulate numerous types of air emissions from various sources. The CAA is organized into six separate titles, each with a different regulatory focus. While Title II controls the emissions standards from all moving sources, 42 U.S.C. §§ 7521-90, Title I, part C contains the regulations for the PSD Program, 42 U.S.C. §§ 7470-79, 7491-92, and Title V further regulates emissions from stationary sources, 42 U.S.C. §§ 7661-61f. Based solely upon the CAA's construction, it is illogical to read a requirement promulgated under one Title of the CAA to necessarily compel action under another unrelated Title.

Indeed, the PSD Program exists to ensure the success of the NAAQS Program. NAAQS exist for the six criteria pollutants and are required "to protect the public health." 42 U.S.C. § 7409(b). The EPA has always interpreted this section of the statute as requiring the agency to consider adverse effects on human health that result from direct human exposure to air pollutants. Marchant, *Genetic Susceptibilities*, 43 Ariz. St. L.J. at 792-94. Although the CAA already requires States to ensure that they meet the NAAQS for each criteria pollutant, the PSD Program serves as an additional safeguard against increases in the emissions of the criteria pollutants by requiring major emitters to seek permits before constructing or operating certain types of facilities. 42 U.S.C. § 7475. The provisions governing the PSD Program state clearly that pre-construction permits are required for any "major emitting facility . . . in any area *to which this part applies*." 42 U.S.C. § 7475(a) (emphasis added). Because the NAAQS Program is meant to further ensure compliance with the six NAAQS, the term "any area to which this part applies" necessarily refers only to areas already being regulated directly under the NAAQS provisions. *Id.*

Further, as this Court has recognized, words found within statutes "'may be variously construed, not only when they occur in different statutes, but when used more than once in the same statute or even in the same section.'" *Duke Energy,* 549 U.S. at 574 (quoting *Atlantic Cleaners & Dyers, Inc. v. United States,* 286 U.S. 427, 433 (1932)). In *Duke Energy*, after carefully considering the structure of the CAA, this Court concluded that "[a] given term in the same statute may take on distinct characters from association with distinct statutory objects calling for different implementation strategies." 549 U.S. at 574. Therefore, just because the EPA determined that greenhouse gases met the definition of air pollutant under Title II of the CAA, does not mean that they must automatically be considered air pollutants under all six Titles of the CAA.

Relying on this Court's decision in *Duke Energy*, Judge Kavanaugh explained that regulating greenhouse gases under the PSD Program "would be both counterintuitive and extreme"; especially because this Court has already clarified that different statutory objectives under the CAA call for "different implementation strategies." *Coalition II*, 2012 WL 6621785, *20 (Kavanaugh, J., dissenting from denial of rehearing en banc) (citing *Duke Energy*, 549 U.S. at 574). The decision to limit greenhouse gas emissions from automobiles in no way necessitates regulation of greenhouse gas emissions from stationary sources.

The EPA cast a blind eye toward *Duke Energy* and mistakenly decided that regulating greenhouse gas emissions from mobile sources compelled regulation of greenhouse gas emissions from stationary sources. *See* Brief of Petitioners American Chemistry Council, *et al.*, No. 12-1248, at 7-10 (Dec. 9, 2013); *see also Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans,* 45 Fed. Reg. 52,676, 52,710-12 (Aug. 7, 1980). Instead of considering an alternate construction of the PSD Program, EPA blindly followed a regulation that led to results completely contrary to what Congress had intended in enacting the CAA. *Id.* Again, the structure of the CAA demonstrates that requirements under one title of the CAA should not be extrapolated and applied to every Title within the

Act. Indeed, the language found within one subpart of the statute cannot be assumed to control the execution of the entire statute. Therefore, this Court should reverse the D.C. Circuit's decision and correct this error.

II. AFTER DETERMINING REGULATION OF GHG EMISSIONS FROM STATIONARY SOURCES WOULD PRODUCE ABSURD RESULTS, THE EPA SHOULD HAVE DECLINED TO REGULATE GHG EMISSIONS UNDER THE PSD PROGRAM AND TITLE V OF THE CAA.

The EPA was fully aware that its greenhouse gas regulations would lead to absurd results. In fact, it acknowledged that regulating greenhouse gas emissions under the CAA is "inconsistent with – and, indeed, undermine[s] – congressional purposes." 75 Fed. Reg. at 31,547. The EPA freely acknowledged this fact by providing that "Congress intended that PSD be limited to a relatively small number of large industrial sources." *Id.* at 31,555. Furthermore, "[b]eyond this disconnect with congressional expectations, what is most important is that the extraordinarily large number of permit applications would overwhelm permitting authorities and slow their ability to process permit applications to a crawl." *Id.* at 31,557. The EPA continued by providing that it would be "difficult to overstate the impact that applying PSD requirements literally to GHG sources as of January 2, 2011 . . . would have on permitting authorities and on the PSD program, and we are concerned that this impact could adversely affect national economical development." *Id.* The EPA even described regulation of greenhouse gas emissions under the PSD Program and Title V of the CAA as "un-administrable," increasing the current number of work hours for PSD permits from 150,795 hours to more than 19.5 million work hours. *Id.* at 31,556-57.

As a consequence of the absurd results stemming from regulating greenhouse gas emissions from stationary sources under the CAA, the EPA should have considered an alternative that would have avoided the absurd results. *Holy Trinity Church v. United States,* 143 U.S. 457, 460 (1892) ("if a literal construction of the words of a statute be absurd, the act must be so construed as to avoid the absurdity."). The EPA cannot simply declare that its regulations will lead to results so contrary to what Congress intended that they are considered absurd, yet still move forward and enact those regulations. Instead, the EPA should have avoided the absurd results altogether. *Coalition II,* 2012 WL 6621785 at *18 (Kavanaugh, J., dissenting from denial of rehearing en banc) (citing *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982) ("[I]nterpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with legislative purpose are available."). The EPA already clearly expressed the fact that Congress could not have intended the agency to regulate stationary sources of greenhouse gases due to the low emissions thresholds provided for stationary sources in the CAA. Thus, the most reasonable way for the EPA to interpret its duties under the CAA would have been by declining to regulate greenhouse gases from stationary sources altogether.

The promulgation of the Timing and Tailoring Rules offers additional support for the conclusion that regulating greenhouse gas emissions under the CAA produces absurd results. The EPA stated that these two rules were necessary to address the utter impossibility of compliance and the extreme regulatory burdens that would result from regulating greenhouse gas emissions under the PSD Program and Title V of the CAA. 75 Fed. Reg. at 31,563. When faced with the pending absurd results of regulating greenhouse gas emissions from stationary sources, the EPA took even more egregious actions when, without any authority from Congress, it decided to rewrite statutory thresholds in an effort to reduce the absurdity of its greenhouse gas regulations. For example, the PSD Program's own provisions provide that pre-construction permits are necessary for any facility that has the potential to emit more than 100 tons per year of some pollutants, or 250 tons per year of others. 42 U.S.C. §§ 7475(a)(1), 7479(1). The EPA rejected Congress' carefully crafted emissions thresholds with respect to greenhouse gases and multiplied these thresholds by 400 times to set greenhouse gas emissions thresholds at 100,000 tons per year. 75 Fed. Reg. at 31,516.

It is a well-established principle that absurd or unintended results stemming from legislation should be avoided. *Crooks v. Harrelson*, 282 U.S. 55, 60 (1930) (It is the responsibility of the agencies, not the courts, to avoid "mischievous, absurd or otherwise objectionable results."). "The plain meaning of legislation should be conclusive, except in the 'rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of its drafters.'" *United States v. Ron Pair Enterprises, Inc.*, 489 U.S. 235, 242 (1989) (citing *Griffin*, 458 U.S. at 571); *see also United States v. Am. Trucking Ass'ns,* 310 U.S. 534, 543 (1940) (Courts should look to the purpose of an act, instead of the literal words, to avoid absurd results); *Haggar Co. v. Helvering*, 308 U.S. 389, 394 (1940) ("All statutes must be construed in light of their purpose. A literal reading which would lead to absurd results is to be avoided when they can be given a reasonable application consistent with their words and with the legislative purpose."). Together, these cases demonstrate that it is the job of both agencies and courts to ensure that the intended results of the legislature are realized, even if that means a federal agency may not regulate as extensively as it would like to.

Because agencies lack the authority to unilaterally rewrite threshold statutory limits carefully crafted by Congress, the EPA should have declined to regulate greenhouse gas emissions under the PSD Program and Title V of the CAA when it realized that doing so would produce absurd results, unintended by Congress. Indeed, the D.C. Circuit previously held that agencies have "no general administrative power to create exemptions to statutory requirements based upon the agency's perceptions of costs and benefits."

Alabama Power Co. v. Costle, 636 F.2d 323, 357-58 (D.C. Cir. 1979). In *Alabama Power,* the EPA attempted to remedy absurd and unreasonable results stemming from the PSD Program of the CAA by "creating a broad exemption," for certain sources of emissions. *Id.* at 354. In reviewing the agency's actions, the D.C. Circuit ruled "the [CAA] does not give the agency a free hand authority to grant broad exemptions." *Id.*; *see Louisiana Pub. Serv. Comm'n v. F.C.C.*, 476 U.S. 355, 374 (1986) ("[A]n agency literally has no power to act . . . unless and until Congress confers power upon it. . . . An agency may not confer power upon itself. To permit an agency to expand its power in the face of a congressional limitation on its jurisdiction would be to grant to the agency power to override Congress."). Ultimately, the D.C. Circuit remanded the EPA's erroneous regulations for "appropriate revision by the agency." *Alabama Power*, 636 F.2d at 355. Therefore, the EPA should have recognized it lacked any congressionally granted authority to change the threshold limitations found within the CAA.

Although the D.C. Circuit had already ruled that the CAA does not authorize the agency to take such actions, the EPA ignored the holding from *Alabama Power* and acted outside the scope of its authority. Instead of giving effect to the text of the CAA as drafted by Congress, the EPA changed the statutory scheme by increasing the emissions threshold from "250 tons to 100,000 tons – a 400-fold increase." *Coalition II,* 2012 WL 6621785 at *15 (Kavanaugh, J., dissenting from denial of rehearing en banc). This unilateral expansion of agency powers violates foundational separation of powers doctrines and directly conflicts with this Court's opinion in *Louisiana Pub. Serv. Comm'n*, 476 U.S. at 374.

Further exacerbating the EPA's already ultra vires actions is the authority EPA granted itself to continue to decrease the thresholds set forth in the Tailoring Rule. Not only did the EPA act without authority in promulgating the Timing and Tailoring Rules, but the agency further enlarged its own powers by asserting the authority to use a "phase-in" approach to continue to ratchet down the Tailoring Rule. 75 Fed. Reg. at 31,548 ("Under the Tailoring Rule, EPA seeks to include as many GHG sources in the permitting programs at as close to the statutory thresholds as possible, and as quickly as possible, although we recognize that we ultimately may stop the phase-in process short of the statutory threshold levels."). EPA's grant of authority to itself to continue to decrease greenhouse gas emissions thresholds for stationary sources as it sees fit, constitutes an action unauthorized by Congress, invites future litigation, and highlights its lack of authority to regulate greenhouse gas emissions from stationary sources in the first place.

Judge Kavanaugh sums up the clear errors made by the EPA by stating that the "EPA's assertion of such extraordinary discretionary power both exacerbates the separation of powers concerns in this case and underscores the implausibility of EPA's statutory interpretation." *Coalition II,* 2012 WL 6621785, *15, n. 1 (Kavanaugh, J., dissenting from denial of rehearing en banc). The EPA's failure to avoid the absurd results produced by its flawed reading of the CAA is not trivial in nature. Regulating greenhouse gas emissions from stationary sources has important consequences for the entire national economy. For example, as a result of the stationary source regulations, thousands of businesses and homeowners would be liable to the EPA under the CAA for the first time and would face average permitting costs of $60,000 coupled with the additional expenses necessary to maintain compliance with the newly imposed greenhouse gas emissions limits. 75 Fed. Reg. at 31,556. The EPA has freely admitted the PSD program would be "unadministrable" in regard to greenhouse gases and the total additional costs imposed on the agency would exceed $1.5 billion for the PSD Program alone. *Id.* at 31,557. Individuals, businesses, and industries now face broad uncertainty with regard to greenhouse gas emission regulations, because EPA has granted itself the authority to further alter or lower greenhouse gas emissions thresholds at any time, or for any reason. The EPA's reaction to the absurd results stemming from the possibility of regulating greenhouse gas emissions from stationary sources and the agency's further disregard of its limited authority under the CAA necessitates this Court's review.

◆

CONCLUSION

The regulation of greenhouse gas emissions from mobile sources under Title II of the CAA does not create a mandatory duty for the EPA to regulate greenhouse gas emissions from stationary sources. Instead of attempting to regulate greenhouse gas emissions from stationary sources under a statutory system that simply does not account for the unique properties of greenhouse gases, and instead of attempting to remedy the subsequent absurd results by promulgating the Timing and Tailoring Rules, the EPA should have declined to regulate greenhouse gas emissions from stationary sources under the CAA. Because the EPA lacked authority to regulate greenhouse gas emissions from stationary sources and because such regulation produces an absurd result, unintended by Congress, and in direct violation of well-established precedent, the decision of the D.C. Circuit must be reversed.

Respectfully submitted,

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In the
Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, et al.
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, et al.
Respondents.

**On Writs of Certiorari to the
United States Court of Appeals
for the District of Columbia Circuit**

BRIEF AMICUS CURIAE OF PACIFIC LEGAL FOUNDATION, MORNING STAR PACKING COMPANY, NUCKLES OIL COMPANY, INC., dba MERIT OIL COMPANY, AND THE NATIONAL TAX LIMITATION COMMITTEE IN SUPPORT OF PETITIONERS

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QUESTION PRESENTED

Whether the Environmental Protection Agency ("EPA") permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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INTEREST OF AMICUS CURIAE[1]

Amicus Pacific Legal Foundation ("PLF") is the largest and most experienced nonprofit public interest foundation of its kind in the United States. For 40 years, PLF has litigated in support of a reasonable balance between regulatory efforts to protect the environment and the guarantees of individual freedom and property rights that form the foundations of liberty. PLF's Global Warming Project seeks to ensure that government efforts to address global warming not be used as a pretext to undermine liberty. PLF submitted amicus briefs in *American Electric Power Company Inc., et al. v. Connecticut,* 131 S. Ct. 2527 (2011), and *Massachusetts v. EPA,* 549 U.S. 497 (2007), and was a petitioner in the consolidated cases challenging the first round of EPA regulation of greenhouse gases under the Clean Air Act, *Coalition for Responsible Regulation v. EPA*, 684 F.3d 102 (D.C. Cir. 2012). PLF attorneys currently serve as lead counsel in two challenges to EPA mobile source greenhouse gas regulations pending in the D.C. Circuit, *California Construction Trucking Association v. EPA*, No. 13-1076, and *Delta Construction Company v. EPA*, No 11-1428.

Amicus Morning Star Packing Company ("Morning Star") is a California corporation that operates three greenhouse gas emitting stationary sources that process raw tomatoes into tomato paste. Natural gas boilers that heat the tomatoes at Morning Star's facilities generate quantities of carbon dioxide sufficient to qualify them as major stationary sources of greenhouse gas emissions.

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[1] Counsel of record have consented to the filing of this brief. Letters evidencing consent are filed with the Clerk of the Court. In accordance with Rule 37.6, no counsel for a party authored any portion of this brief and no counsel or party made a monetary contribution intended to fund the brief's preparation or submittal. No other person or group made a monetary contribution intended to fund the preparation or submission of this brief.

Amicus Nuckles Oil Company, Inc., dba Merit Oil Company ("Merit Oil Company"), is a California corporation engaged in the distribution of petroleum products. Merit Oil Company's facilities generate substantial emissions of carbon dioxide, which may qualify them as major stationary sources of greenhouse gases. Merit Oil Company also operates numerous trucks that emit greenhouse gases subject to EPA's greenhouse gas emissions rules for mobile sources.

Amicus National Tax Limitation Committee ("NTLC") is a nonprofit organization established in 1975 to devise strategies to control the size of government spending and taxes. NLTC's mission is to: (1) make structural changes in fiscal and government practices at all levels of government, and (2) limit and control taxes and spending so as to enhance the power and freedom of individuals and their enterprises.

SUMMARY OF ARGUMENT

In these consolidated cases , this Court addresses an overarching issue arising under the Clean Air Act: whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Act for stationary sources that emit greenhouse gases. EPA made the determination in a final interpretive rule, 75 Fed. Reg. 17,004 (Apr. 2, 2010) (the "Interpretive Rule"), which specifically covers the Act's Prevention of Significant Deterioration

("PSD") program and also implicates other stationary source permitting programs under the Act. The broad issue framed by this Court encompasses the question of whether EPA's new motor vehicle rules, *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards; Final Rule*, 75 Fed. Reg. 25,324 (May 7, 2010) ("LDVR"), trigger PSD permitting requirements.

Title I of the Clean Air Act contains the exclusive regulatory triggers for stationary sources of air emissions, while Title II contains the exclusive regulatory triggers for mobile sources. The Act's statutory structure shows that regulations under Title II, of themselves, cannot trigger permitting requirements under Title I. Further, the legislative history of the Act makes clear that Congress intended to place permitting triggers for stationary sources exclusively in Title I. EPA's interpretation conflicts with that intent and therefore is entitled to no deference under *Chevron v. NRDC*, 467 U.S. 837, 842-43 (1984) ("First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.").

A similar analysis applies to the more limited issue of whether the LDVR triggers PSD permitting for stationary sources. The court of appeals upheld the Interpretive Rule by misconstruing the Clean Air Act's permitting scheme for stationary sources in PSD areas, effectively authorizing EPA to ignore mandated Title I requirements. In so ruling, the court below neglected the "rudimentary" administrative law principle that regulatory action must comply with statutory requirements. *Bennett v. Spear*, 520 U.S. 154, 172 (1997).

The steps necessary to trigger permitting requirements under Title I vary depending upon the type of stationary source, whether the stationary source is located in a "clean" or "dirty" air area of the nation, and whether the amount of its air emissions exceed certain statutory thresholds for designated air pollutants. Because the Interpretive Rule ignores these fundamental elements of the Clean Air Act in favor of a myopic reading of ancillary provisions, it should be rejected by the Court.

ARGUMENT

"Congress . . . does not . . . hide elephants in mouseholes."[2]

I

THE PLAIN LANGUAGE AND STRUCTURE OF THE CLEAN AIR ACT DEMONSTRATE THAT CONGRESS DID NOT INTEND FOR TITLE II REGULATIONS GOVERNING MOBILE SOURCES TO TRIGGER PERMITTING REQUIREMENTS FOR STATIONARY SOURCES UNDER TITLE I

A. Title I and Title II Each Contain Their Own, Unique Triggers for Regulating Emissions of Air Pollutants.

The Clean Air Act, 42 U.S.C. §§ 7401-7671q is divided into distinct subchapters that deal with different sources and types of air pollution. The first two subchapters are at the heart of these consolidated cases. Subchapter I governs stationary sources of air pollution and establishes a partnership between federal and state government in regulating them. 42 U.S.C. §§ 7401-31, 7470-79, and 7501-15 ("Title I"). Subchapter II provides EPA with comprehensive authority to regulate mobile source emissions from automobiles, trucks, marine engines, aircraft, and the fuels that power them. 42 U.S.C. §§ 7521 - 7590 ("Title II").[3]

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[2] *Whitman v. Am. Trucking Associations*, 531 U.S. 457, 468 (2001).

At its most basic, a stationary source is any source of air pollution that is not mobile. 42 U.S.C. § 7602(z); 42 U.S.C. § 7411(a)(3). Title I authorizes EPA to regulate stationary sources under one of two programs: National Ambient Air Quality Standards For Criteria Air Pollutants ("NAAQS"), or National Emission Standards for Hazardous Air Pollutants ("NESHAPS"). The term "air pollutant" is defined broadly to include:

> Any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air.

42 U.S.C. § 7602(g). This Court has held that greenhouse gases fit the definition of "air pollutant." *Massachusetts v. EPA*, 549 U.S. 497 (2007). Accordingly, stationary sources of greenhouse gas emissions could potentially be subject to permitting under Title I's NAAQS or NESHAPS regulatory programs. But the structure and text of the Act make clear that mere regulation of greenhouse gases under Title II cannot, of itself, trigger permitting requirements under Title I.

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[3] To complete the picture, subchapter III sets forth ceratin general provisions and definitions, 42 U.S.C. §§ 7601-28 ("Title III"), subchapter IV addresses noise pollution ("Tile IV"), while subchapter IVA establishes a trading mechanism to control acid rain. 42 U.S.C. §§ 7651-51o. Subchapter V, establishes a permitting program for major stationary sources, subject to various thresholds. 42 U.S.C. §§ 7661-61f ("Title V"). Finally, subchapter VI addresses pollutants affecting the stratosphere, especially the ozone layer. 42 U.S.C. §§ 7671-71q ("Title VI").

1. NAAQS Triggers Stationary Source Permitting for Criteria Pollutants

The NAAQS regulatory program is "the engine that drives nearly all of Title I of the [Clean Air Act]." *Whitman v. Am. Trucking Associations, Inc.*, 531 U.S. 457, 468 (2001). To regulate an air pollutant under NAAQS, EPA must first make a specific finding under Title I that emissions of the pollutant "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7408(a)(1)(A). The air pollutant is thereafter referred to as a "criteria pollutant" because EPA must issue "air quality criteria" for such a pollutant. *Id.* § 7408(a)(2). EPA then sets an ambient air quality standard for the criteria pollutant. 42 U.S.C. §§ 7408-7410. To date, only six criteria pollutants have been identified and regulated under the NAAQS program: lead, sulfur dioxide, nitrogen dioxide, carbon monoxide, particulate matter, and ozone. 40 C.F.R. §§ 50.4 - 50.12. Greenhouse gases are not criteria pollutants.

EPA must designate areas of the country as either in "attainment" or "nonattainment" with each ambient air quality standard. 42 U.S.C. § 7407(d). Such area designations are specific for each criteria pollutant. *Alabama Power Co. v. Costle*, 636 F.2d 323, 350 (1979). At any given time a single geographic area may be an attainment area for one criteria pollutant and a nonattainment area for another. *Id.* Congress established two parallel NAAQS permitting programs applicable to certain new and modified stationary sources of air pollutants.[4] Because NAAQS can only apply to criteria pollutants designated under Title I, no NAAQS permitting requirement in any area is triggered by any "air pollutant" other than a criteria pollutant. 42 U.S.C. § 7411(b)(1)(A); 42 U.S.C. § 7411(d)(1).

a. Attainment Area Permitting Is Triggered by Emissions of Criteria Pollutants

The PSD program ensures that clean air in attainment areas of the nation does not degrade into nonattainment status. 42 U.S.C. § 7470. *See Wisconsin Elec. Power Co. v. Reilly*, 893 F.2d 901, 904 (7th Cir. 1990). To that end, the PSD program aims "to prevent significant deterioration of air quality in each region . . . designated . . . as attainment." 42 U.S.C. § 7471. The purpose of PSD permitting is to prevent criteria pollutant emissions from causing a violation of ambient air quality standards. 42 U.S.C. § 7475(a)(3).

The permitting trigger for stationary sources in PSD areas provides:

> No major emitting facility . . . may be constructed *in any area to which this part applies* unless . . .a permit has been issued for such proposed facility.

42 U.S.C. § 7475(a)(1), (4). (emphasis added). The language "in any area to which this part applies" cannot mean nothing. *Moskal v. United States*, 498

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[4] Those permitting programs are administered by states through State Implementation Plans (the "SIPs"). 42 U.S.C. § 7410(a)(2)(C).

U.S. 103, 109 (1990) (courts must give effect to every clause and word of a statute). "[T]his part," *i.e.*, the PSD program, only "applies" to NAAQS in geographic areas that have attained ambient air quality standards for one or more criteria pollutants for which an endangerment finding has been made under Title I. 42 U.S.C. § 7411(b)(1)(A); 42 U.S.C. § 7411(d)(1). Accordingly, the permitting requirement is triggered specifically by criteria pollutants emitted from major stationary sources in an area attaining NAAQS.

The inconvenient truth for EPA is this: There is no NAAQS for greenhouse gases because they are not criteria pollutants. Indeed, greenhouse gases cannot become criteria pollutants unless and until EPA makes an endangerment finding for them under Title I of the Act. 42 U.S.C. § 7408(a)(1)(A). This EPA has not done. Therefore, PSD permitting requirements are not, and cannot be, triggered for stationary sources of greenhouse gases merely because EPA regulates their emissions from new motor vehicles under Title II of the Act.

b. Nonattainment Area Permitting Is Triggered by Emissions of Criteria Pollutants

The nonattainment new source review ("NNSR") program seeks to improve air quality in "dirty" air areas that do not comply with NAAQS. 42 U.S.C. §§ 7502, 7503. The Act requires certain categories of major stationary sources in such areas to obtain NNSR permits that impose the "lowest achievable emissions rate" to control emissions. The permitting trigger is emissions of criteria pollutants from specific types of sources in amounts above statutory thresholds.

42 U.S.C. §§ 7501(3), 7502. Unlike the PSD permitting program, NNSR permitting is triggered when a major stationary source is located in an area that has not yet achieved compliance with NAAQS for a particular criteria pollutant. 42 U.S.C. §§ 7503(a), 7502. But like the PSD permitting requirement, NNSR permitting can be triggered only by emissions of criteria pollutants. 42 U.S.C. §§ 7407(d), 7410(k)(5). Greenhouse gases are not criteria pollutants and therefore are not subject to NAAQS. Accordingly, mere regulation of greenhouse gas emissions from new motor vehicles cannot, of itself, trigger permitting requirements under the NNSR program.

2. NESHAPS Triggers Stationary Source Permitting for Hazardous Air Pollutants

EPA is authorized to regulate air pollutants that it finds are extraordinarily hazardous to human health by imposing strict national emissions limitations under Act's NESHAPS program. 42 U.S.C. § 7412. NESHAPS standards are developed for stationary sources under Title I on a separate track, and under separate procedures, from NAAQS. *Id.* Greenhouse gases have not been designated as hazardous air pollutants and, therefore, cannot be regulated under the NESHAPS program. Accordingly, mere regulation of greenhouse gas emissions from new motor vehicles cannot, of itself, trigger permitting requirements under the NESHAPS program.

B. EPA's Interpretive Rule Is at Odds with the Clean Air Act

1. EPA's Interpretation Conflicts with the Plain Language of the Act

EPA's position can be stated succinctly. Once "any air pollutant" becomes subject to an enforceable standard under *any* provision of the Clean Air Act, *i.e.*, after the standard "takes effect," the pollutant is subject to permitting requirements under the PSD program. Interpretive Rule, 75 Fed. Reg. 17,004 at 17,006-13. According to EPA, this interpretation applies regardless of whether the standard is set for a criteria pollutant or any other pollutant and regardless of whether it is issued under Title I for stationary sources or under Title II for mobile sources. *Id.* at 17,006. The Interpretive Rule provides that, because greenhouse gases are subject to emissions limitations applicable to new motor vehicles in the LDVR, such gases constitute an "air pollutant" that is "subject to regulation" under the Act, making it automatically subject to permitting pursuant to the PSD program. 75 Fed. Reg. at 17,007. But that interpretation is impermissible because it conflicts with the text and structure of the Clean Air Act. *Chevron*, 467 U.S. at 845 (agency interpretation of a statute is impermissible if it "is not one that Congress would have sanctioned").

The Interpretive Rule is based on a myopic reading of two statutory definitions and one additional snippet of statutory text. First, the term "major emitting facility" is defined as a facility within a long list of categories of stationary sources having the potential to emit 100 tons per year or more of "any air pollutant,"[5] 42 U.S.C. § 7479. Second, the term "best available control technology," is defined as "an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this chapter emitted from or which results from any major emitting facility." 42 U.S.C. § 7479. Third, the requirement to install best available control technology applies to "each pollutant subject to regulation under this chapter." 42 U.S.C. § 7479(3). But the actual permitting trigger built into the PSD program limits permitting to stationary sources that are "major emitting facilit[ies] . . . *in any area to which this part applies.*" 42 U.S.C. § 7475(a) (emphasis added). The Interpretive Rule ignores this important permitting threshold requirement.

Significantly, the phrase "in any area to which this part applies" appears throughout the PSD statutory text. For example, the Act provides:

> The maximum allowable concentration of *any air pollutant in any area to which this part applies* shall not exceed a concentration for such pollutant for each period of exposure equal to:
>
> (A) the concentration permitted under the *national secondary ambient air quality standard*, or
>
> (B) the concentration permitted under the *national primary ambient air quality standard*.

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[5] Other types of stationary sources not fitting within the statutorily designated categories (but which emit criteria pollutants), are subject to a regulatory threshold of 250 tons or more per year.

42 U.S.C. § 7473(b)(4) (emphasis added). EPA is not authorized under the Act to set "national ambient air quality standards" for any pollutants other than criteria pollutants. 42 U.S.C. § 7411(b)(1)(A); 42 U.S.C. § 7411(d)(1). Accordingly, the term "any air pollutant in any area to which this part applies" refers only to criteria pollutants subject to NAAQS, as confirmed by the use of the term "ambient air quality standard" twice within 42 U.S.C. § 7473(b)(4).

The use of similar language in other parts of the PSD statutory provisions leads to the same conclusion:

> No major emitting facility . . . may be constructed *in any area to which this part applies* unless:
>
> . . .
>
> (3) . . . emissions . . . will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for *any [air] pollutant in any area to which this part applies* more than one time per year, (B) *national ambient air quality standard* in any air quality control region.

42 U.S.C. §§ 7475(a)(3)(A), (B) (emphasis added). In turn, another provision of the PSD program provides:

> Any completed permit application . . . for a major emitting facility *in any area to which this part applies* shall be granted or denied not later than one year after the date of filing of such completed application.

42 U.S.C. § 7475(c) (emphasis added). Each provision echoes the others, and the meaning is clear.

The PSD permitting program was intended to "prevent significant deterioration" in clean air regions of the nation that have attained compliance with NAAQS. 42 U.S.C. § 7471. And the PSD permitting trigger requires a stationary source to be physically located in an attainment area and emit at least one of the criteria pollutants in excess of the statutorily prescribed threshold amount. *Wisconsin Elec.*, 893 F.2d at 904. Congress intended to control emissions from such stationary sources to ensure that an attainment area does not become a nonattainment area over time. Control over noncriteria pollutants is irrelevant to the statutory goal of ensuring continued compliance with ambient air quality standards for criteria pollutants. That is why Congress designed the PSD permitting trigger to apply only to criteria pollutants. If Congress meant something else, it could have easily left out the phrase "in any area to which this part applies" throughout the statutory text establishing the PSD Program. But Congress did not do that. *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997) (specific context of language is important element of statutory construction).

By requiring PSD permits for sources with major emissions of greenhouse gases that are not criteria pollutants, EPA has expanded the PSD program to do much more than prevent significant deterioration of air quality in areas meeting NAAQS standards. In so doing, EPA has rewritten the text and structure of the Clean Air Act. This EPA cannot do, no matter how much it may wish that the statute was drafted in conformance with its administrative predilections. *Food and Drug Administration v. Brown & Williamson*, 529 U.S. 120, 125 (2000) ("Regardless of how serious the problem an administrative agency seeks to address . . . it may not exercise its authority 'in a manner that is inconsistent with the administrative structure that Congress enacted into law.'"), (quoting *ETSI Pipeline Project v. Missouri*, 484 U.S. 495, 517 (1988)). Accordingly, contrary to EPA's Interpretive Rule, the statutory term "major emitting facility in any area to which this part applies" must be limited to a source with major emissions of any criteria pollutant whose NAAQS the source's area is attaining. EPA may not use the term "any regulated pollutant" located in an ancillary provision of the Act to bootstrap permitting requirements for sources not otherwise subject to NAAQS requirements. "Congress . . . does not . . . hide elephants in mouseholes." *Whitman*, 531 U.S. at 468. *See U.S. v. American Trucking Associations, Inc.*, 310 U.S. 534, 542 (1940) (Isolating a few words from their overall statutory context does "not contribute greatly to the discovery of the purpose of the draftsmen of a statute.").

2. The Structure of the Act Does Not Allow for EPA's Interpretation

EPA's interpretation is contrary to the structure of the Clean Air Act. *Offshore Logistics, Inc. v. Tallentire*, 477 U.S. 207, 221 (1986) ("In expounding a statute, we must not be guided by a single sentence . . . but look to the provisions of the whole law, and its object and policy") (quoting *Maestro Plasctics Corp. v. NLRB*, 350 U.S. 270, 285 (1956)). Title I authorizes EPA to institute controls over stationary sources when EPA follows the regulatory steps set forth in Title I for establishing NAAQS or NESHAPS. *See Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 704-08 (1995) (complex structure of Endangered Species Act relevant to a determination of statutory meaning and scope). The procedures and criteria for regulating under Title I and Title II are different. And using the definitions of "major stationary source" and "best available technology" to manufacture authority by which to subject stationary sources not otherwise subject to NAAQS permitting requirements under the PSD Program is impermissible because "Congress . . . does not alter the fundamental details of a regulatory scheme in . . . ancillary provisions." *Whitman*, 531 U.S. at 468.

Taken as a whole, the Clean Air Act does not permit an interpretation that would subject stationary sources to permitting under the PSD program as a result of greenhouse gas regulations under Title II for mobile sources unless the source is otherwise independently subject to NAAQS. As Judge Kavanaugh aptly observed in his dissent to D.C. Circuit's refusal to rehear the case below en banc, "Congress designed the statute's permitting requirement based on facilities' NAAQS emissions, but, *once those facilities are subject to the permitting requirement*, they must *also* meet a range of other minimum environmental standards."[6] Given the structure of the Act, such a result is compelled by virtue of this Court's long-standing policy that "[a]ll laws should receive a sensible construction." *U.S. v. Kirby*, 74 U.S. 482, 486 (1869).

In short, the PSD program is tethered to emissions of the six criteria pollutants because those pollutants are the only drivers of ambient air quality standards, whose maintenance is the sole purpose of

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[6] The statement of the Court on rehearing en banc is unpublished but it is electronically reported at 2012 WL 6621785, Kavanaugh, J., dissenting (emphasis added).

PSD permitting. Yet EPA's Interpretive Rule has made it an all purpose permitting program. The structure and plain language of the Clean Air Act require a different interpretation.

II

THE LEGISLATIVE HISTORY SHOWS THAT CONGRESS INTENDED TO ESTABLISH DIFFERENT REGULATORY TRIGGERS FOR TITLE I AND TITLE II

The current general form of the Clean Air Act can be traced to the Clean Air Act Amendments of 1970.[7] Congress amended the Act in 1977[8] to fine tune the PSD Program, making further adjustments in 1990.[9] *See generally,* Arnold W. Reitze, Jr., *The Legislative History of U.S. Air Pollution Control*, 36 Hous. L. Rev. 679 (1999) (tracing the history of federal air emissions control). There is an extensive legislative history explaining congressional intent regarding the relationship between Title I and Title II of the Act, as set forth in reports of standing committees. *See* Norman J. Singer, 2A Sutherland Statutory Construction § 48:6 (7th ed. 2007) ("The report of the standing committee in each house of the legislature which investigated the desirability of the statute under consideration is often used as a source for determining the intent of the legislature.") *See also*, *Dole v. United Steelworkers of America*, 494 U.S. 26, 40-43 (1990) (legislative history used to help establish the "clearly expressed intent of Congress" to support judicial refusal to defer to agency statutory interpretation). *See generally*, Matthew C. Stephenson & Adrian Vermule, Chevron Has Only One Step, 95 Va. L. Rev. 597 (2009) (legislative history a useful tool in determining whether statutory intent is clear). The reports of two standing committees show that Congress intended to place permitting triggers for stationary sources exclusively in Title I.

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[7] Clean Air Act Amendments of 1970, Pub. L. No. 91-6054, 84 Stat. 1676 (1970).

[8] Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (1977).

[9] Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2468 (1990).

A. The Legislative History of the Clean Air Act Amendments of 1970 Show That Title II Rules May Not Form the Basis Upon Which Permitting Requirements Are Imposed Under Title I

The report of the Standing Senate Committee on Public Works that investigated the need for and crafted the language of the 1970 Amendments, S. Rep. No. 91-1196, contains evidence of legislative intent for both Title I and Title II. The Committee observed that the purpose of permitting a new stationary source under Title I is to ensure that the new source "would not hinder" the attainment of NAAQS "air quality standards and goals" for air pollutants, "for which criteria documents are to be issued and for which national ambient air quality standards and implementation plans are to be established." *Id.* at 17-18. The report goes on to state that NAAQS must be "attained and maintained" for criteria pollutants, designated in the report as "such agents," through the appropriate permitting channels. *Id.* at 54. The focus is entirely on criteria pollutants.

The report also addresses the role and scope of the mobile source regulatory program under Title II, by which the government is authorized "to abate emissions from new and existing aircraft, new and existing vessels and boats, new and existing diesel engines for railroads, and new and existing trucks and buses and other commercial vehicles." S. Rep. 91-1196 at 23. There is no suggestion that regulation of noncriteria air pollutants under Title II would or could trigger permitting requirements under Title I. Indeed, the government is required to make independent judgments regarding the degree to which mobile sources contribute to air quality deterioration and to set emission standards separately for such sources:

> The proposed bill would require the Secretary to make a judgment on the contribution of mobile sources to deterioration of air quality and establish emission standards which would provide the required degree of control.

Id. at 24. The report contains guidance regarding the degree of emission reduction *from mobile sources* that would be "necessary to meet health standards," *id.* at 25-26, showing that the Title II program was intended only to complement the Title I program, and not to drive it.

The 1970 Amendments expanded Title II to include a transportation fuels regulatory program:

> Under the procedure that would be established by the Committee bill, the Secretary could designate any fuel that is

> used for vehicles. Once designated, the fuel would have to be registered by the Secretary prior to sale.

S. Rep. 91-1196 at 33. Thus, Title II was intended to regulate both tailpipe emissions and the fuels that could be used by vehicles. *See also id.* at 59 ("Such emissions standards must be based on the degree of emission control *needed* to protect the public health and welfare *and the implementation of ambient air quality standards* without any reference to the power source or the propulsion system.") (emphasis added). Mobile source standards under Title II are intended to help *achieve* ambient air quality standards that are established under Title I, not to be an independent trigger of Title I requirements, and there is no hint that mobile source regulations could serve as a springboard for stationary source permitting.

Finally, the report addresses the independent regulatory trigger for tailpipe emissions under Title II by authorizing the government:

> To prescribe regulations establishing standards governing the emission of all known pollution agents from [mobile sources] which cause or contribute to air pollution which endangers the public health or welfare.
>
> Such emissions standards must be based on the degree of emission control needed to protect the public health and welfare and the implementation of ambient air quality standards without any reference to the power source or the propulsion system.

Id. at 59. The report shows that, rather than being the basis for any permitting requirement under Title I, the Title II endangerment finding must be set for mobile sources as "needed . . . [for] the implementation of ambient air quality standards." Thus, NAAQS under Title I is the dog that wags the Title II tail and not the reverse, as suggested by EPA's Interpretive Rule, which seeks to make mobile source regulation of greenhouse gases an independent trigger for permitting stationary sources.

B. The Legislative History of the Clean Air Act Amendments of 1977 Shows that Congress Did Not Intend for the Regulation of Mobile Sources of Air Pollutants Under Title II To Trigger Title I Permitting Requirements for Stationary Sources Under the PSD Program

The Standing House Committee on Interstate and Foreign Commerce drafted House Bill 6161, which was enacted as the 1977 Amendments. The committee report discusses the purposes and intent of various provisions of the amendments, including the PSD Program. H. Rep. 95-294 at 1 (May 12, 1977). One key purpose was:

> To provide greater legislative guidance and clearer legislative intent with respect to certain issues on which there has been significant administrative or judicial dispute [including] prevention of significant deterioration.

Id. at 2. The "dispute" was over the scope and purpose of EPA's PSD program based on the perceived conflicting goals of economics and air quality. The amendments sought to "assure economic growth in a manner consistent with existing clean air resources" in PSD areas. *Id.* at 8. To this end, the 1977 amendments created three separate classes of attainment areas, all of which are inextricably tied to national ambient air quality standards, which apply only to criteria pollutants. *Id.* at 8-9 ("Each state must classify those areas which are cleaner than the national ambient air quality standards as class I, class II, or class III for all pollutants for which national ambient air quality standards are established."). Thus, the purpose of the PSD permitting program is to ensure that no NAAQS criteria pollutant emitted within any of the three classified attainment areas comes to exceed the "allowable increment" for that criteria pollutant. *Id.* Because allowable increments apply *only* to emissions of criteria pollutants, the emission of any air pollutant other than a criteria pollutant cannot serve as the trigger for PSD permitting.

Referring to administrative and judicial efforts to construe the earlier Clean Air Act Amendments of 1970, the House Report explains that the intent of the 1977 amendments is "to provide more specific congressional guidance as to how [the PSD] policy is to be implemented." H. Rep. 95-294 at 108. To that end, the House Report states that a major purpose of the PSD program is "to protect public health from harmful exposure to air pollutants occurring at levels below the minimum national ambient air standards," *id.* at 141, and to ensure that allowable increments of criteria pollutants will not be exceeded. *Id.* at 145. The report further emphasizes the point by stating that permits should be granted "[i]f the source demonstrates . . .

that its emissions will not cause to be exceeded the applicable air quality standards, increments, and emissions limitations the State adopted when it classified the areas involved." *Id.* The House Report could not have been more explicit—the PSD permitting program hinges on the maintenance of NAAQS and the allowable increments for criteria pollutants. Contrary to EPA's Interpretive Rule, there is not even a hint that anything other than emissions of criteria pollutants could trigger PSD permitting requirements.

If further proof were required that the mere regulation of mobile source emissions does not trigger PSD permitting, it can be found in two additional statements of the Standing House Committee on Interstate and Foreign Commerce. First, the House Report states that the 1977 statute "[l]imits application of the [PSD Program] *only* to those areas of the country with air quality superior to the *national air quality standards*," *id.* at 147 (emphasis added), again underlining that the permitting trigger applies only to criteria pollutants in attainment areas.

Second, the House Report devotes over 90 pages to detailed discussions of Congress's intent in connection with the PSD permitting program. *Id.* at 221-312. Not one word in those pages (or, for that matter, elsewhere in the House Report) intimates that the trigger for PSD permitting is anything other than preconstruction review in attainment areas for new or modified major stationary sources of criteria pollutants. Indeed, there is no mention that mobile source regulation of an "air pollutant" under Title II was intended to trigger PSD permitting requirements under Title I. Given the length of the House Report (over 500 pages), if Congress had intended to trigger PSD permitting for new or modified major stationary sources simply by the expedient of regulating mobile sources, surely there would have been some mention of such an important new regulatory trigger in the House Report, which goes through elaborate analyses in order to express legislative intent.

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CONCLUSION

For these reasons, this Court should hold that it was not permissible for EPA to determine that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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AMICUS
CURIAE
BRIEF

No. 12-1146 AND CONSOLIDATED CASES

IN THE SUPREME COURT OF THE UNITED STATES

UTILITY AIR REGULATORY GROUP,
Petitioner,
v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF *AMICUS CURIAE* PEABODY IN SUPPORT OF PETITIONER

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INTEREST OF *AMICUS CURIAE*

Peabody Energy Corporation ("Peabody") is the world's largest private-sector coal company and a global leader in sustainable mining and clean coal solutions. The company serves metallurgical and thermal coal customers in nearly thirty countries on six continents. The company shipped 246 million tons of coal in 2010, nearly 80 percent of which came from existing coal mines in the United States, and the company has approximately 9 billion tons of proven and probably coal reserves. Peabody was a Petitioner below, seeking review of the United States Environmental Protection Agency's ("EPA") "Tailpipe," "Tailoring," and "Timing" Rules, as well as its "Endangerment Rule." It filed a Response in support of the Petition for Certiorari in Case No. 12-1272 and is filing as an *amicus* in the proceedings at bar.[1]

QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

STATEMENT OF THE CASE

Peabody adopts Petitioner Utility Air Regulatory Group's statement of the case for this brief.

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[1] The parties consented to the filing of this brief and their letters of consent have been lodged with the Clerk of the Court. Pursuant to Rule 37.6, *amicus* state that no counsel for a party has authored this brief in whole or in part, and that no person or entity, other than the *amicus* or its counsel made a monetary contribution to the preparation or submission of the brief.

SUMMARY OF ARGUMENT

The rules at issue in this case constitute EPA's first foray into greenhouse gas ("GHG") regulation following this Court's landmark decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007). Whether and how to regulate GHGs remains a highly debated, contentious issue in Congress, agencies, and the courts because of the broad impact that these regulations would have on modern industrialized economies, in the United States and abroad.

In 2007 and 2011, the Court set forth two markers with respect to whether and how GHG emissions can be regulated. *See id.*; *American Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011). First, the Court stated that such determinations must result from the *collective* judgment of Congress and EPA:

> "[T]he use of the word 'judgment,'" we explained in *Massachusetts*, "is not a roving license to ignore the statutory text." 549 U.S., at 533. "It is but a direction to exercise discretion within defined statutory limits." *Ibid.*

American Elec. Power Co., 131 S. Ct. at 2539. Second, the Court required potential benefits of such a rule to be weighed along with "our Nation's energy needs and the possibility of economic disruption." *See id.* (concluding the judiciary does not possess tools for making the type of complex policy determinations needed to set GHG emissions). The Court explained that such regulations "cannot be prescribed in a vacuum," but must result from an "informed assessment of competing interests." *Id.* at 2531.

EPA did not follow either direction in setting forth the regulatory regime at issue in this case. As discussed below, it did not work with Congress on developing a series of programs designed for GHGs that properly balances the interests involved. First, it arrogated this power to itself. It tried to cram new permit requirements for GHG emissions into Clean Air Act ("CAA") programs ill-suited for this purpose. When this approach led to "absurd" results, EPA eschewed reasonable alternative interpretations of the CAA in favor of rewriting the CAA. *See* Final Rule, Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514, 31,557-67 (June 3, 2010). Second, EPA did not consider competing interests. For example, during the Endangerment Finding, EPA announced regulatory conclusions before the comment period ended and did not consider the immense benefits to the American people and economy of affordable fuels for electricity and their other daily needs.

The Court should now apply the bounds it set forth in *Massachusetts* and *AEP* to restrain EPA. As the Court wisely foretold in *Massachusetts*, it is the obligation of the Court under the CAA to "reverse any such action found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." *Massachusetts*, 549 U.S. at 528 (citing 42 U.S.C. § 7607(d)(9)). Agencies cannot be permitted to legislate in the guise of legislative interpretation. The Court should reverse the decision below and require EPA to follow the law and take direction from Congress on whether and how to regulate GHGs.

ARGUMENT

In 2007, this Court gave the EPA an "inch." It held that GHGs were considered pollutants under the CAA's definition section for the purpose of regulating emission in cars. *See Massachusetts*, 549 U.S. at 532 ("Because greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,' we hold that EPA has the statutory authority to regulate the emission of such gases from new motor vehicles.").

Automobiles constitute a discrete product category where GHG reductions can be achieved in concert with National Highway Traffic and Safety Administration's ("NHTSA") Corporate Average Fuel Economy ("CAFE") standards for incrementally improving gas mileage. The primary way to achieve substantial GHG emission reductions from motor vehicles is to improve fuel economy. Thus, the mechanism for achieving GHG reductions for automobiles already existed within a government program. *See* Final Rule, Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; 75 Fed. Reg. 25,324 (May 7, 2010) ("Auto Rule"). EPA did hot have to reinvent any programs to carry out its responsibilities under *Massachusetts*.

In issuing new GHG regulations for cars, though, EPA took the proverbial "mile." It used its Endangerment Finding that GHG emissions from light-duty vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger the public health and welfare as a justification to impose a regulatory scheme for GHG emissions on stationary sources. *See* Final Rule, Endangerment and Cause or Contribute Findings for Greenhouse Gases Under

Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009) ("Endangerment Rule"). Specifically, EPA subjected two stationary source permitting programs, PSD preconstruction permits and the Title V operating permits, to GHG regulation. *See* Tailoring Rule, 75 Fed. Reg. at 31,514.

Unlike with cars, the PSD program in particular is not adaptable to regulating GHGs. The CAA vehicle and PSD programs are as different from each other as cars are from buildings. In particular, PSD is region-based.[2] It governs pre-construction permits to control emissions of localized pollutants in defined areas of the country in tandem with the National Ambient Air Quality Standards ("NAAQS"). Under NAAQS, a local "air quality control region" is deemed to be in "attainment" or "nonattainment" depending on whether it is in compliance with emission standards for six regulated pollutants: ozone, sulfur dioxide, particulate matter, nitrogen oxides, carbon monoxide, and lead. *See* 40 C.F.R. §§ 50.1-50.12. A state develops a plan for managing regions in that state.

For regions in attainment, a "major" emitter of the six regulated pollutants can receive a PSD preconstruction permit,[3] but it must demonstrate that it is using the "best available control technology" to limit emissions. 42 U.S.C. §§ 7471, 7475(a)(4). Typically, EPA issues a few hundred PSD permits per year. *See* Tailoring Rule, 75 Fed. Reg. at 31,514, 31,537. Nonattainment areas are governed by a different program and construction of "major" emitters is barred unless the facility demonstrates, among other things, that it can achieve the "lowest achievable emissions rate" for the pollutants. 42 U.S.C. §§ 7502(c), 7503(a).

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[2] *See Alabama Power Co. v Costle*, 636 F.2d 323, 365 (D.C. Cir. 1979) ("Congress intended location to be the key determinant" for permitting requirements.).

[3] PSD requirements apply to a "major emitting facility" that undertakes construction or "modification." 42 U.S.C. § 7475(a), 7479(2)(C). The term "modification" is defined as a physical or operational change that results in the increased or new emissions of "any air pollutant." *Id.* §§ 7411(a)(4), 7479(2)(C).

Under this regime, determining whether a facility can be considered a "major" emitter is critically important. Congress did not leave this determination up to agency discretion. It set the threshold in the CAA, *i.e.*, the potential to emit 100 or 250 tons per year (tpy) of a proscribed pollutant depending on the type of facility. *Id.* at § 7479(1).

Cramming the regulation of GHG emissions into this NAAQS/PSD regime is profoundly misguided. GHGs are fundamentally different than NAAQS pollutants, as different as the term pervasive is from limited. GHGs are not emitted by discrete sources contributing to local pollution. Rather, allegations related to GHGs are that they are emitted by sources around the world, are well-mixed in the entire global atmosphere, and have accumulated in the atmosphere for more than a century. Indeed, once in the atmosphere, these emissions cannot be distinguished from each other. Further, GHGs are not limited to specific facilities. They are ubiquitous, with numerous human activities and natural occurrences releasing them around the world. In fact, GHG emissions outside of the United States constitute about 83% of the world's GHG emissions. *See* Robert Meltz, Cong. Research Serv., RL 32764, *Climate Change Litigation: A Growing Phenomenon* 8, fig. 2 (2008).

Regulating GHG emissions, therefore, is not a local issue, the effects of GHG emissions cannot be addressed through regional permitting, and global GHG emissions cannot be controlled through a subset of U.S. emitters. Basic commonsense supports the legal distinctions in this case.

I. EPA OVERSTEPPED ITS AUTHORITY IN RE-WRITING THE CLEAN AIR ACT'S PERMITTING THRESHOLDS

When EPA used the Auto Rule as a Trojan horse for regulating GHGs for stationary sources, it not surprisingly found the PSD and Title V programs' statutory thresholds of 100/250 tpy and 100 tpy, respectively, yielded "absurd" results. *See* 75 Fed. Reg. at 31,557-67. Millions of buildings emit more than the 100 tpy of GHGs just from combusting oil or natural gas for heating. Applying these thresholds to GHGs would require pre-construction permitting *per year* for more than 80,000 industrial facilities, office buildings and large residences. *See* 75 Fed. Reg. at 31,576. EPA properly expressed alarm that expanding the PSD program in such a way would cause unacceptable economic burdens on these facilities and lead to permitting gridlock within EPA.[4] In this respect, EPA was correct.

The lawful response would have been for EPA to revisit the wisdom of regulating GHG under these programs. EPA, however, took it upon itself to rewrite Congress's statutory thresholds for when a facility is classified as a "major" emitter, but just of

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[4] *See* 75 Fed. Reg. at 31,556-57 (concluding that proceeding under current thresholds would "overwhelm permitting authorities," causing permitting to take "a decade or longer").

GHGs. It decided that a threshold of 75,000 tpy for existing sources and 100,000 tpy for new sources would alleviate the absurd results of applying the statutory thresholds for the NAAQS pollutants to GHGs and then conveyed itself the additional authority to adjust these thresholds at its own discretion in order to encourage emission reductions in the future. *See id.* at 31,573. Congress never gave EPA this authority. If EPA's revisions to Congress's thresholds for stationary sources are allowed to stand for GHGs, agencies would be free to interpret a statute to create absurdity and then rewrite it to advance its own policy agenda.

A. Any Authority EPA Claims to Have Under the CAA to Set Emission Standards for GHGs is a Misinterpretation of the CAA

EPA fully appreciated that the impact of expanding PSD to GHGs was "inconsistent with Congressional intent," but claimed it was required to make these changes to fit GHGs into the existing permitting scheme. Proposed Tailoring Rule, 75 Fed. Reg. at 31,542. EPA's position of administrative necessity stems from an early EPA interpretation of its PSD authority in 1980. EPA had interpreted the CAA as providing that PSD permits were required not just for pollutants for which the Agency has established NAAQS, but *any pollutant that is regulated anywhere in the CAA under any program*. *See* Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Plans, 45 Fed. Reg. 52,676 (Aug. 7, 1980).

Under this broad interpretation, EPA claims that there was an automatic triggering effect when it regulated motor vehicle GHG emissions in the Auto Rule pursuant to ***Massachusetts***. Once GHGs became regulated under this CAA program, it had to regulate GHGs under PSD and Title V programs as a matter of law. When this led to "absurd" results, EPA claims, it had no choice but to revise the statutory thresholds in order to satisfy this responsibility.

EPA took the wrong action. As Petitioners demonstrate, a reasonable alternative would have been for EPA to interpret the term "air pollutant" in the PSD and Title V programs in a more limited fashion, namely not including GHGs. *See* Brief of the Utility Air Regulatory Group at 20-25. EPA's 1980 misinterpretation stemmed from its response to the D.C. Circuit's ruling in *Alabama Power Co. v. Costle*, 636 F.2d 323 (D.C. Cir. 1979) (reviewing certain EPA regulations pursuant to PSD). EPA's actions that led to *Alabama Power*, though, did not address emissions of substances in any way comparable to GHGs. As discussed above, GHGs are not regional, and the *Alabama Power* court did not have to consider the potential that applying the programs to those emissions could lead to absurd results.

EPA was presented with this and other reasonable alternative interpretations of the CAA during its deliberations of the stationary source rule that would have avoided the above absurdities. Undeterred, though, EPA persisted in interpreting the CAA in a way that created absurdity. Judge Kavanaugh wisely observed in a dissenting opinion below that "[w]hen an agency is faced with two initially plausible readings of a statutory term, but it turns out that one reading would cause absurd results, I am aware of no precedent that suggests the agency can still choose the absurd reading and then start rewriting other perfectly clear portions of the statute to try to make it all work out." *Coalition for Responsible Regulation, Inc. v. EPA*, Nos. 09-1322 et al., 2012 WL 6621785, *16 (D.C. Cir. Dec. 20, 2012). Yet, this is precisely the path EPA took.

Indeed, since *Massachusetts* EPA has been unwavering in its effort to regulate GHGs in a fashion broader than the Auto Rule alone. It signaled as early as the Advance Notice of Proposed Rulemaking on remand of *Massachusetts,* that it intended to maintain its interpretation and use the Auto Rule to regulate GHG emissions from stationary sources. *See* Regulating Greenhouse Gas Emissions Under the Clean Air Act, 73 Fed. Reg. 44,354, 44,497 (July 30, 2008). In the Endangerment Finding and the Auto Rule, EPA laid the groundwork for the need to change the statutory thresholds, stating the multitude of reasons existing thresholds would result in absurdities. *See* 75 Fed. Reg. at 31,540. In this regard, EPA could appear to approach its new regulation of GHGs in a "moderate" fashion. It could present the new regulations as alleviating undue burdens from a multitude of stationary sources around the country, rather than imposing such burdens on a certain class of them.

What is clear is that Congress never authorized these actions. Congress did not give EPA the authority to arrogate to itself the power to regulate GHGs, establish GHG emission limits at its own discretion, or continue setting GHG emission limits on an ongoing basis. These actions are not only contrary to the

CAA's text, but they also contravene Congress's purposeful decision to deny EPA the authority to set emission limits for the pollutants that it intended to be subject to the PSD. The lower court ruling approving of these acts should be reversed.

B. EPA Has Followed a Pre-Ordained Path to Regulate GHG Emissions

In pulling back the curtain on EPA's approach to regulate GHGs, one can see that at each stage in this regulatory process, EPA refused to consider regulatory decisions or interpretations that might lead the Agency to not regulate GHGs beyond the Auto Rule. The events surrounding the Endangerment Finding particularly demonstrate an Agency on a preordained mission.

As alluded to earlier, before regulating GHGs under the Auto Rule, EPA had to determine through an Endangerment Finding that GHGs emitted from cars pose a danger to public health and welfare. EPA issued this proposed Endangerment Finding on April 17, 2009, less than three months after the Administration took office.[5] About a month later, *before the 60-day comment period closed*, the President and EPA Administrator announced that EPA had already concluded negotiations with automakers, certain environmental advocates and labor union representatives, and the State of California on the specific motor vehicle GHG regulations that would result from this process.

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[5] Press Release, President Obama Announces National Fuel Efficiency Policy, The White House, May 19, 2009, *at* http://www.whitehouse.gov/the_press_office/President-Obama-Announces-National-Fuel-Efficiency-Policy/.

Although it is not known exactly when these negotiations commenced, the fact that they concluded just one month after the Endangerment Finding was proposed strongly suggests that the Administration had initiated efforts to negotiate a regulation to restrict GHG emissions even before it moved forward with the Endangerment Finding proposal. The public did not know of the existence of these negotiations until the deal was announced.[6]

The Administrator claimed that the "deal" only committed EPA to *propose* GHG regulations and that the commitment to finalize those regulations was contingent on the outcome of the Endangerment Finding.[7] The words used by the President and Administrator at the press conference, however, belie that claim.[8] The White House Press Release stated that "[t]his groundbreaking policy delivers on the President's commitment to *enact* more stringent fuel economy standards."[9] The Administrator echoed, saying EPA "will . . . cut tons of pollution from the air we breathe, and make a lasting down payment on cutting our greenhouse gas emissions."[10] The announcement also specified the exact timeframe and standards for these new regulations.

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[6] *The New York Times* quoted California's representative in the negotiations as saying that EPA required that no one keep written records of the negotiations, *see* Colin Sullivan, *Vow of Silence Key to White House-Calif. Fuel Economy Talks*, N.Y. Times, May 20, 2009, even though EPA issued a memorandum on "Transparency in EPA's Operations" declaring its rulemaking processes will follow "the principles of transparency and openness." Lisa P. Jackson, Memorandum, *Transparency in EPA's Operations*, Apr. 23, 2009.

[7] *See Endangerment Finding*, 74 Fed. Reg. at 66,502.

[8] A central plank of the Administration's campaign was to reduce GHG emissions by 80 percent by 2050. *See* New Energy for America, *at* http://my.barackobama.com/page/content/newenergy_more (last visited Dec. 10, 2013). In one of her first acts, the EPA Administrator issued an "Opening Memo to EPA employees" stating "we will move ahead to comply with the Supreme Court's decision recognizing EPA's obligation to address climate change under the Clean Air Act." Memorandum from Lisa P. Jackson to All EPA Employees, Jan. 23, 2009, *available*

What's more, EPA did not hide the fact that it was acting pursuant to a policy agenda. In the preamble to the proposed Endangerment Finding, EPA emphasized that its ultimate conclusions may reflect science, but they would also "embody policy considerations" of this Administration. Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18,886, 18,892, n.10 (Apr. 24, 2009) (to be codified in 40 C.F.R. Ch. 1). In this regard, EPA did not follow the most basic procedural requirement in notice-and-comment rulemaking: an agency with an open mind. *See Advocates for Highway and Auto Safety v. Federal Hwy. Admin.*, 28 F.3d 1288, 1292 (D.C. Cir. 1994).

Congress enacted the Administrative Procedure Act (APA") to ensure the public a meaningful opportunity to participate in the rulemaking process and to enable agencies to educate themselves before establishing regulations. *See Texaco, Inc. v. Federal*

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at http:// blog.epa.gov/administrator/2009/01//opening-memo-to-epa-employees/ (last visited Dec. 10, 2013).

[9] *President Obama Announces New Fuel Efficiency Policy. supra* note 5 (emphasis added).

[10] *Id.*

Power Comm'n, 412 F.3d 740, 744 (3d Cir. 1969); *American Fed. of Labor & Congress of Indus. Orgs. v. Donovan*, 757 F.2d 330, 338 (D.C. Cir. 1985) (The "essential purpose" of the comment period is to generate "comments that will permit the agency to improve its tentative rule announced in the notice of proposed rulemaking."); *Home Box Office, Inc. v. FCC*, 567 F.2d 9, 35 (D.C. Cir. 1977) (An "exchange of views, information, and criticism between interested persons and the agency" must be allowed.). This process is not to be a meaningless exercise where an Agency goes through the motions, but has a firm commitment to a predetermined course, as EPA appeared to do here with respect to GHGs.

Further, even though EPA had already stated its strategy to use motor vehicle regulations to trigger GHG regulations for stationary sources, the settlement negotiations reportedly did not include representatives from any stationary sources. In fact, several entities asked the Agency during the Endangerment Finding proceedings to consider the regulatory consequences of making this finding on stationary sources. They noted that EPA traditionally considers endangerment and regulatory responses together so that these decisions are not made in a vacuum. *See generally* Comments of Peabody Energy Co., Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Docket ID No. EPA-HQ-OAR-2009-0171 (filed June 23, 2009). The agency denied these overtures, choosing to trigger and develop new GHG rules outside of Congress's authority and without considering the broader consequences of these new rules on the nation's economy or energy needs.

C. New GHG Regulations Should Not Result from a Flawed and Biased Process

The process EPA used to regulate GHG emissions, along with the regulations themselves, stands in stark contrast to the long-standing tenets of congressional energy policy of weaving together progressive, cogent strategies for managing risks, benefits, and capabilities of America's energy sources.[11] This balanced approach recognizes that the power to regulate GHGs is the power to regulate the use of fossil fuels, and is thus the power to regulate nearly everything in the economy. It should be done with caution and through a fully informed process.

Congress has been keenly aware that, under the well-established formula that "wealth=health," the public health and welfare has improved dramatically as a direct result of fossil fuel energy.[12] This relationship is not an accident. The direct cause of both the increased emissions and the improvements in health and welfare is society's use of energy. The public relies on fossil fuel energy for turning on lights, heating homes, running appliances, and meeting their most basic transportation needs. The National Academy of Engineering identified societal electrification as the most significant "engineering achievement" of the twentieth century." George Constable & Bob Somerville, A Century of Innovation:

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[11] *See* Peter S. Glaser, F. William Brownell, & Victor E. Schwartz, ***Managing Coal: How to Achieve Reasonable Risk with an Essential Resource***, 13 Vt. J. of Envtl. L. 177 (2011).

[12] *See, e.g.*, Sam H. Schurr et al., Electricity in the American Economy, Agent of Technological Progress (Greenwood Press, 1990).

Twenty Engineering Achievements That Transformed Our Lives (Joseph Henry Press 2003).

EPA's regulations, though, blindly put the nation on a path toward more expensive energy. As advocates for the poor and elderly have expressed, limiting GHG emissions, whether through litigation, legislation, or regulation, can disproportionately impact their constituents.[13] American households earning between $10,000 and $30,000 allocated twenty-three percent of their 2011 after-tax income to energy—more than twice the national average and a 65% increase from ten years earlier.[14] As one study of the Endangerment Finding concluded, GHG regulation "will impact low income groups, the elderly, and minorities disproportionately, both because they have lower incomes to begin with, but also because they have to spend proportionately more of their incomes on energy." Management Information Services, Inc., Executive Summary: Potential Impact of EPA Endangerment Finding on Law Income Groups and Minorities, at 2-3 (Mar. 2010), *at* http://www.misinet.com/publications/APA-0310.pdf.

Setting emission levels for GHGs, as with any gas or pollutant, is a policy decision that requires a careful balancing of the amount of emissions society will allow given the benefits of the underlying activity. It cannot be made by ignoring one side of the scale. Congress has long approached the issue of GHG regulations with purposeful deliberation. Any lack of direction EPA perceives from Congress on whether or how to regulate GHG emissions from stationary sources is not a void that EPA can fill on its own. Thus, even if under *Massachusetts* GHGs qualify as a pollutant in the CAA, EPA must work with Congress to develop programs that strike the balance *Congress* desires for regulating GHG emissions.

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[13] *See* Eugene M. Trisko, Energy Cost Impacts on American Families, 2001–2011 (2011), *available at* http://www.americaspower.org/sites/default/files/Energy_Cost_Burdens_on_American_Families_2011.pdf.

[14] *See id.* at 2.

II. EPA OVERREACH HAS GROWN IN RECENT YEARS

EPA's unauthorized rewriting of the CAA for stationary source permits is one of several examples in recent years where the agency has overreached its authority. As discussed below, one such case was before this Court last year. In that and other administrative law cases, this Court appreciated the risk of allowing agencies to implement political agendas unchecked by Congress or the regulated community. The public can lose trust in their unelected officials to fairly and faithfully execute the nation's laws.

A. Courts Have Been Admonishing EPA for Overstepping Its Authority

In the past several years, a number of EPA's actions have been challenged as overstepping the Agency's bounds. Several federal appellate courts have found that EPA has either exceeded its authority or issued inappropriate orders, sometimes, as this Court found, by the "strong-arming of regulated parties." *Sackett v. EPA*, 132 S. Ct. 1367, 1374 (2012).

For example, last year, the U.S. Court of Appeals for the Fifth Circuit held that EPA "overstepped the bounds of its narrow statutory role" in disapproving a State Implementation Plan ("SIP"). *See Luminant*

Generation Co. v. EPA, 675 F.3d 917, 926 (5th Cir. 2012). As part of the cooperative federalism approach of the NAAQS program, states have discretion to develop a SIP in order to assure that the regions in their states that are in attainment stay in attainment and that they are taking steps to correct any regions that are in nonattainment.

In this case, EPA disapproved of three amendments Texas made to its SIP for regulations implementing the state's permits for emission limits. The Court found that EPA, in addition to missing its statutory deadline to act by three years, had no basis for rejecting the amendments. The court noted that the amendment satisfied all federal requirements and that EPA's disapproval was based on "purported nonconformity with three extra-statutory standards that EPA created out of whole cloth." *See id.* at 932.

Also last year, the Fifth Circuit rejected another EPA attempt to invalidate a Texas emissions-related rule. *See Texas v. EPA*, 690 F.3d 670 (5th Cir. 2012). This rule allowed sources to make adjustments to its emissions without further regulatory action if the emissions were under the proscribed limits. The court concluded that EPA's rejection was not based on any violation of the CAA, but the Agency's own "preference for a different drafting style, instead of the standards Congress provided in the CAA." *Id.* at 679. EPA, the court continued, "abuse[d] its discretion," "act[ed] beyond its Congressional mandate," "usurp[ed] state initiative[s] in the environmental realm," and "disrupt[ed] the [CAA's] balance of state and federal responsibilities." *Id.*

The Sixth Circuit had to restrain EPA in another case involving CAA regulations. *Summit Petroleum*

Corp. v. EPA, 690 F.3d 733, 741 (6th Cir. 2012). In this case, EPA construed the term "adjacent" so that it could aggregate emissions from several "adjacent" sources of emissions over a forty square mile region to have them qualify as a "single" stationary source. Only by aggregating their emissions would they qualify as a "major" source under the CAA programs and, therefore, be subject to heightened EPA regulation. The Court vacated EPA action, stating the interpretation was contrary to the dictionary definition, case law, regulatory history, and EPA's own previous guidance. *See id.* at 741-50.

Finally, as this Court experienced first-hand in *Sackett v. EPA*, 132 S. Ct. 1367 (2012), EPA overstepped its bounds in demanding that an Idaho couple preparing to build a home in a residential neighborhood stop work on their house. *See id.* at 1370. EPA claimed the two-third acre lot was a "wetland" protected under the Clean Water Act and told the Sackets to restore the site to its natural state pursuant to an EPA-approved Restoration Work Plan, give the agency access to the property, and turn over certain records or be fined up to $75,000 per day. *See id.* at 1370-71. EPA then argued, successfully in the lower courts, that this edict could not be challenged.

This Court reversed, stating "there is no reason to think that the Clean Water Act was uniquely designed to enable the strong-arming of regulated parties into 'voluntary compliance' without the opportunity for judicial review." *Id.* at 1374.

B. EPA's Increased Use of "Sue and Settle" Tactics for Rulemaking

During this same period of time, there have been reports of EPA trying to impose new legal obligations outside of the normal regulatory process through a little-known practice called "sue and settle." *See generally* William L. Kovacs et al., Sue and Settle: Regulating Behind Closed Doors (U.S. Chamber of Commerce 2013), *available at* http://www.uschamber.com/sites/default/files/reports/SUEANDSETTLEREPORT-Final.pdf. In these actions, an advocacy group files a lawsuit challenging an agency action or rule. In settling the case, the agency agrees to effectively adopt the advocacy group's position. *See id.* This is all done outside of the safeguards of rulemaking and the ability of the affected regulated community to provide input. *See id.* at 11.

This process is not new or unique to EPA, but the reports suggest that the use of such agreements by EPA has increased in recent years. *See id.* at 14. More than one hundred of EPA's new rules, resulting in billions in annual compliance costs, are the product of sue-and-settle agreements. *See id.* at 14-15. In about 60 cases since 2009, EPA has not defended itself in the lawsuits, leading some to call these actions "friendship suits" that are designed to allow EPA to regulate outside the scrutiny of the public, state officials, and the regulated industry. *See id.* at 30-42. When trade groups have intervened to assert their rights to be heard should the case result in any new regulations, some courts have found that the groups lack judicial standing to participate in the cases, thereby perpetuating this practice. *See, e.g.*, *Defenders of Wildlife v. Jackson*, 284 F.R.D. 1 (D.D.C. 2012).[15]

The U.S. Court of Appeals for the Ninth Circuit, this year, drew a line on "sue and settle" regulations, holding that an agency cannot use consent decrees to effectively promulgate a standard or rule change without following required procedures. *See Conservation Northwest v. Sherman*, 715 F.3d 1181, 1188 (9th Cir. 2013). This case involved an agreement between a coalition of environmental groups and the Bureau of Land Management to alter the method of assessing the impact of logging on wildlife in the Pacific Northwest. *See id.* at 1184-85. The Ninth Circuit concluded that the agency must provide an opportunity for public comment on alternatives the agency was required by law to consider. *See id.*

The Court should consider this case in the context of other attempts by federal agencies, including EPA, to impose preferred policy agendas outside of either their authorizations or the proper regulatory process.

III. THE COURT IS THE LAST LINE OF DEFENSE AGAINST AGENCY OVERREACH

Earlier this year, the Court affirmed that agencies are entitled to substantial deference in interpreting their authorizing statute, including the scope of their own authority. *See City of Arlington v. FCC*, 133 S. Ct. 1863, 1868 (2013). But, the Court was equally unambiguous that when "Congress has established a clear line . . . the agency cannot go beyond it." *Id.* at 1876; *Louisiana Pub. Serv. Comm'n*

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[15] *See also Center for Biologic Diversity v. EPA*, No. C-11-06059, 2012 WL 909831 (N.D. Cal. Mar. 16, 2012); *Center for Biologic Diversity v. EPA*, 274 F.R.D. 305 (D.D.C. 2011).

v. FCC, 476 U.S. 355, 374 (1986) ("an agency literally has no power to act . . . unless and until Congress confers power upon it"). Here, Congress established a clear line on emission thresholds for PSD and Title V programs. EPA crossed that line to avoid self-induced absurdities.

Chief Justice Roberts observed last year that in the current era, regulatory regimes are rapidly expanding and the federal bureaucracy "wields vast power and touches almost every aspect of daily life." *City of Arlington*, 133 S. Ct. at 1878 (Roberts, C.J., joined by Kennedy and Alito, J.J., dissenting). Using EPA's "strong-arming" of the Sacketts as an example, Chief Justice Roberts cautioned that "the danger posed by the growing power of the administrative state cannot be dismissed." *Id.* at 1879. The Court has a "duty to police the boundary between the Legislature and the Executive," particularly given the "dramatic shift in power" from Congress to agencies that exert a "potent brew of executive, legislative, and judicial power." *Id.* at 1886.[16]

If the Court fails to strike down the EPA actions at issue here, a key boundary between congressional and agency powers will go unpoliced. EPA and other federal agencies will be emboldened to arrogate more power for themselves and take shortcuts, both with respect to expanding their rulemaking authority and circumventing the normal rulemaking process.

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[16] *See also* Jonathan Turley, *The Rise of the Fourth Branch of Government*, Wash. Post, May 24, 2013 (cautioning that agencies are exercising increased autonomy with less accountability, sometimes issuing "abusive or nonsensical" rules).

CONCLUSION

For the foregoing reasons, *amicus curiae* respectfully request this Court to reverse the ruling below.

Respectfully submitted,

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In The Supreme Court of the United States

CHAMBER OF COMMERCE OF THE UNITED
STATES OF AMERICA, ET AL.,

Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY,
ET AL.,

Respondents.

**On Writ of Certiorari
to the United States Court of Appeals for the
District of Columbia Circuit**

BRIEF OF ECONOMISTS THOMAS C. SCHELLING, VERNON L. SMITH, AND ROBERT W. HAHN AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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INTEREST OF *AMICI CURIAE*[1]

Amici professors of economics Thomas C. Schelling, Vernon L. Smith, and Robert W. Hahn all have significant experience analyzing the costs, benefits and effects of regulation, including environmental regulation.

Thomas C. Schelling is a Distinguished University Professor Emeritus at the University of Maryland. Among the vast body of scholarly literature Professor Schelling has produced over more than sixty years, he has written extensively on environmental and energy regulation, including the regulation of greenhouse gas emissions. He was awarded the Nobel Prize in Economics in 2005.

Vernon L. Smith is the George L. Argyros Endowed Chair in Finance and Economics, Chapman University. His research over more than fifty years includes work on environmental economics and regulation. Among other highly regarded texts, he is the author of *Rationality in Economics: Constructivist and Ecological Forms*. He was awarded the Nobel Prize in Economics in 2002.

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[1] All parties have consented to the filing of this brief. No counsel for any party authored this brief in whole or in part, and no person or entity, other than Consumers' Research Inc., has made a monetary contribution intended to support the preparation or submission of this brief. *Amici* professors received no compensation for offering the views expressed in this brief. Consumers' Research Inc. expresses no opinion on the views reflected herein.

Robert W. Hahn is Director of Economics and Professor, Smith School of Enterprise and the Environment, University of Oxford. Professor Hahn's publications on regulation include *The Impact of Economics on Environmental Policy* and *Government Analysis of the Benefits and Costs of Regulation*.

The *amici* economics professors gratefully acknowledge a monetary contribution from Consumers' Research that enabled the preparation and printing of this brief. The views expressed in the brief are solely those of the *amici* economics professors. Those views should not be attributed to Consumers' Research, or to any institution with which the *amici* economics professors are now, or have in the past been, affiliated.

Amici are convinced that the regulatory regime at issue, of which the challenged rule is an intrinsic part, is likely to produce unnecessary, and potentially substantial, costs on the public. Accordingly, we write in support of the Petitioners and respectfully suggest, to the extent settled economic analysis has a role to play in adjudicating the legality of the challenged rule, that the analysis counsels against the implementation of the regulatory regime proposed by EPA.

To be sure, as economists, *amici* lack the expertise to assess the legal issues in the case. We do understand that the Environmental Protection Agency ("EPA") contends that the Clean Air Act and this Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), *compelled* the programs at issue. If that is correct, proper resort may be to the Legislature, not to this Court. If, however, the regulations are not so compelled (as Petitioners contend), and if a proper disposition permits or requires a more comprehensive accounting and precise consideration of the costs and/or benefits of the rules at issue, we believe there is a wide gulf between the proposed regulations and available, more sensible approaches to the issue the agency would like to address.

SUMMARY OF ARGUMENT

Economists who study the costs and benefits of environmental regulation typically begin by assessing whether the regulatory subject is best addressed by one of two potential modes (setting aside cases in which no regulation is necessary or appropriate): (i) "command-and-control" regulation, with governing rules set forth by a central authority; and (ii) "incentive-based" regulation, which is less prescriptive regarding the approaches firms and individuals may use to meet a given social objective. Over time, the majority of economists who analyze these questions have concluded that the second mode, based on incentives, best serves the interests of regulator and regulated alike, by enhancing the likelihood that regulatory goals will be achieved at the lowest cost to society.[2]

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[2] This brief takes as an *assumption* that policymakers have elected to regulate greenhouse gases, and analyzes, based on that assumption, whether the mode of regulation chosen by EPA is superior versus an incentive-based system. We do not suggest that any one mode of regulation is superior to another in all cases.

To address the issue of GHGs, however, EPA has selected the former mode, that of command-and-control. If implemented, this regulatory choice will impose substantial, yet avoidable, costs on society, while reducing the potential that the problem identified will be resolved.

Specifically, in the wake of this Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), EPA first found—pursuant to Section 202(a)(1) of the Clean Air Act, 42 U.S.C. § 7521(a)(1)—that CO2 and other GHGs may "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." *See Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66,496 (Dec. 15, 2009). EPA then proposed and subsequently finalized a series of substantive regulations, among them: a "Tailpipe Rule," which imposes stringent emissions standards for new motor vehicles; a "Triggering Rule," which stated that the Tailpipe Rule's regulation of motor vehicle emissions triggered stationary source regulations under the Act's PSD and Title V provisions; and a "Tailoring Rule," which will govern the application of the Clean Air Act's PSD and Title V stationary source permitting programs to GHG emitters and emissions. *See Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule*, 75 Fed. Reg. 25,324 (May 7,2010*)* (Tailpipe Rule); *EPA, Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs; Final Rule*, 75 Fed. Reg. 17,004 (Apr. 2, 2010) (Triggering Rule); *Prevention of Significant*

Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010) (Tailoring Rule).

We understand that the Court has agreed to review the legality of the "Triggering Rule" only. That said, we discuss below the subject rules collectively, to provide the Court with a broader understanding of the potential economic impact of the regulatory regime of which the Triggering Rule is a key part, and because we understand that the Tailoring Rule may have no practicality if the Triggering Rule is struck.

Taken together, then, the contemplated regime is a classic example of command-and-control regulation; it imposes performance standards on automobile manufacturers. The Triggering and Tailoring Rules will impose technology standards (*i.e.*, installation of the "best available control technology," or BACT), on stationary sources of GHG emissions. *See* 42 U.S.C. § 7479(1).

These types of command-and-control mechanisms were standard features of early environmental and health and safety statutes (like the Clean Air Act, enacted in 1970 and amended in relevant part here in 1977). Since the 1970's, however, economists and policy analysts, following a long period of "blackboard" analysis and careful empirical studies, found that command-and-control regulation often yields disappointing results that are unduly costly. Indeed, in a notoriously contentious profession, that finding has held up strikingly well. Economists now overwhelmingly agree that well-designed incentive-based systems, either in the form of taxes or transferable property rights (*e.g.*, "cap and trade" or carbon taxes) tend to produce better outcomes at far lower cost. *See, e.g.*, Arthur C. Pigou, *Economics of Welfare* (1920), and J.H. Dales, *Pollution, Property, and Prices* (1968). Some of the reasons are briefly summarized below.

To be sure, this consensus position does not cover every environmental problem. For example, incentive-based regulatory systems may be ineffective in dealing with highly concentrated, *localized* pollution or other unwanted externalities; in such "hot spots," only a direct control (perhaps up to an outright ban) may be appropriate. But the limited exceptions to the general proposition that incentive-based regulation dominates command-and-control regulation in environmental matters do not apply here.

Indeed, if *any* problem is well-suited to using market-based environmental approaches, it is the control of CO2 for addressing climate change. That is because, as EPA acknowledges, GHGs are "sufficiently long-lived in the atmosphere" that "they become 'well-mixed,'" and "essentially uniform." *See* U.S. Envtl. Prot. Agency, EPA-HQ-OAR-2009-0171, Response to Public Comments No. 10: Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act (2009). Put another way, emissions *anywhere* affect GHG concentrations *everywhere*. Because the harms they cause are unrelated to local conditions, each ton of emissions has approximately the same impact regardless of the location of its source. Under the circumstances, a market-based approach to emissions control is preferred.

A leading textbook, originally written for law students by then-Professor Breyer, concisely summarizes some of the major reasons:

> All serious proposals for a regulatory regime to reduce [GHG] emissions ... would rely on either a carbon tax or a cap and trade regime ... [T]he benefits of economic incentives are especially salient here: The costs of reduction vary enormously, and therefore the savings to be had from getting reductions from those able to do so least expensively are likewise enormous ... At the same time, perhaps the most significant problem with economic incentives—the danger of "hot spots"—does not arise because GHGs are "perfectly mixed" pollutants; where they are emitted simply [does] not matter.

Stephen G. Breyer et al., *Administrative Law and Regulatory Policy* 293 (7th ed. 2011).[3]

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[3] Observation of the mismatch between climate change problems and command-and-control measures is not limited to economists and policy experts. To our knowledge, no legislature in the world has seriously contemplated a large command-and-control system for regulating GHGs. In fact, then-EPA Administrator Lisa Jackson stated in 2010 that "the *best* way to address" GHG emissions "is through a gradual move to a *market-based program* like cap and trade." *The President's Proposed EPA Budget For FY 2010 Before The S. Comm. On Env't & Public Works*, 111th Cong. (2009) (statement of Lisa Jackson, Administrator, Environmental Protection Agency)(emphasis added).

Notwithstanding this modern, and largely settled, understanding regarding the economics of GHG regulation, we understand that absent reversal of the decisions below, the regulatory process will proceed and generate a complex, highly prescriptive command-and-control regime. This brief highlights why the mismatch between the problem identified and solution proposed is likely to impose significant, yet avoidable costs on the public without attendant benefits.

ARGUMENT

In Part I below, we describe the command-and-control nature of the regulatory program, of which the Triggering Rule is a part, and the special problems they may give rise to with respect to controlling emissions of GHGs. In Part II, we explain why GHG problems are better addressed using incentive-based regulation. We conclude by respectfully suggesting that the Court, if it agrees that economic analysis is germane to determining the legality of the challenged measures, consider that there are more effective, lower costs regulatory options available to EPA than the regime chosen.

I. The Contemplated Regime For The Regulation Of Stationary GHG Emissions Is Economically Inefficient.

The Tailpipe, Triggering, and Tailoring Rules constitute command-and-control regulation of a sweeping nature. Economic theory suggests that the measures are likely to impose outsized costs on society.

A. EPA Has Imposed A Command-and-Control Approach For Regulating Greenhouse Gases.

We understand that EPA has not yet implemented its regulatory program, and aspects of each regulation remain in development. Nonetheless, we are able to offer certain observations based on prior analysis, and what is known about the program presently. Scholars have studied extensively the existing PSD program, and other programs using command-and-control approaches to environmental regulation. Insights gleaned from this work cast light on what a GHG regulatory program might look like.

EPA has also offered guidance on how the proposed regime is intended to operate. *See* PSD and Title V Permitting Guidance for Greenhouse Gases, EPA-457/B-11/001, (March 2011) ("Permitting Guidance"),http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf. At its core, the Regime's stationary source aspects would impose "best available control technology" (BACT) standards by means of the statutory permitting process. We understand that, in the ordinary case, once a major source has become subject to PSD, the source must apply BACT, demonstrate compliance with air quality related values and PSD increments, address impacts on special Class I areas (for example, national parks), and assess impacts on soils, vegetation, and visibility. *Id.* at 6. Nonetheless, we understand that EPA expects to eliminate the impact on soils, vegetation, and visibility as well as on special Class I areas for GHG emissions because with current technology, these measurements for GHGs are not feasible. *Id.* at 48. Hence, emission levels with BACT will be the EPA's primary assessment tool for GHGs.

Furthermore, we understand EPA plans to use the same BACT determination method for GHGs as for other pollutants. Under that plan, the permitting authority determines the emissions limitation based on the maximum degree of emissions reduction possible when BACT is employed at that source. This includes a five-step process for determining the BACT for a given source: (i) the identification of all control technologies; (ii) the elimination of technically infeasible options; (iii) the ranking of remaining technologies in descending order of effectiveness; (iv) the evaluation of the most effective controls; and (v) the selection of the BACT.[4]

The process described above constitutes classic command-and-control regulation. The regulator leaves the regulated entity with relatively little scope for how to comply with a regulation.

B. The Contemplated Regime Is Unprecedented, Sweeping, And Costly.

An economic assessment of the impact of the GHG rules must take account of the rules' *scope.* EPA's permitting guidance document explains that the intended approach will impact how energy consumption is regulated, manufacturing processes are regulated, and permits are evaluated and awarded. As this guidance makes clear, the command-and-control approach is far-reaching.

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[4] Under step four, the permit applicant must demonstrate that technical considerations, or energy, environmental, or economic impacts make a technology not achievable. Absent such a showing, the most effective alternative would be selected.

Indeed, the new regulations appear to sweep new categories of equipment, facilities, manufacturing methods, and emission types into the regulatory mix. In each case, expansion of the regulatory regime imposes significant costs that should be considered.

In particular, we understand that under current EPA rules, permitting authorities may consider source-wide energy efficiency strategies throughout an entire production process or multiple processes. *See* Permitting Guidance, at 23. As contemplated by the GHG rules, BACT will apply to more pieces of equipment than with traditional emissions.

We also understand that the new regime will allow EPA to regulate energy consumption in a large number of facilities, and that many aspects of a facility's manufacturing methods are subject to change. The expansion, therefore, of the PSD program for GHG emissions will increase the costs for permitting authorities in determining the proper level of emissions and application of BACT. Permitting itself is made more costly through new substantive and procedural requirements.

Moreover, for GHGs, permitting authorities will assess how reducing GHG emissions at the facility will affect the demand for energy from the electrical grid and offsite emissions as well. *See* Permitting Guidance, at 24. In fact, EPA intends to rely increasingly on energy efficiency determinations in regulating GHG emissions. *Id.* at 29. This constitutes a significant change from the existing regime for conventional pollutants, for which EPA has interpreted the BACT requirements as *not* applying to *secondary* emissions that occur as a result of the construction or operation of the source but come from offsite locations. *Id.* at 24.

The combination of source-wide regulation, energy efficiency determinations, and the consideration of offsite emissions significantly increases the scope of EPA regulation beyond the parameters within which the PSD program was designed. The impact of the new regime will grow accordingly.

II. Incentive-Based Regulation Is A Superior Method For Regulating Greenhouse Gases.

Command-and-control regulation may be sensible in some settings—for example, in dealing with acute local pollution problems. Concerns of this sort may help to explain the command-and-control mechanisms of the original Clean Air Act, which addressed local, rather than transboundary (let alone global) pollution problems. *See* Thomas Merrill, "Golden Rules for Transboundary Air Pollution," 46 Duke L. J. 931 (1997).

For GHG regulation, however, such reservations have no place. In that context, the economist's critique of command-and-control regulation applies with full, unqualified force.

A. Incentive-Based Approaches Are Often Preferable To Command-And-Control Approaches For General Air Pollution Problems.

The pathologies of command-and-control regulation and especially of technology standards are described in many economic textbooks, with only minor variations. Five shortcomings receive consistent mention.[5]

First, uniform BACT requirements ignore variations among regulated entities in their costs of reducing pollution. This wastes "many billions of dollars annually" compared with incentive-based approaches for environmental protection. Ackerman, 13 Colum. J. Envtl. L. at 173.[6]

Second, BACT requirements impose higher regulatory burdens on new products and processes, discourage new investment, and penalize growth. Higher environmental standards are imposed on new products and processes, in part, because there is "no risk of shutdown." *Id.* New investment is discouraged because of uncertainty associated with the "length of regulatory proceedings to win approval." *Id.* Economic growth is reduced because disproportionate burdens are imposed on "more productive and profitable industries." *Id.* at 174.

Third, BACT requirements "do not provide strong incentives for the development of new, environmentally superior strategies and may actually discourage their development." *Id.* These innovations are essential for long-run economic growth. As we note below, such innovation is particularly important for addressing the challenge of reducing GHG emissions.

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[5] Our exposition here follows Bruce A. Ackerman & Richard B. Stewart, "Reforming Environmental Law: The Democratic Case for Economic Incentives," 13 Colum. J. Envtl. L. 171 (1988). In addition to its concise exposition, the article was written principally about air pollution controls, but before global warming became a prominent concern—dispelling any notion that that such concern drives its analysis.

[6] Ackerman and Stewart use the term "BAT," but we understand that BAT and BACT may be used interchangeably.

Fourth, BACT regulations require "centralized, uniform determination of complex scientific, engineering and economic issues involving the feasibility of controls on hundreds of thousands of pollution sources." *Id.* The information burdens on administrators are substantial. Furthermore, the high costs of control make it more attractive for industry to litigate and attempt to delay regulation.

Fifth, a BACT "strategy is inconsistent with intelligent priority setting." *Id.* Agencies have limited resources. Given the "very large administrative and compliance costs" *Id.* at 175, associated with BACT, "agencies will seek to limit the number of substances on the agenda for regulatory action." *Id.*

B. The Unique Characteristics Of GHGs Exacerbate The Problems Of Command-and-Control Regulation.

We argued in the preceding section that, for at least five reasons, incentive-based regulation was preferred to command-and-control regulation for a large array of air pollution problems. In this section we explain that incentive-based regulation is especially attractive in the case of limiting GHG emissions, for at least four reasons.

First, in the case of GHGs, it is likely that a (substantially) larger number of sources will need to be controlled. Accordingly, there will be an increase in administrative costs of writing and implementing BACT regulations that could be avoided with incentive-based regulation.

Second, as the number of sources to be regulated grows larger, the variation in the costs of control (versus most conventional pollution problems) broadens. This suggests that the cost savings in moving from a command-and-control regulation could be substantial, and greater than for many conventional air pollution problems. These savings are likely to be especially large when regulators (as is the case for BACT standards for stationary sources of GHGs), are not designing regulations to get the most bang for the buck, but instead are instructed to regulate "to the hilt." Ackerman, 13 Colum. J. Envtl. L. at 174.

Third, the inherent *uncertainty* in both costs and benefits associated with GHG reductions favors incentive-based regulation over command-and-control. Uncertainty—as to costs *and* benefits—increases the difficultly for regulators seeking to judge whether a policy gives rise to net benefits to society. At a minimum, the use of a well-designed market-based approach reduces the likelihood that a particular targeted emissions reduction in GHGs will fail a benefit-cost test. This flows from the fact that while any *benefits* from such a targeted emission reduction would be the same under both an incentive-based approach and the command-and-control approach, *costs* are likely to be far lower under the incentive-based approach.

Finally, the nature of climate change as a *political* (and not simply environmental, or economic) issue suggests that substantial reductions in control costs over time will be required to make GHG reductions politically acceptable. Such cost innovations are much more likely to occur with a well-designed market-based approach than with the BACT approach, in light of the profit incentives inherent to well-designed market-based measures. *See* Ackerman, 13 Colum. J. Envtl. L. at 181.

C. The Incremental Approach Adopted By EPA Is Likely To Be Problematic.

There is nothing wrong *in principle* with piecemeal regulation. A well-designed incentive-based system may well have that feature, as when a carbon tax is phased in to avoid shocks to the economy, and to examine and learn from the effects over time. For any such incremental approach, however, the first step must be a *reasonable* step. We are concerned that the approach taken by EPA may be unreasonable.

For example, EPA's "tailored" PSD program, triggered by the challenged rule, envisions the imposition of technology controls for a new set of pollutants in a wide range of industries and, eventually, for facilities that have never been subject to Clean Air Act permitting requirements. The program, therefore, acts more like a "sledgehammer" than a "scalpel," and in doing so may be counter-productive. Ideally, one would want emission reductions to be achieved (first) by industries and firms that can do so at the least cost. The point of a broad-based incentive-based system is to force the trade-offs and to incentivize lowest-cost reductions across firms and industries. The program contemplated does not appear to allow for this process. Moreover, the PSD program is not meant to address the key issue of keeping economic costs as low as possible, which should be central to an overarching policy for limiting GHG emissions.

CONCLUSION

The overarching regulatory regime, of which the challenged rule is a core part, however well-meaning, is unsound economically when compared with measures that would be designed to maximize social welfare. While the issue of global warming may be the subject of controversy, economic analysis attendant to the regulation of GHGs is not. Accordingly, we respectfully suggest, to the extent settled economic analysis has a role to play in adjudicating the legality of the challenged rule, that the analysis counsels against the implementation of the regulatory regime proposed by EPA.

Respectfully submitted,

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BRIEF OF AMICI CURIAE SCIENTISTS AND ECONOMISTS IN SUPPORT OF PETITIONER SOUTHEASTERN LEGAL FOUNDATION, ET AL. AND STATE PETITIONERS

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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In The Supreme Court of the United States

UTILITY AIR REGULATORY GROUP et al.,
Petitioners,
v
ENVIRONMENTAL PROTECTION AGENCY et al.,
Respondents.

On Writ of Certiorari to the
United States Court of Appeals
for the District of Columbia Circuit

BRIEF OF AMICI CURIAE SCIENTISTS AND ECONOMISTS IN SUPPORT OF PETITIONER SOUTHEASTERN LEGAL FOUNDATION, ET AL. AND STATE PETITIONERS

INTEREST OF AMICI CURIAE*

Amici curiae are well-qualified climate scientists and economists. Amici include respected professors and scientists who have worked for government agencies, universities, and businesses. These highly regarded scientists and economists have expertise in a wide array of fields implicated by this rulemaking, including climate research, weather modeling, physics, geology, statistical analysis, engineering, and economics. One or more of these scientists and economists has the relevant expertise to support every statement made in this brief. These scientists and economists all have publications in peer reviewed journals and are respected in their fields of expertise by their peers.

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* Pursuant to Sup. Ct. R. 37.6, counsel for amici hereby certifies that no counsel for a party to this action authored this brief in whole or in part, and no such counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. The parties have consented to the blanket filing of amicus curiae briefs by filing letters evidencing their consent with the Clerk of Court.

Amici wish to present to this Court scientific and economic data that bear directly on the underlying rulemaking. Specifically, Amici submit that EPA's reading of the Clean Air Act is foreclosed, and is unreasonable, arbitrary and capricious, when considered in light of the best available incontrovertible scientific and economic data.

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SUMMARY OF ARGUMENT

When the scientific properties of the substances sometimes called "greenhouse gases" (GHGs) are considered in the context of the permitting requirements under the Clean Air Act (CAA) for stationary sources of pollution, it is impossible to conclude that these CAA provisions have anything to do with the regulation of the GHGs. Many including EPA itself have noted the absurdity of interpreting this statute in a way that would suddenly subject more than 6,000,000 buildings to permitting requirements if those requirements were applied to these gases as "pollutants." But the problem is far broader: the entirety of the regulatory regime for stationary source prevention of significant deterioration (PSD) permits is literally nonsensical as applied to these gases, and CO_2 in particular.

The structure of the CAA PSD permitting requirements for stationary sources is fully oriented toward substances that vary in concentration from place to place depending on local emissions and for which the meeting of standards can be meaningfully evaluated by geographical area. That structure begins with the finding that "air pollution control at its source is the primary responsibility of States and local governments." 42 U.S.C. § 7401(a)(3). It moves next to state-by-state "implementation plan[s]" to prevent significant deterioration of air quality "in each region." 42 U.S.C. § 7471 (emphasis added). States are to designate "areas" into prescribed regulatory categories. 42 U.S.C. § 7474 (emphasis added). The criteria for granting or denying permits are specified by these "areas," as for example the "concentration for any pollutant in any area," "analysis of any air quality impacts projected for the area," and "air quality in any area which may be affected by emissions from such source." 42 U.S.C. § 7475(a) (emphasis added). Monitoring of compliance is to be done at the "site and in areas which may be affected" by a facility's emissions. 42 U.S.C. § 7475(e) (emphasis added).

This permitting regime based on states and geographical areas within the states makes no sense whatsoever when one attempts to apply it to the alleged harmful properties of CO_2. In its Endangerment Finding, EPA does not even attempt to tie the effects of CO_2 to states or "areas" within them, as it would need to do if it were applying the CAA. Instead, EPA relies on a mechanism whereby CO_2 brings about global warming through its accumulated effects in the troposphere in the tropics, far from any emitting source in the United States. *See Endangerment and Cause or Contribute Findings for Greenhouse Gasses Under Section 202(a) of the Clean Air Act,* 74 Fed. Reg. 66496, 66518 (Dec. 15 2009); *see also EPA's Response to Public Comments,* 74 Fed. Reg. 18886, Response 3-7 (Apr. 24, 2009). Whatever so-called "greenhouse effect" CO_2 may cause, let alone any counteraction of that effect by other factors such as clouds or solar activity, it occurs on a world-wide basis where variations of concentration of CO_2 in some designated domestic CAA attainment area in the United States have no relevance. Until very recently scientists did not even attempt to measure changes over time in CO_2 concentration at various altitudes around the globe; rather, they relied on land surface based observatories such as that located on the side of the Mauna Loa volcano in Hawaii. At present there is not even any data as to CO_2 concentrations broken down by the "attainment area" scheme of the CAA.

Thus the CAA stationary source PSD permitting provisions literally foreclose the interpretation that they could possibly have been intended to deal with CO_2—a conclusion that follows from simple logic and does not require any delving into the details of the science. And that is before even considering whether it could be reasonable to interpret these portions of the CAA to suddenly transfer immense powers to EPA that no one previously thought it had in the 35-plus years this statute has existed. It is for this Court to consider the reasonableness of the interpretation that EPA would impose, and in that consideration it is highly relevant whether this "triggering" rule is a valid exercise of powers Congress intended to convey, or rather is a massive seizure of illegitimate power masquerading as a mere technical statutory interpretation.

There is no avoiding that this rule is a massive seizure of power, indeed likely far and away the largest illegitimate seizure of power by any government agency ever. Unlike other "pollutants" subject to the CAA, CO_2 is not some incidental impurity or imperfection in the processes of civilization, but rather is fundamental to all processes of life and equally fundamental to the large majority of energy generation that drives our and the global economy. The emission of CO_2 from stationary sources occurs in the processes by which the large majority of our electricity is generated; in the heating, cooling and lighting of our homes, offices, schools, hospitals and stores; in our use of computers and the internet; in the production and preparation of food; and in nearly everything else we do. Under the guise of a technical statutory interpretation, the EPA now asserts it has discovered a central role for itself to control and dictate all aspects of our lives under an over 30-year-old statutory provision never previously thought remotely to cover this subject matter.

If there has ever been an issue on which it is critical for this Court to scrutinize whether the agency actually has a basis for what it is doing, this is it. Yet the fact is that nothing this agency is doing on this rulemaking withstands any scrutiny at all. And it is not just that the CAA's PSD provisions cannot possibly be read to cover CO_2. The entire hypothesis on which EPA has purported to find that CO_2 emissions supposedly "endanger" human health and safety has been falsified by real world evidence. As the most important example, EPA asserts as its central "line of evidence" for CO_2 "endangerment" that CO_2 will warm the surface temperature of the earth through a mechanism by which rising CO_2 concentrations in the troposphere in the tropics block heat transfer into outer space. *See* 74 Fed. Reg. at 66518 (Dec. 15 2009). If this theory were right, there would necessarily be an observable "hot spot" in the tropical upper troposphere. But this tropical "hot spot" has been proven not to exist. This and the other main instances of the falsification of EPA's purported "evidence" are discussed in Section IV below. The basis that EPA has for this rulemaking is no basis. The words "arbitrary and capricious" do not do justice. This is a naked power grab of the most cynical sort.

This Court should not minimize the importance to the citizens of this country, and indeed the world, of EPA's agenda to restrict the burning of carbon-based (fossil) fuels. Enabling the poor to rise up from poverty turns on the availability of cheap energy for those who currently don't have it or struggle to afford it. Fossil fuel energy is the cheapest energy and the most reliable energy. Increased CO_2 in the atmosphere also enables increased food production using less fresh water. EPA's agenda is to make fossil fuel energy less available and more expensive. This means keeping the poor in poverty. Before an agency would go in that direction, one would think it would be sure of its scientific basis, but this agency is only interested in its accretion of power. For all who have carefully examined the three lines of evidence claimed to support EPA's Endangerment Finding, this purported rulemaking is a terrible embarrassment to the United States Government and to EPA. This Court has this one opportunity to avoid being a party to the embarrassment.

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ARGUMENT

I. THE GREENHOUSE EFFECT OF GHGS, IF ANY, COULD NOT OPERATE ON A LOCAL OR REGIONAL BASIS, BUT RATHER WORLDWIDE, IF AT ALL.

The substances at issue in this rulemaking are sometimes referred to as "greenhouse gases," that is, gases that are posited to warm the surface temperature of the earth by emitting back to the surface some radiation that would otherwise escape into space. Nothing about the operation of such a process can be tied to any one or more CAA "areas" within the United States where such gases may be emitted by some stationary source.

In its own Endangerment Finding, EPA cites so-called "lines of evidence" by which it attempts to demonstrate that GHGs, especially CO_2, have dangerous health and welfare effects through the mechanism of causing the global average surface temperature (GAST) of the earth to increase. 74 Fed. Reg. at 66518 (Dec. 15 2009). As its principal line of evidence, EPA asserts that the effects of CO_2 emitted throughout the world are distinctly seen in the upper troposphere of the tropics, and created by the absorption and re-emission of earth radiation that would otherwise escape to space, thus causing the proposed warming.

This process is fundamentally different from the mechanisms applicable to the other substances hitherto designated as "pollutants" under the CAA. The other pollutants operate to endanger health by their effects at particular places, as by being dangerous to breathe, or by causing smog, when present in the atmosphere at concentrations above specified levels. They also are removed from the atmosphere through local or regional processes such as falling to the ground (like particulates) or through rainfall (like SO_2 and NOx) or through reaction with other compounds in the atmosphere or sunlight (like various volatile organic compounds). Thus a system of local and regional attainment areas and of state and local responsibility for enforcement makes eminent sense.

But CO_2 is fundamentally different from these substances in multiple ways, including in its properties while in the atmosphere, in the reason why it is claimed to be a "danger," and in the ways it leaves the atmosphere. CO_2 is not dangerous to breathe in the slightest even at concentrations an order of magnitude greater than what has been shown to exist anywhere on earth. It is completely colorless and odorless, and does not form smog or leave soot. Just because a large amount of CO_2 is emitted in one land area does not even mean that the atmospheric concentrations of CO_2 will be elevated in the atmosphere over that area or any neighboring area. Indeed, recent measurements of CO_2 concentrations have shown that concentrations are higher in air over particularly warm water areas and sometimes low over industrial areas. CO_2 is not removed from the atmosphere in any material way by local processes, but rather mixes throughout the atmosphere on a global basis irrespective of where it may have been emitted. It is then subject to a worldwide "carbon cycle" where it can be removed from the atmosphere by being taken up by photosynthesis from plants anywhere in the world, or by absorption into the oceans or other bodies of water.

Atmospheric CO_2 concentrations vary from place to place around the globe, *see MACC Delayed mode Global Monthly Mean June 2009 Surface Carbon Dioxide*, Monitoring Atmospheric Composition & Climate, http://www.gmes-atmosphere.eu/d/services/gac/delayed/monthly_fields (last visited Dec. 15, 2013), but nothing about that variation goes to any adverse local health effect (since CO_2 has no local health effects). Until very recently scientists did not even attempt to measure changes over time in atmospheric CO_2 concentration at various altitudes around the globe, but rather relied on land surface positioned observatories such as that located on the side of the Mauna Loa volcano in Hawaii.

II. THE REGULATORY REGIME OF THE CAA FOR STATIONARY SOURCES OF POLLUTION TO PREVENT SIGNIFICANT DETERIORATION OF AIR QUALITY MAKES NO SENSE AS APPLIED TO GHGS.

One could say that regulating GHGs under the PSD provisions for stationary sources of the CAA would be like trying to put a square peg into a round hole, but that would be a vast understatement. It is more like trying to put a mile wide square peg into a one-eighth inch round hole. The two just have nothing to do with each other. It is not possible to read the stationary source PSD provisions of the CAA and think that they could be meant to regulate GHGs.

One obvious respect in which the provisions of the CAA cannot be applied to GHGs as Congress wrote them is the definition of a "major emitting facility" potentially requiring a permit as one that emits either 100 or 250 tons of a pollutant in a year (depending on the type of facility). 42 U.S.C. § 7479. As EPA itself recognizes, faithful application of this statutory requirement "would bring tens of thousands of small sources and modifications into the PSD program each year, and millions of small sources into the Title V program." 75 Fed. Reg. 31,514; 31,533 (June 3, 2010). While most private homes would be under the thresholds, essentially all larger buildings such as schools, hospitals, and office buildings would require permits, not to mention virtually all sources of meaningful amounts of economic production, such as factories and farms. To have CO_2 regulated as a "pollutant" under these provisions would be to transfer to EPA essentially complete control over who gets to operate any business or economic activity of any meaningful size anywhere in the United States.

These absurd results are not restricted to only CO_2 among the supposed GHGs. For example, methane can be emitted in amounts in excess of the 100/250-ton threshold by such things as wetlands, rice farms, livestock herds and landfills, so imposing a GHG permitting regime on the assumption that methane is a danger could lead to draining of wetlands, the end of rice agriculture, the mass slaughter of livestock, and so on.

EPA purports to solve this conundrum as to CO_2 by its so-called "tailoring" rule. But nothing in the statute gives EPA the authority to change the statutory thresholds. Moreover, if EPA now claims the authority to change the thresholds to raise them, what is to stop it later from changing the thresholds again to lower them, when its agenda has changed to clamping down on any and all economic activity of those it does not like? Indeed, if EPA can change the statute's 100/250-tons-per year criterion to whatever other numbers it likes, what is to stop it even from lowering the thresholds below the 100/250-tons-per year if that is its whim and it wants to go after even private householders?

And the 100/250-ton thresholds are the least of the problem when attempting to apply the CAA PSD regime to GHGs. The entire structure of the CAA stationary source regulatory regime is based on the concept that the regulated pollutants have their effects in areas at or near the source of their emission and can be regulated as such. Everything about the regulatory scheme starts from and turns upon "areas" or "regions" where pollutants can be monitored and where they have their effects. Thus the stationary source PSD scheme begins with a state-by-state process of developing what are called "implementation plans" for the prevention of significant deterioration of air quality "in each region." 42 U.S.C. § 7471 (emphasis added). Under Section 7474(a), the states then designate "areas" into specified categories. (emphasis added). These "areas" are then evaluated as to whether they are "attainment areas" or "non-attainment areas" with respect to National Ambient Air Quality Standards (NAAQS) set by EPA. 42 U.S.C. § 7407(d) (emphasis added). The stationary source PSD scheme then only applies in the "attainment areas." 42 U.S.C. § 7471 (emphasis added).

The requirements and means for obtaining a PSD permit, which are found in 42 U.S.C. § 7475(a), all arise only in "areas" to which the provisions apply and turn on the concentration and effects of each pollutant in these "areas." Thus the preamble to Section 7475(a) states that the permitting requirement is applicable "in any area to which this part applies . . . ." (emphasis added). Section 7475(a)(3) calls upon an owner seeking a permit to demonstrate that his facility "will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any area to which this part applies . . . , [or] (B) national ambient air quality standard in any air quality control region . . . ." (emphasis added). Section 7475(a)(6) directs that there be "an analysis of any air quality impacts projected for the area as a result of growth associated with such facility." (emphasis added). Section 7475(a)(7) requires the owner of the facility "to conduct such monitoring . . . to determine the effect which emissions from any such facility may have . . . on air quality in any area which may be affected by emissions from such source." (emphasis added).

Section 7475(e) deals with monitoring of air quality by owners of permitted facilities. Again, the monitoring turns on "areas" that may be affected by such facility. The section directs that there be "an analysis . . . of the ambient air quality at the proposed site and in areas which may be affected by emissions from such facility for each pollutant subject to regulation . . . ." (emphasis added).

Attempting to apply any of these provisions to CO_2 (or for that matter methane) immediately reveals the absurdity of the exercise. For example, does it make any possible sense to think that Congress intended to require every prospective owner of a CO_2 emitting facility to submit an analysis of the effects of his incremental CO_2 emissions on local CO_2 concentrations, when those concentrations are effectively a worldwide phenomenon? Did Congress intend to order every prospective permittee to monitor CO_2 at his site and in his area, when the U.S. government itself only monitors long-term CO_2 concentrations from a few places thousands of miles apart? And, as mentioned above, CO_2 is not uniformly distributed in the atmosphere. No amount of contortions can ever make this gigantic square peg fit into this tiny round hole.

III. THE PRESENT RULEMAKING IS NOT A MINOR OR TECHNICAL STATUTORY INTERPRETATION, BUT RATHER IS A TOTAL REWRITE OF THE STATUTE THAT SHOULD NOT BE ENTITLED TO DEFERENCE.

While EPA will undoubtedly seek "deference" to its statutory interpretation under *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.,* 467 U.S. 837 (1984), such deference finds its limit where "the statutory text forecloses the agency's assertion of authority." *City of Arlington, Tex. v. FCC,* 133 S.Ct. 1863 (2013). Even where deference is accorded to the agency's interpretation under *Chevron*, the appropriate inquiry for the reviewing court is "whether the Administrator's [interpretation] . . . is a reasonable one." *Chevron,* 467 U.S. at 845. When an assertion of regulatory authority is totally at odds with an overall statutory structure, let alone specific provisions, this Court has not hesitated to rein in an agency's overstepping of its bounds. *See, e.g., FDA v. Brown & Williamson Tobacco Corp.,* 529 U.S. 120 (2000).

Here the Administrator's interpretation is both foreclosed by the terms of the statute (as demonstrated in the previous section), but is also completely unreasonable. While the so-called "triggering" issue masquerades as a detailed technical question of statutory interpretation, in fact it is anything but. This seemingly innocuous rulemaking seeks to transform the CAA from a statute that gives EPA authority to minimize the unhealthy impurities and unwanted by-products of the processes of production into a statute that gives EPA massive control over huge swaths of previously free human and natural activity.

CO_2 is not in any sense an unwanted by-product of the production of useful energy. Rather, the combustion of carbon based fuels to produce CO_2, and the capture of the energy released by that process, is the whole idea. While a modest portion of energy production in the United States (and other countries in general) comes from non-carbon sources (nuclear, wind, solar, hydro), the proportion that comes from fossil fuels in the U.S. is approximately 82 percent. *See Monthly Energy Review, Table 1.3 (Nov. 2013),* U.S. Energy Info. Admin., *available at* http://www.

eia.gov/totalenergy/data/annual/index.cfm#summary (last visited Dec. 15, 2013). And the other sources of energy are either far more expensive than fossil fuels (nuclear, wind, solar) and/or only available in limited amounts that cannot supply more than small portions of total energy demand (wind, solar, hydro). Because they are the cheapest and most available source of energy for most purposes, fossil fuels are used to produce by far the majority of energy throughout our economy. With regard to stationary sources, about two-thirds of electricity comes from fossil fuels, as well as nearly all energy for certain large-scale manufacturing processes (e.g., steel), and for heating houses, apartment complexes, offices, schools, hospitals, shopping centers, entertainment venues, and everything else. *See Monthly Energy Review, Table 7.2a (Nov. 2013)*, U.S. Energy Info. Admin., at http://www.eia.gov/totalenergy/data/annual/index.cfm#summary (last visited Dec. 15, 2013).

Thus this rulemaking seeks to effect a massive transformation of our economy and of the relationship between the people and the government under a statute that cannot possibly be read to call for that result. These are exactly the circumstances where deference should not be accorded.

Given the huge consequences of this rulemaking for the American people, the consideration of the reasonableness of EPA's action turns both on the consistency of the action with the text and structure of the statute and also on the scientific basis for EPA's course of conduct. Amazingly, the scientific basis is also completely lacking.

IV. THE LINES OF SCIENTIFIC EVIDENCE THAT EPA HAS RELIED ON FOR ITS ENDANGERMENT FINDING EITHER HAVE BEEN FALSIFIED OR ARE NOT EVIDENCE AT ALL.

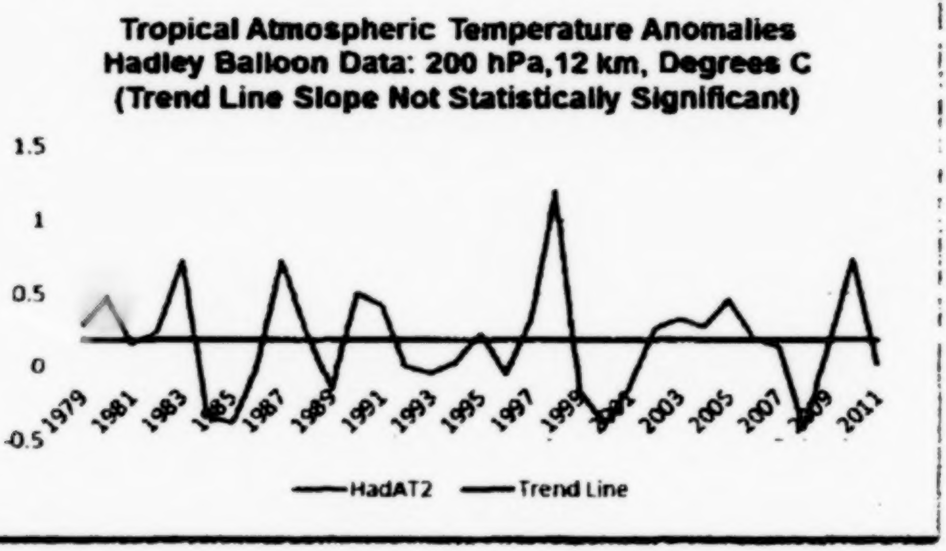
In considering the degree of deference to give to EPA in its statutory interpretation as to "triggering," it is highly relevant that EPA's Endangerment Finding, which is the essential predicate before the next step of "triggering" can occur, is itself completely devoid of scientific basis. Amici have previously submitted extensive briefing on this subject in the court below as well as to this Court in connection with the petitions for certiorari. Therefore, we will only briefly summarize here the glaring deficiencies in EPA's lines of evidence supporting its Endangerment Finding, with references to other sources where more extensive support can be found. EPA purports to rely on three lines of scientific evidence for its Endangerment Finding. 74 Fed. Reg. at 66518 (Dec. 15, 2009). Each will be considered in turn.

A. EPA's First Line of Evidence: Tropical Hot Spot Theory

The first line of evidence is what EPA calls its "basic physical understanding of the effects of changing concentrations of greenhouse gases, natural factors, and other human impacts on the climate system." 74 Fed. Reg. at 66518 (Dec. 15, 2009). This is EPA's GHG Fingerprint (or Hot Spot) Theory, that in the tropics the upper troposphere is warming faster than the lower troposphere, and the lower troposphere is warming faster than the surface, all due to rising global atmospheric CO_2 concentrations. *See* 74 Fed. Reg. at 66522 (Dec. 15, 2009); *see also Temperature Trends in the Lower Atmosphere: Steps for Understanding and Reconciling Differences*, U.S. Climate Change Science Program and the Subcommittee on Global Change Research at 112-116 (Apr. 2006) *available at* http://library.globalchange.gov/products/event-resources/planet-under-pressure/2012/sap-1-1-temperature-trends-in-the-lower-atmosphere-steps-for-understanding-reconciling-differences (last visited Dec. 15, 2013). But that theory is totally at odds with multiple robust, consistent, independently derived empirical data sets that show no statistically significant positive (or negative) trend in temperature and thus no statistically significant differences in trend line slopes by altitude.

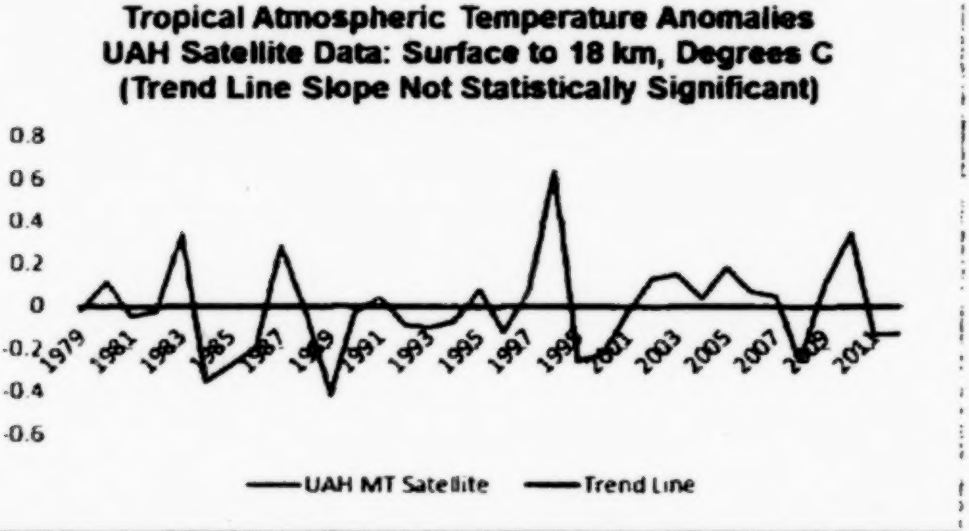
For example, balloon data from the U.K.'s Met Office Hadley Centre (Figure 1A), satellite data regarding temperature in the tropical troposphere from the University of Alabama in Huntsville (UAH) (Figure 1B), and central Pacific Ocean tropical temperature data from the National Oceanic and Atmospheric Administration (NOAA) (Figure 2) are shown below. None of the three has a statistically significant trend line slope. That is, their trend lines are all flat. All temperature data are shown as "anomalies," where anomalies are computed by subtracting a base period average from actual annual temperature values, both measured in degrees Celsius.

FIGURE 1A



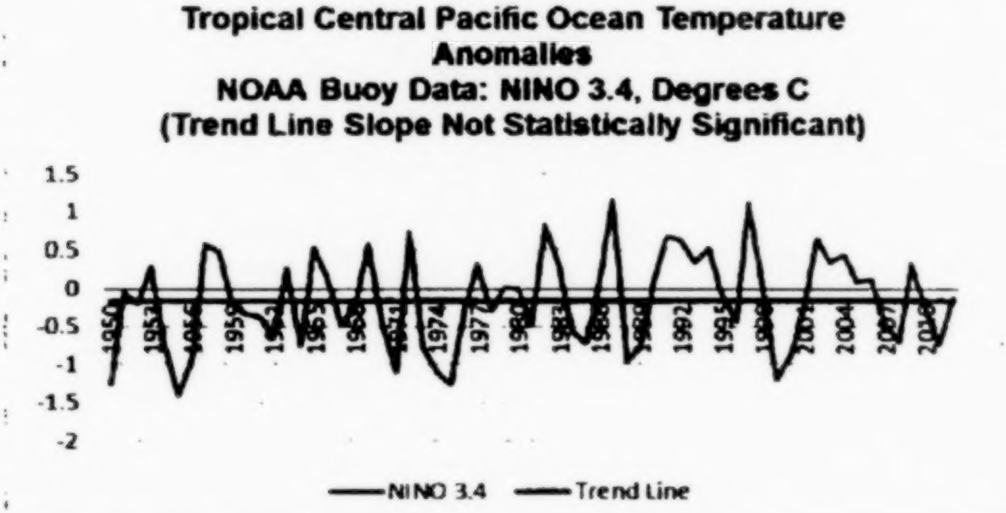
Source: *Global Means Anomaly Series*, Met Office, *available at* http://www.metoffice.gov.uk/hadobs/hadat/hadat2/hadat2_monthly_global_mean.txt (last visited Dec. 15, 2013).

FIGURE 1B



Source: *Monthly Means of Mid-Troposphere MT5.5*, Univ. of Ala. in Huntsville, ***available at*** http://vortex.nsstc.uah.edu/data/msu/ t2/tmtglhmam_5.5.txt (last visited Dec. 15, 2013).

FIGURE 2



Source: *Tropical Center Pacific Ocean Temperature Anomalies NOAA Buoy Data: NINO 3.4, Degrees C*, Univ. of Ala. in Huntsville, ***available at*** http://www.cpc.ncep.noaa.gov/data/indices/ersst3b.nino.mth.81-10.ascii (last visited Dec. 15, 2013).

All three figures above show data through the most recent period available, 2012. In December 2009, when EPA issued its Endangerment Finding, the trends in all three were also flat based on annual data through 2008. The more recent data simply reconfirm those three flat trend facts. For EPA's assumed theory to be valid, all three temperature trend lines would have to be upward sloping, but with the Upper Troposphere Trend Line (Figure 1a) steeper than the Mid-troposphere Trend Line (Figure 1b), and that trend line steeper than the Pacific Ocean Temperature Trend Line (Figure 2).

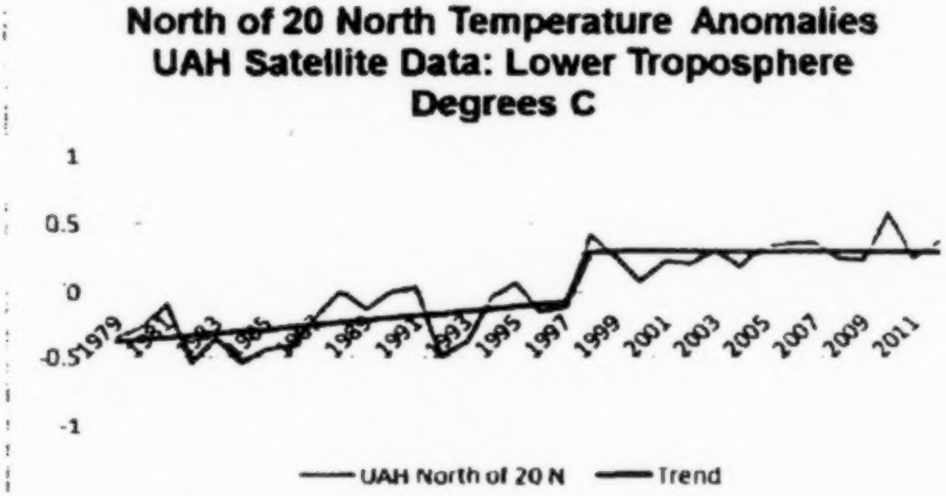
There is no longer any doubt that the purported tropical "hot spot" simply does not exist. Thus, EPA's theory as to how CO_2 affects global average surface temperature—EPA's first line of evidence—has been falsified.

B. EPA's Second Line of Evidence: Purported Unusual Rise in Global Average Surface Temperature.

EPA's second line of evidence is its claim that Global Average Surface Temperature (GAST) has been rising in a dangerous fashion over the last fifty years. 74 Fed. Reg. at 66518 (Dec. 15, 2009). EPA goes on to conclude that the alleged rise was in large part due to human-caused increases in atmospheric CO_2 concentrations. *Id.* But the purported "global warming" has not been global and has not set records in the regions where the most significant warming has occurred. For example, over the relevant time period, while the Arctic has warmed, tropical oceans had a flat trend, and the Antarctic was slightly cooling. *Id.* at14-15. The most significant warming during this period occurred in the Northern Hemisphere, north of the Tropics (*i.e.*, north of 20° north). Figure 3 depicts UAH satellite data showing that warming:

[*see* Figure 3 on following page]

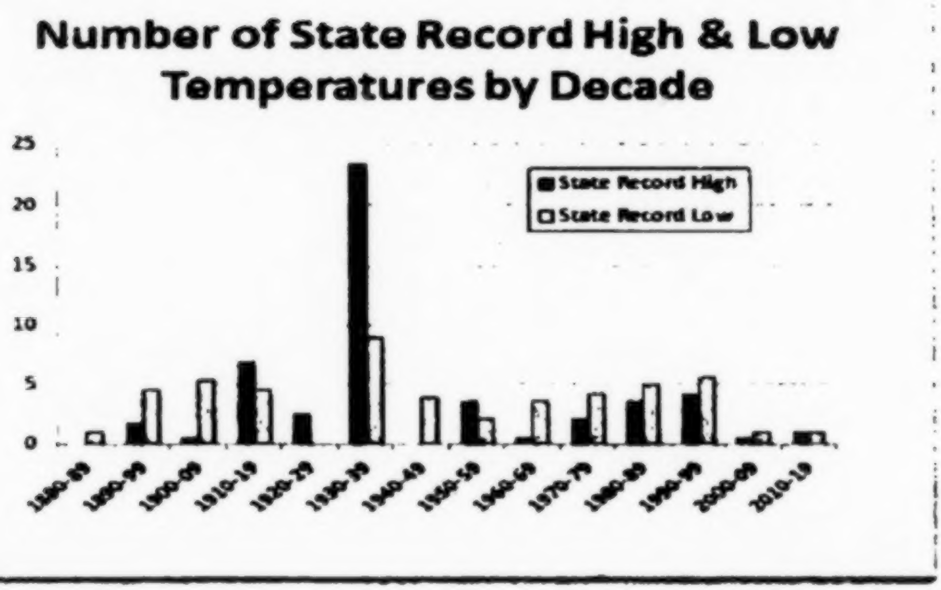
FIGURE 3



Source: *North of 20 North Temperature Anomalies UAH Satellite Data: Lower Troposphere Degrees C*, National Space Sci. & Tech. Ctr. ***available at*** http://vortex.nsstc.uah.edu/data/msu/t2lt/uahncdc_lt (last visited Dec. 15, 2013).

As is obvious in Figure 3, however, even though the Northern Hemisphere north of the Tropics has warmed since 1979, temperatures have leveled off since 2000. That leveling off should have been obvious to EPA prior to its Endangerment Finding in late 2009. Further, over the last 130 years, the decade of the 1930s still has the most currently held high-temperature records for States within the United States, as shown in Figure 4 below. Fully 70 percent of the current high-temperature records remain before 1940. And, in every decade from 1960 to 2010, there were considerably more cold records set than hot records.

FIGURE 4



Source: *State Climate Extremes Committee, Records,* NOAA National Climatic Data Ctr., *available at* https://www.ncdc.noaa.gov/extremes/scec/records (last visited Dec. 15, 2013).

These data thus demonstrate that EPA's second line of evidence—the claim that there has been unusual warming on a global, that is, worldwide, basis over the past several decades—is invalid.

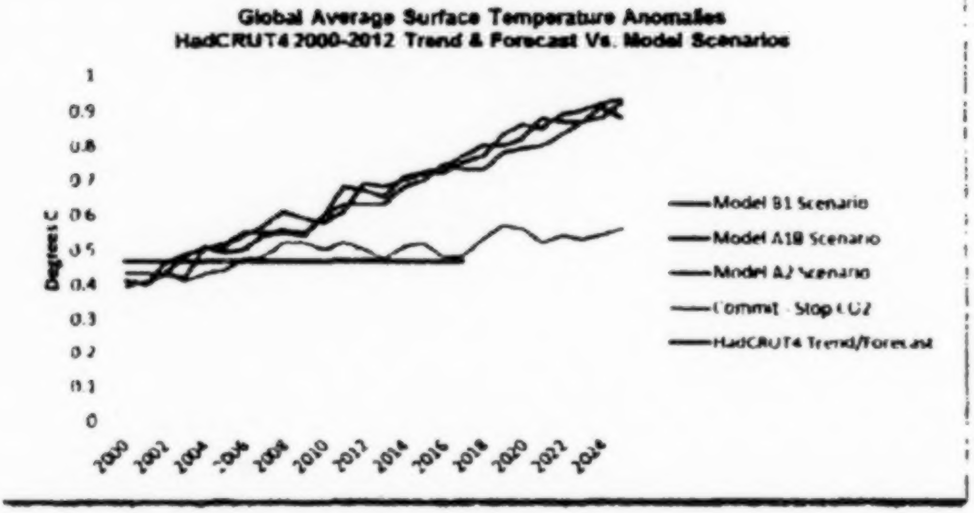
C. EPA's Third Line of Evidence: Climate Models

EPA's supposed third line of evidence in support of the Endangerment Finding is in fact not a line of evidence at all, but rather just an assertion that unproven and non-validated models of how climate is supposed to behave should be given credence for policy-making purposes. 74 Fed. Reg. at 66518 (Dec. 15, 2009). In fact the models have been thoroughly invalidated by the failure of global temperatures to warm as predicted over the course of the past 15 years.

For its models, EPA has entirely relied on the work of the UN's IPCC, whose models are in turn predicated on the discredited and falsified Tropical Hot Spot theory discussed above. *See Technical Support Document for Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, Climate Change Div. Office of Atmospheric Programs, E.P.A., at ES 3 (Dec. 7, 2009), *available at* http://www.epa.gov/ climatechange/endangerment/ (last visited Dec. 15. 2013); *Contribution of Working Group I: The Physical Science Basis, 9.2.2*, Intergovernmental Panel on Climate Change Fourth Assessment Report: Climate Change 2007 at 674-676, *available at* http://www.ipcc.ch/publications_and_data/ar4/wg1/en /ch9s9-2-2.html (last visited Dec. 15, 2013). Those models fail the required standard model-validation and forecast-reliability tests.

The models on which EPA relied all forecast rising temperatures assuming continued increases in CO_2 emissions. Figure 5 below shows four forecast scenarios (in various shades of grey). Three of them call for a dramatic rise in GAST because they assume CO_2 levels will rise rapidly. The "Commit-Stop CO_2 " scenario portrayed in the chart (in the lightest grey) assumes a draconian curtailment of worldwide CO_2 emissions at the year 1992 level—which has not occurred. All of these forecasts were based on models assuming the still missing greenhouse gas "fingerprint" or hot spot in the tropics.

FIGURE 5



Source: *Contribution of Working Group I: The Physical Science Basis, 9.2.2,* Intergovernmental Panel on Climate Change, Fourth Assessment Report: Climate Change 2007 at 674-676, *available at* http://www.ipcc.ch/publications_and_data/ ar4 /wg1/en/ch9s9-2-2.html (last visited Dec. 15, 2013); *see also Met Office Hadley Centre Observations Datasets,* Met Office *available at* http://www.metoffice.gov.uk/hadobs/ hadcrut4/data/ current/download.html (last visited Dec. 15, 2013).

A model must be regarded as invalidated when its forecasts prove inaccurate, and these models' forecasts have not been accurate. Figure 5 contrasts the forecasts through 2025 with the actual trend line of global average surface temperature (GAST) data from the Hadley Centre and the Climatic Research Unit, University of East Anglia (CRU) for 2000-2012 (identified as "HadCRUT4 Trend/Forecast" on the chart). The GAST data up to 2008 (which also had a flat trend line) was, of course, available to EPA, and in fact both EPA and IPCC heavily relied on the Hadley Centre CRU's temperature data, analysis, and forecasts. *See Technical Support Document for*

Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Climate Change Div. Office of Atmospheric Programs, E.P.A., at 28-29 (Dec. 7, 2009), *available at* http://www.epa.gov/climatechange/Downloads/endangerment/Endangerment_TSD.pdf (last visited Dec. 15, 2013). Notably, the Hadley Centre recently announced a forecast that this trend line will remain flat for another five years. *See Decadal Forecast*, Met Office, *available at* http://www.metoffice.gov.uk/research/climate/seasonal-to-decadal/long-range/decadal-fc (last visited Dec. 15, 2013). Thus, in Figure 5, the Trend/Forecast trend line is shown as flat through 2017.

Critically, the Hadley Centre CRU GAST Trend/Forecast line lies below even the Commit-Stop CO_2 scenario, in which worldwide CO_2 emissions are assumed to be held to 1992 levels. Since 1970, atmospheric CO_2 concentrations are up 21 percent. *See Annual Mean Growth Rate for Mauna Loa, Hawaii*, Earth Sys. Research Lab., Global Monitoring Division, *available at* ftp://ftp.cmdl.noaa.gov/ccg/co2/trends/co2_annmean_mlo.txt (last visited Dec. 15, 2013).

As Figure 5 plainly demonstrates, the models EPA relied on as its third line of evidence are invalid. That is not surprising because EPA never carried out any published forecast reliability tests. And, as discussed above, EPA's assumed Greenhouse Gas Fingerprint Theory simply does not comport with the real world. Thus, models based on that theory should never have been expected to be valuable for policy analysis involving an Endangerment Finding that so critically affects American energy, economic, and national security.

V. INEXPENSIVE HYDROCARBON–BASED ENERGY IS CENTRAL TO ECONOMIC GROWTH AND TO ENABLING THE POOR TO RISE UP FROM POVERTY

The "triggering" determination at issue here is at the core of EPA's current program to restrict hydrocarbon based energy and make it more expensive and less available. The Endangerment Finding and subsequent triggering determination came about when Congress failed to pass President Obama's proposed "cap and trade" legislation during his first term. As described by the President during his 2008 campaign, that legislation was specifically intended to reduce carbon emissions by forcing a massive increase in the price of energy: "Under my plan . . . electricity rates would necessarily skyrocket." Erica Martinson, *Uttered in 2008, Still Haunting Obama in 2012*, Politico (Apr. 5, 2012, 11:37 PM), http://www.politico.com/news/stories/0412/74892.html. Adding CO_2 to the stationary source PSD permitting program seeks to accomplish the same result through forcing the massive closure of coal based power plants (a process already well under way) and hindering and delaying the construction and operation of power sources that use the cheapest forms of energy, which are hydrocarbon based energy. And EPA seeks to achieve that result without new legislation, and instead as a supposed interpretation of over 35-year-old legislation never previously thought to cover this subject matter.

Meanwhile the United States is on the cusp of an energy revolution of hydrocarbons from unconventional oil and natural gas sources that is having the effect of rapidly increasing the supply and decreasing the price of carbon-based energy. *See, e.g., America's New Energy Future: The Unconventional Oil and Gas Revolution and the U.S. Economy*, Volumes I, II, and III, IHS (September 2013). IHS sees the energy revolution as adding millions of jobs and hundreds of billions of dollars annually to the U.S. economy, all based on burning hydrocarbon fuels and emitting CO_2 into the atmosphere. EPA looks upon this prospect with horror, and the stationary source PSD permitting program coupled with EPA's plans for CO2 emissions standards is precisely the means it sees available to stop it before it can get too far.

Arbitrarily raising the price of energy is the same thing as purposely impoverishing the American people. It is shocking that our government would intentionally pursue such a goal, particularly without any scientific basis whatsoever to do so, as discussed in Point IV above. It is equally shocking that the executive branch, without supporting legislation, would decide that accomplishing its energy/climate goals, not endorsed by Congress or the general public, is so sacrosanct that it must take a completely inapplicable law and twist it into a pretzel in the desperate but ultimately futile effort to find a basis to raise the price and limit the availability of energy for the American people. And meanwhile CO_2 is a worldwide phenomenon, and other countries like China and India have no plans meaningfully to curtail their rapidly increasing emissions. Unilateral CO_2 emission control by the United States promises to damage the economy of the United States without any benefits.

In fact, increasing CO_2 in the atmosphere facilitates achieving the goal of raising the poor out of poverty through increasing food production. CO_2 is the primary "food" utilized by the vast majority of plants to produce the organic matter out of which they construct their tissues, which subsequently become the ultimate source of food for nearly all animals and humans. Consequently, the more CO_2 there is in the air, the better plants grow, as has been demonstrated in literally thousands of laboratory and field experiments. *See* Craig Idso & S. Fred Singer, *Climate Change Reconsidered: 2009 Report of the Nongovernmental Panel on Climate Change (NIPCC)*, Chapter 7 (Chicago, IL 2009). And the better plants grow, the more food there is available to sustain the entire biosphere.

At least since the International Conference on Rising Atmospheric Carbon Dioxide and Plant Productivity of 1983, it has been known that a doubling of the air's CO_2 concentration would likely lead to a 50% increase in photosynthesis and a doubling of water use efficiency in many types of plants, as well as significant increases in biological nitrogen fixation in almost all biological systems, and an increase in the ability of plants to adapt to a variety of environmental stresses.

Availability of potable water for irrigation is a key constraint on food production in the United States and many other countries; yet studies conducted on hundreds of different plant species demonstrate the very real and measurable growth-enhancing, water-saving, and stress-alleviating advantages that rising atmospheric CO_2 concentrations bestow upon Earth's plants. *See* Craig Idso & S. Fred Singer, *Climate Change Reconsidered: 2009 Report of the Nongovernmental Panel on Climate Change (NIPCC)*, Ch. 7 (2009); Craig Idso & Sherwood Idso, *The Many Benefits of Atmospheric CO_2 Enrichment* (2011).

All these benefits largely flow to those who otherwise struggle to afford an adequate supply of food, in other words, the poor. The bottom line here is that rising atmospheric CO_2 levels yield very significant net benefits to society. In making its Endangerment Finding, EPA did not even consider these benefits. That total dereliction of duty calls into question the reasonableness of its entire effort to restrict CO_2 under the CAA, and ultimately the reasonableness of the so-called "triggering" rule at issue on this petition. This is particularly true given that each of EPA's three lines of evidence for its Endangerment finding is demonstrably invalid.

If EPA succeeds in limiting the availability of hydrocarbon based energy and raising its price, it is not the rich who will be priced out of purchasing the energy they need. It is the poor. Cheap carbon-based energy from stationary sources means that relatively low income people in this country can afford, for example, to heat, cool and light their homes, cook meals, use the internet, talk on cell phones, buy products like automobiles made of inexpensive steel and other metals. If the lowest cost energy available is unwisely restricted, all Americans will suffer greatly, but the poorest the first and the most.

Indeed to the extent that this Administration can significantly influence other countries' energy/ climate policy, it is primarily the poor who would stand to be harmed by decreased availability of affordable food resulting from restriction of the amount of CO_2 that would otherwise be in the atmosphere. In seeking to regulate CO_2 from stationary sources under the CAA, and in opposing the petitions, EPA would enlist this Court in its campaign that results in such impoverishment. It would be very sad if this Court by its decision went along with this campaign.

◆

CONCLUSION

The judgment of the Court of Appeals should be reversed. In addition EPA's Endangerment Finding should be vacated.

Respectfully submitted,

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December 16, 2013

AMICUS CURIAE BRIEF

Supreme Court, U.S.
FILED
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12-1268, 12-1269, 12-1272

In the
Supreme Court of the United States

UTILITY AIR REGULATORY GROUP, ET AL.,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Writs of Certiorari to the United States
Court of Appeals for the District of Columbia Circuit

BRIEF OF SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AND EMMETT CENTER ON CLIMATE CHANGE AND THE ENVIRONMENT AS *AMICI CURIAE* IN SUPPORT OF RESPONDENTS

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QUESTION PRESENTED

Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

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INTEREST OF *AMICI CURIAE*[1]

Amicus Emmett Center on Climate Change and the Environment is a research and teaching center at UCLA School of Law dedicated to studying and advancing law and policy solutions to climate change, and to training the next generation of environmental leaders. Founded in 2008, the Emmett Center works across disciplines to develop and promote research and policy tools useful to local, state, federal, and international decisionmakers. The Center's faculty of environmental attorneys and scholars produces academic and policy research aimed at improving climate change regulation.

Amicus South Coast Air Quality Management District (SCAQMD) is the air pollution control agency for all of California's Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties. This area of 10,743 square miles is home to over 16.8 million people—about half the population of the State of California. It is the second most populated urban area in the United States. SCAQMD is committed to undertaking all necessary steps to protect public health and welfare from air pollution, with sensitivity to the impacts of its actions on communities and businesses. SCAQMD currently regulates approximately 27,000 permitted facilities with over 60,000 individual permits. Of these, approximately 275 facilities constitute major sources under the Clean Air Act. In 2012, SCAQMD processed 989 preconstruction permits.[2] SCAQMD has issued several permits regulating the greenhouse-gas emissions of new and repowered natural gas-fired electrical generating facilities. Additionally, SCAQMD has been a pioneer in developing and implementing a wide range of permit streamlining measures. In the early 1990s, SCAQMD developed several innovative measures to promote permit streamlining, some of which were incorporated into California state law. SCAQMD representatives co-chaired and contributed to EPA's Greenhouse-Gas Permit Streamlining Workgroup.

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[1] Pursuant to S. Ct. R. 37.6, counsel for *amici* state that they authored this brief in its entirety and that no party or counsel for any party, nor any other person or entity other than *amici* or their counsel made a monetary contribution intended to fund the preparation or submission of this brief. Petitioners and Respondents have consented to the filing of this *amici curiae* brief by blanket agreements filed with the clerk of this Court.

Petitioners' arguments in this case are grounded in part in a technical assessment of the feasibility of applying the Clean Air Act's permitting requirements to greenhouse-gas sources. *Amici* therefore believe that their combined expertise in air pollution control permitting, regulation of residential and commercial sources, greenhouse-gas mitigation, and the Clean Air Act is relevant to the Court's decision in this matter.

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[2] Report to the Legislature and CARB on SCAQMD's Regulatory Activities for Calendar Year 2012 25 (2013), *available at* https://www.aqmd.gov/hb/attachments/2011-2015/2013Jun/2013-Jun7-016.pdf.

SUMMARY OF ARGUMENT

Petitioners ask this Court to invalidate EPA's interpretation of the phrase "any air pollutant" as set forth in the Clean Air Act's Prevention of Significant Deterioration (PSD) and Title V permitting programs because, in Petitioners' view, EPA's reading is "permanently unworkable" and "absurd" in the context of greenhouse gases. *See, e.g.*, Am. Chemistry Council Br. 25; Energy-Intensive Mfrs. Br. 30. Our experience and data show otherwise.

This brief provides information to aid the Court in understanding the practical implications of permitting greenhouse-gas sources. We show that PSD and Title V can be applied to a wide range of greenhouse-gas sources in a way that is consistent with Congress' intent and manageable for permitting agencies. This conclusion is consistent with EPA's determination that a phased greenhouse-gas regulatory program satisfies statutory requirements, and is grounded in commonsense agency findings regarding administrative capacity, environmental efficacy, and costs to regulated parties.

First, nothing in the PSD program is inherently incompatible with greenhouse-gas permitting. A review of the greenhouse-gas permitting process to date demonstrates that the PSD program has successfully reduced greenhouse-gas emissions from large sources without imposing undue burdens on regulated entities or permitting authorities, consistent with the goals of the program.

Second, Petitioners' argument that it would be unworkable to apply PSD and Title V to greenhouse-gas sources in accord with statutory thresholds is unfounded and speculative. In its Tailoring Rule, EPA concluded that immediately applying the permitting programs to small sources on January 2, 2011 would have been impracticable, and it committed to develop and implement a regulatory plan to phase in permitting requirements to greenhouse-gas sources "as close to the statutory thresholds as possible, and as quickly as possible . . . ." 75 Fed. Reg. 31,514, 31,548 (June 3, 2010) (J.A. 422). EPA is now developing and implementing regulatory streamlining techniques that could significantly shrink the number and types of greenhouse-gas sources subject to PSD and Title V permitting, and reduce burdens on permitting authorities and regulated parties. The record before this Court does not support Petitioners' request to discard EPA's long-standing interpretation of the law, based only on conjectures about how greenhouse-gas permitting will unfold.

ARGUMENT

Petitioners have urged this Court to reject EPA's approach to permitting greenhouse-gas sources on the grounds of absurdity. According to some Petitioners, the PSD program can effectively control only pollutants that produce exposure-related harms, concentrate locally, and are emitted in modest amounts. *See, e.g.*, Chamber of Commerce Br. 1, 15-20; S.E. Legal Found. Br. 10-13; Util. Air Regulatory Grp. Br. 25-32. Regardless, Petitioners suggest that applying the PSD and Title V permitting programs to small greenhouse-gas sources in accord with statutory emissions thresholds would be "absurd" and "unworkable."[3] Chamber of Commerce even asserts that this case "appears to be the first in the Court's history where no party disputes that an agency's interpretation of a statute it administers produces absurd results." Chamber of Commerce Br. 26.

As we demonstrate below, EPA's statutory interpretation produces workable, not absurd, results. Although EPA concluded that it would have been infeasible to require PSD and Title V permitting in accord with statutory thresholds immediately, in 2011, prior to the implementation of regulatory measures appropriate to greenhouse-gas sources, EPA is now undertaking a phased approach that is working well. The manageability of the PSD permitting process for large sources to date demonstrates that permitting can reduce greenhouse-gas emissions without imposing undue burdens on permitting authorities or regulated entities. As EPA continues to phase in the PSD and Title V permitting programs, EPA and state and local permitting authorities can implement numerous regulatory tools to reduce the number and types of greenhouse-gas sources subject to permitting, and ensure the permitting process continues to be manageable.

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[3] *See, e.g.*, Am. Chemistry Council Br. 25 ("All parties agree that [EPA's interpretation] . . . would render the PSD program permanently unworkable."); Chamber of Commerce Br. 13 (declaring that "the Act's PSD provisions, properly construed, cannot and do not work if extended to encompass GHGs"); Energy-Intensive Mfrs. Br. 30 ("PSD GHG regulation is thoroughly absurd, root and branch."); S.E. Legal Found. Br. 14 ("[I]nterpreting the statute to require PSD and Title V permitting for GHGs would necessarily produce extreme and absurd consequences . . . ."); Texas Br. 4 ("The Clean Air Act cannot be interpreted to allow EPA to regulate greenhouse-gas emissions under either the PSD or Title V programs when the unambiguous statutory requirements would compel such preposterous consequences."); Admin. Law Professors Br. 32 (asserting that EPA's interpretation is "at war with the statutory text in a fashion that leads to absurd results and nullifies central statutory provisions . . . ."); Ctr. for Constitutional Jurisprudence Br. 14 (describing the statutory thresholds as "absurdly low").

In sum, it would be unwarranted for the Court to accept Petitioners' claims that EPA's interpretation of the Clean Air Act is unworkable based on conjectural "absurd results" that permitting authorities have not yet experienced, and may not ever experience.

I. PSD Permitting Results in Reasonable Measures to Reduce Greenhouse-Gas Emissions Consistent with the Intent of the Clean Air Act.

Petitioners assert that individual PSD program permitting requirements "make no sense" as applied to greenhouse gases. *See, e.g.*, Chamber of Commerce Br. 17. In particular, Petitioners argue that various components of the best available control technology (BACT) review process are incompatible with greenhouse-gas permitting. *See, e.g.*, Chamber of Commerce Br. 18-19; Energy-Intensive Mfrs. Br. 23-25. The data simply do not support Petitioners' claims. State and local permitting authorities have thus far been able to manage the PSD permitting process for greenhouse-gas sources with relative ease, and without unduly burdening regulated parties.

None of the statutory requirements for the PSD program is inherently incompatible with greenhouse-gas permitting. To the extent Petitioners claim that specific statutory provisions are unworkable in the context of greenhouse gases (e.g., "production processes and available methods, systems, and techniques," "energy," "case-by-case basis," "economic impacts and other costs"), Petitioners are critiquing only EPA's interpretation and application of those provisions. *See* Energy-Intensive Mfrs. Br. 23-25 (referencing 42 U.S.C. § 7479(3)). Thus, even if Petitioners were correct, it would be unwarranted to conclude that the statutory language itself precludes application to greenhouse-gas sources. As we demonstrate below, however, the success of the PSD permitting process at the current regulatory thresholds demonstrates that Petitioners are incorrect as a factual matter. The BACT review process for greenhouse-gas sources has been working well. *Accord* States Br. 31-39.

The permit review process for greenhouse-gas sources is fundamentally similar to that of other PSD pollutants.[4] The PSD program requires new and modified sources to implement BACT for each air pollutant emitted in significant amounts, including greenhouse gases. *Id.* § 7475(a)(4). The Clean Air Act largely delegates to states the authority to implement the PSD program. State and local permitting authorities issue PSD permits requiring a source to demonstrate that it will limit air-pollutant emissions to the level achievable with the implementation of BACT. The Tailoring Rule's regulatory thresholds currently require high-emitting greenhouse-gas sources to undergo PSD review for greenhouse-gas emissions. 75 Fed. Reg. at 31,514 (June 3, 2010) (J.A. 268-682). As with the BACT process for all other pollutants, greenhouse-gas BACT must take the form of a numeric emissions limitation that reflects "the maximum degree of reduction . . . which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for [a] facility through application of production processes and available methods, systems, and techniques . . . ." 42 U.S.C. § 7479(3). *See also* 75 Fed. Reg. at 31,520 (J.A. 299-300).

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[4] *See, e.g.*, SCAQMD, Facility Permit to Operate *for* LA City, DWP Scattergood Generating Stn., Facility ID 800075, Revision No. 43 (Apr. 4, 2013), *available at* http://tinyurl.com/scattergoodpermit.

That greenhouse-gas BACT review is fundamentally similar to BACT review for all other pollutants is underscored by EPA's greenhouse-gas permitting guidance document, which advises permitting authorities to continue to use the five-step BACT review process that EPA has historically promoted for other pollutants for over twenty years.[5] Importantly, this five-step process recognizes that "permitting authorities have a wide range of discretion in their consideration of the various direct and indirect economic, energy, and environmental impacts that might be informative to the top-down BACT analysis for GHG emissions . . . ." *Greenhouse Gas Guidance* 41, 44. In practice, BACT review for large sources is a collaborative process; as is the case for non-greenhouse-gas pollutants, the permitting authority and the individual facility work closely together to determine how the facility can reduce greenhouse-gas emissions, taking into account cost and technical feasibility.

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[5] Office of Air Quality Planning & Standards, EPA, *PSD and Title V Permitting Guidance for Greenhouse Gases* 17, 19 (Mar. 2011), *available at* http://www.epa.gov/nsr/ghgdocs/ghgpermittingguidance.pdf (hereinafter *Greenhouse Gas Guidance*) ("A determination of BACT for GHGs should be conducted in the same manner as it is done for any other PSD regulated pollutant.").

Regulating greenhouse-gas sources in this manner has led, thus far, to incorporation of emission-reducing measures at reasonable cost. BACT for greenhouse gases has required, in most cases, the incorporation of moderately updated equipment and processes to improve combustion quality or fuel selection. *See* States Br. 37-39; *Greenhouse Gas Guidance* 29. Regulated entities typically can reduce greenhouse-gas emissions through relatively simple updates to existing operations.[6] Some effective techniques for reducing greenhouse-gas emissions are as simple as inspecting, maintaining, and replacing components to ensure maximum efficiency and lifespan.[7]

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[6] EPA, *Clean Air Act Permitting for Greenhouse Gases*, http://www.epa.gov/nsr/ghgpermitting.html (collecting white papers on available and emerging technologies to reduce greenhouse gas emissions from various industrial sectors); *Greenhouse Gas Guidance* 25. *Cf. Greenhouse Gas Guidance* 27 (confirming that EPA's initial list of greenhouse-gas BACT alternatives does not include primary fuel switching or control options that otherwise would "fundamentally redefine the source").

BACT review also can take into consideration technologies already used by existing facilities that will reduce greenhouse gases in new and modified sources.[8] For example, potential greenhouse-gas reduction measures include widely implemented energy-efficient technologies and energy management systems.[9] Many emission-reduction measures would allow existing facility operators to recoup implementation costs within a few months or years.[10] Some greenhouse-gas reduction measures may even generate revenue for operators. For example, several greenhouse gas-reducing technologies for landfills could generate saleable electricity or fuel from landfill gas. EPA, Landfills White Paper 13-16 (2011).

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[7] *See, e.g.*, EPA, Iron and Steel Industry White Paper 29 (2012); EPA, Cement White Paper 29 (2010); EPA, Large Industrial, Commercial, and Institutional Boilers White Paper 11-15 (2010); EPA, Pulp and Paper White Paper 14, 20, 30-32, 40-42 (2010); EPA, Refineries White Paper 20-21, 23-24 (2010).

[8] *See* EPA, Cement White Paper 8-15 (2010); EPA, Refineries White Paper 11-16 (2010).

[9] EPA, Iron and Steel Industry White Paper 5-8 (2012); EPA, Cement White Paper 16 (2010); EPA, Large Industrial, Commercial, and Institutional Boilers White Paper 23-26 (2010); EPA, Pulp and Paper White Paper 50-52 (2010); EPA, Refineries White Paper 17-19 (2010).

[10] *See, e.g.*, EPA, Iron and Steel Industry White Paper 10-11, tbl.1 (2012); EPA, Cement White Paper 19-20, 29-30 (2010); EPA, Pulp and Paper White Paper 12-15, 29-32, 34-42 (2010); EPA, Refineries White Paper 11-16 (2010).

South Coast Air Quality Management District has issued no more than ten PSD permits regulating greenhouse-gas emissions since it adopted Rule 1714 in 2010 to govern PSD review for greenhouse gases.[11] All of these permits regulate the greenhouse-gas emissions of new and repowered natural gas-fired electrical generating facilities. The District conducted its greenhouse-gas BACT analyses in collaboration with regulated entities and according to the five-step process outlined in EPA's *Greenhouse Gas Guidance*.[12] Application of BACT for greenhouse gases did not present an unusual burden for these facilities. Notably, as a testament to the State of California's progressive greenhouse-gas mitigation policies, SCAQMD's BACT determination for each facility was equivalent to the California Energy Commission's greenhouse-gas emission performance standard for electric generating facilities. *See* 20 CAL. PUB. UTIL. CODE § 2902(a). All combined cycle and simple cycle natural gas turbines have been able to meet this requirement with relative ease.[13] The District's experience thus supports the general conclusion that "states and local agencies are currently able to handle all new permitting requirements for

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[11] SCAQMD R. 1714, *available at* http://www.aqmd.gov/rules/reg/reg17/r1714.pdf.

[12] *See, e.g.*, SCAQMD's Response to EPA Comments on the Proposed LADWP Scattergood Repower Project (2013), *available at* http://tinyurl.com/scattergoodresponse.

[13] *See, e.g.*, SCAQMD, Facility Permit to Operate *for* LA City, DWP Scattergood Generating Stn., Facility ID 800075, Revision No. 43 (Apr. 4, 2013), *available at* http://tinyurl.com/scattergoodpermit.

GHG major sources at the current applicability levels . . . ."[14]

Overall, greenhouse-gas permitting for large sources to date does not support Petitioners' request to omit greenhouse-gas sources entirely from the PSD program. The data suggests that there are no grounds for excluding the relatively small number of greenhouse-gas sources already subject to PSD on the basis of non-greenhouse-gas emissions (so-called "anyway" sources) from implementing BACT for greenhouse gases. *See* Federal Br. 33-34. At most, Petitioners could argue that the PSD program might prove unworkable if expanded to include a large number of smaller sources. As we demonstrate below, however, this argument is speculative and unfounded.

II. The Record Does Not Support Petitioners' Claims that Regulating Greenhouse-Gas Sources at Statutory Thresholds Is Absurd.

Petitioners assert that implementation of the PSD and Title V programs at the statutory thresholds for regulation would lead to absurd results. *See* n.3 *supra*. Petitioners' arguments about the unworkability of the statutory thresholds raise the specter of permitting requirements for many, even "millions," of relatively small greenhouse-gas sources by referencing EPA's initial estimates about the potential scope of greenhouse-gas permitting. *See, e.g.*, Am. Chemistry Council Br. 3, 14; Chamber of Commerce Br. 3, 13, 18; Energy-Intensive Mfrs. Br. 7-8. As discussed below, Petitioners' references to "millions" of small sources are misleading. EPA's initial estimates projected the scope of Title V and PSD permitting requirements had those requirements gone into effect immediately in 2011, without EPA having time to develop streamlining measures appropriate to greenhouse-gas sources.

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[14] Clean Air Act Advisory Committee Report to EPA on Air Permitting Streamlining Techniques and Approaches for Greenhouse Gases 16 (Sept. 14, 2012), *available at* http://www.epa.gov/nsr/ghgdocs/20120914CAAACPermitStreamlining.pdf (hereinafter Streamlining Rpt.). *See also* States Br. 35, 37.

With EPA's phased approach, the potential for administrative burden shrinks considerably. Many established regulatory tools are available to EPA that would greatly alleviate estimated administrative burdens associated with applying PSD and Title V permitting requirements at the statutory thresholds, and could lead to vastly lower numbers of covered sources than Petitioners claim. EPA is midstream in developing and deploying those tools. Thus, the record does not support Petitioners' view that regulating sources at the statutory thresholds would be unworkable. Instead, it suggests that EPA's phased regulatory program is appropriate and does not reveal any inherent absurdity in regulating greenhouse-gas sources.

A. EPA's Initial Estimates of the Number of Sources Affected at Statutory Thresholds Were Preliminary, Conservative, and Relevant Only to Immediate Application of Regulatory Requirements in 2011.

Petitioners rely on estimates prepared in support of the Tailoring Rule to argue that the scope of greenhouse-gas permitting at statutory thresholds would be so great as to show EPA's approach to be impossible. *See, e.g.*, Am. Chemistry Council Br. 3, 14; Chamber of Commerce Br. 3, 13, 18; Energy-Intensive Mfrs. Br. 7-8. Those estimates, however, were preliminary, conservative, and not reflective of the scope of the more streamlined regulatory program EPA is now developing.

As an initial matter, Petitioners inaccurately characterize the number of sources at issue. For instance, Chamber of Commerce argues that "BACT assessments are impossible to faithfully adapt . . . in the GHG context," because, purportedly, "six million facilities, including 4.5 million residential facilities, would become subject to case-by-case PSD emission-control assessments" under the PSD statutory thresholds. Chamber of Commerce Br. 18. *See also id.* 13. But Chamber of Commerce mistakenly refers to EPA's initial estimates of how many facilities would be subject to Title V permitting requirements—not PSD requirements—at statutory thresholds and without the Tailoring Rule.[15] In fact, EPA initially and conservatively estimated that 55,509 residential and commercial facilities would meet the PSD statutory threshold—a far cry from Petitioner's claims about millions of small sources.[16]

Even as to the sources potentially subject to PSD, EPA's Tailoring Rule estimates are not exact predictors of the program's future scope, for two reasons. First, in developing the Tailoring Rule, EPA made conservative estimates of the number of sources that would meet the threshold for a permit,[17] relying on "numerous assumptions and estimates." 77 Fed. Reg. at 41,066. While EPA initially projected that applying the statutory thresholds would dramatically increase the number of sources requiring permits, 75 Fed. Reg. at 31,536, 31,540 (J.A. 367, 387), the agency explained that most of the newly included sources would be small residential and commercial sources for which EPA had little capacity utilization rate data. *See* 75 Fed. Reg. at 31,538 (J.A. 380). Future projections aided by better data are likely to be lower than EPA's initial projections.

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[15] *See* EPA, GHG Data for Final Tailoring Rule Development – CO_2e (Mar. 29, 2010), EPA-HQ-OAR-2009-0517-19158. *See also* Envtl. Orgs. Br. 37-38 (arguing that, by failing to present any serious arguments for exempting greenhouse gases from Title V, Petitioners have waived any Title V claims).

[16] Linda M. Chappell, Office of Air Quality Planning & Standards, EPA, *Regulatory Impact Analysis for the Final Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule* Attach. C, at 33, tbl.4-1 (May 2010), *available at* http://www.epa.gov/ttn/regdata/RIAs/riatailoring.pdf.

[17] EPA's reasonable estimation methods were based on the best available information and fully vetted through the notice-and-comment process, 77 Fed. Reg. 41,051, 41,066 (July 12, 2012); however, even the best estimates necessarily fall short of perfect forecasts.

Second, EPA's initial estimates did not account for the effect of regulatory streamlining actions it plans to take to shrink the number and types of small sources subject to permitting, and to reduce the burdens on sources that remain subject to permitting. Indeed, one of the central purposes of EPA's phased approach is to give the agency time to develop regulatory streamlining measures to reduce burdens on smaller sources and permitting agencies, including measures that would exclude certain low-emitting sources from PSD and Title V permitting requirements entirely. *See* 75 Fed. Reg. at 31,547, 31,588 (J.A. 418, 594-595). We discuss these regulatory actions and their potential effects below. The burden to small sources cannot fairly be judged without taking such measures into account.

B. EPA Is Engaged in Developing Sensible Regulatory Measures That Should Greatly Alleviate Administrative Burdens Associated with the Statutory Thresholds.

Petitioners' argument that EPA intends to apply PSD permitting to types of sources that Congress did not intend to regulate, namely small residential and commercial sources, is premature and speculative. *See, e.g.*, Util. Air Regulatory Grp. Br. 22. EPA is vetting and deploying regulatory streamlining techniques that should greatly alleviate administrative burdens associated with the extension of PSD and Title V to additional greenhouse-gas sources, including techniques to reduce the number and types of sources subject to permitting. *See* 74 Fed. Reg. 55,292, 55,321 (Oct. 27, 2009). Because many of these streamlining techniques "require a longer process to develop, including significant data collection activities, notice and comment rulemaking to obtain specific authority and, in some cases, the development of necessary implementation tools," EPA could not immediately deploy these measures in 2011, when greenhouse gases were first subject to regulation; but EPA is working assiduously to implement them. 77 Fed. Reg. at 41,056, 41,058. Implementing streamlining techniques over the next several years should ensure that the PSD and Title V programs for greenhouse gases are manageable.

EPA and state and local permitting authorities have a host of regulatory tools at their disposal to enhance the efficiency of permitting processes consistent with the Clean Air Act. States Br. 21-22. "Streamlining" describes an assortment of established regulatory tools that would render permitting unnecessary for certain sources and simplify permitting of other sources as EPA expands its regulatory program to cover smaller sources of greenhouse gases. 75 Fed. Reg. at 31,526 (J.A. 325). *See also* Streamlining Rpt. 15. Streamlining techniques for PSD and Title V permitting broadly fall into five categories: (1) tools to obviate PSD or Title V permitting for small sources; (2) procedures for permitting groups of sources; (3) simplifying the establishment of BACT; (4) improving the speed and ease of the permitting process; and (5) simplifying or deferring permitting for sources subject only to general conditions or requirements. *See* 77 Fed. Reg. at 41,055; 75 Fed. Reg. at 31,526 (J.A. 325); Streamlining Rpt. 5, 25, 31. EPA is vetting all of the above streamlining techniques to enable lowering the applicability thresholds, while limiting both the number and types of sources subject to permitting, and the burden on those that remain subject. 75 Fed. Reg. at 31,526 (J.A. 325-326). *See also* 77 Fed. Reg. at 41,055.

One streamlining technique that could dramatically reduce the number and types of sources subject to PSD and Title V permitting consists of EPA altering its approach to calculating "potential to emit" (PTE) for certain categories of low-emitting sources. States Br. 22. The statutory thresholds are expressed in terms of PTE; for example, PSD applies to sources that emit 100 or 250 tons per year or more (depending on the type of source) of any air pollutant on a PTE basis. 42 U.S.C. § 7479(1). *See* 75 Fed. Reg. at 31,538. *See also* 42 U.S.C. § 7602(j) (requiring Title V permits for sources that emit 100 tons per year or more of any air pollutant on a PTE basis). PTE represents "the maximum capacity of a stationary source to emit a pollutant under its physical and operational design." 40 C.F.R. § 51.165(a)(1)(iii). EPA calculates a greenhouse-gas source's annual PTE "based on operation at full equipment capacity, 24 hours per day, 365 days per year . . . ." EPA, *Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation* 5 (Mar. 29, 2010), EPA-HQ-OAR-2009-0517-19158. For example, although EPA estimates that the typical ferroalloy production facility operates at 85.9 percent of its capacity, the PTE for a ferroalloy production facility represents the greenhouse-gas emissions of that facility were the facility to operate year-round up to 100 percent of its capacity. *Id.* at 27-28.

In comparison to large industrial sources, however, the furnaces, boilers, and appliances in small commercial and residential facilities typically operate far fewer hours per year, generating greenhouse-gas emissions at levels far below their theoretical maximum if operated year-round at full capacity. For example, EPA estimates that a typical residential single-family unit utilizes only 10 percent of its space-heating and appliance capacity annually. *Id.* at 66. As a result, under EPA's current methodology, the PTE for commercial and residential sources almost always dramatically exceeds those sources' actual emissions. 74 Fed. Reg. at 55,302 (stating that EPA's PTE calculation method "resulted in an upwards adjustment ranging from 85 to 90 percent in emissions from [the] actual emission values" of commercial and residential sources). Consequently, EPA initially estimated that many small commercial and residential sources would be subject to permitting requirements despite actual greenhouse-gas emissions well below the statutory thresholds. *See* 75 Fed. Reg. at 31,538 (J.A. 380). *See generally* EPA, *Technical Support Document for Greenhouse Gas Emissions Thresholds Evaluation* 5 (Mar. 29, 2010), EPA-HQ-OAR-2009-0517-19158.

EPA is evaluating ways to redefine low-emitting sources' PTE to more closely reflect those sources' realistic maximum greenhouse-gas emissions, which, data suggests, would significantly reduce the number of sources subject to PSD as well as exclude millions of initially counted small sources from Title V. *See* EPA, GHG Data for Final Tailoring Rule Development – CO_2e (Mar. 29, 2010), EPA-HQ-OAR-2009-0517-19158 (estimating that, e.g., over 3.9 million single-family residential furnaces surpass the Title V statutory threshold based on the assumption of a 24 hours per day, 365 days per year capacity rate, while zero such sources would surpass the threshold on the basis of actual greenhouse-gas emissions); 74 Fed. Reg. at 55,321. "Defining potential emissions to be closer to actual emissions for various source categories" is among the streamlining measures that EPA is considering, in accordance with the statute, EPA's regulations, and the agency's past practice for some sources of non-greenhouse-gas emissions. *See* 77 Fed. Reg. at 41,055; States Br. 22; *Alabama Pwr. Co. v. Costle*, 636 F.2d 323, 353 (D.C. Cir. 1980) (holding that EPA must take into account "the anticipated functioning" of a facility in assessing a facility's "potential to emit"); EPA, Calculated PTE for Emergency Generators (1995), EPA-HQ-OAR-2007-0764-0001 (defining PTE for emergency generators, which operate only very occasionally, to be closer to those sources' actual emissions); Streamlining Rpt. 27, 32-33.

Another streamlining technique that could significantly reduce the number and types of sources subject to permitting is exempting from Title V requirements sources that are defined as major on the basis of greenhouse-gas emissions only and not subject to pollution control requirements. *See* Streamlining

Rpt. 30-31. Unlike PSD permits, Title V operating permits do not impose independent emissions controls, but rather facilitate compliance, enforcement, and public participation by consolidating all of a source's requirements in one permit. *See generally* 40 C.F.R. § 70.6. Title V permits that contain only general conditions with no pollution control requirements are referred to as "empty permits." EPA has committed to "further assess . . . excluding empty permits from title V to relieve burden consistent with statutory requirements." 75 Fed. Reg. at 31,517 (J.A. 288); Streamlining Rpt. 30. The data suggest that exempting empty permits would relieve millions of initially counted small sources of Title V permitting requirements. *See* EPA, GHG Data for Final Tailoring Rule Development – CO_2e (Mar. 29, 2010), EPA-HQ-OAR-2009-0517-19158.

These types of regulatory approaches are well established. Streamlining has long been an integral component of PSD and Title V permitting for non-greenhouse-gas pollutants, and permitting authorities have already applied some measures to greenhouse-gas sources. In EPA's recent Tailoring Step 3 Rule, which EPA promulgated in 2012 as the next step in its phased regulatory approach, the agency expanded the availability of a streamlining technique commonly used for other pollutants to greenhouse gases: Plantwide Applicability Limitations[18].

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[18] "A PAL establishes a [voluntary] site-specific plantwide emission level for a pollutant that allows the source to make changes at the facility without triggering the requirements of the PSD program, provided that emissions do not exceed the PAL

See 77 Fed. Reg. at 41,052-53, 41,056, 41,059; Streamlining Rpt. 32. At the state and local level, many permitting agencies already use streamlining tools in the context of non-greenhouse-gas emissions, Streamlining Rpt. 16-17, 33, and may extend these tools to greenhouse-gas sources as they deem appropriate and as is permissible under the Clean Air Act.[19] For example, in 2010, SCAQMD expanded one such rule to exempt from Title V permitting certain sources with greenhouse-gas emissions below 50,000 tons per year. Streamlining Rpt. 27-28 (referencing SCAQMD R. 3008). For certain categories of small sources, permitting authorities can even apply emission standards at the manufacturing stage.[20] Where appropriate for small sources, the "permit" could be as simple as a form.[21] Streamlining rules like these can significantly shrink the number and types of

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level." 77 Fed. Reg. at 41,052, 41,060. *See also* Streamlining Rpt. at 33.

[19] *See, e.g.*, 42 U.S.C. § 7661c(d) (explicitly authorizing permitting authorities to issue Title V general permits); SCAQMD R. 3008, *available at* http://www.aqmd.gov/rules/reg/reg30/r3008.pdf (exempting from Title V permitting requirements various low-emitting sources with actual air pollutant emissions below permitting thresholds, so long as sources comply with reasonable emission limitations or operational limits outlined in SCAQMD's rules).

[20] *See* SCAQMD R. 1121, *available at* http://www.aqmd.gov/rules/reg/reg11/r1121.pdf (requiring manufacturers, rather than owners, of residential water heaters to control nitrogen oxide emissions).

[21] *See* SCAQMD R. 222, *available at* http://www.aqmd.gov/rules/reg/reg02/r222.pdf (allowing certain categories of small uniform sources, such as residential boilers, to complete a simple registration process as an alternative to written permits).

sources subject to permitting, as well as reduce permitting burdens for both permitting authorities and regulated sources.

In sum, both the record and past experience suggest that EPA's ongoing process to analyze and improve the manageability of the application of PSD and Title V requirements to greenhouse-gas sources at the statutory thresholds is warranted. Neither Petitioners, nor EPA, nor this Court yet knows how many sources of what types ultimately will require permits, what permitting will entail, or how burdensome it will be—though initial evaluation suggests that EPA can and will develop streamlining techniques that produce workable, not absurd, results.

C. EPA's Phased Regulatory Program is Appropriate and Does Not Reveal Any Inherent Absurdity in Regulating Greenhouse-Gas Sources.

EPA's phased approach to regulating greenhouse-gas sources does not support a conclusion that application of the Clean Air Act to greenhouse gases is somehow inherently "absurd." The need for additional time to collect data, prepare streamlining techniques, develop new guidance, and build administrative capacity before fully applying PSD and Title V permitting to greenhouse-gas sources motivated EPA's decision to phase in its regulatory program, beginning with the largest sources with which EPA is most familiar. States Br. 21; 75 Fed. Reg. at 31,547 (J.A. 418) (finding that applying permitting requirements "at the specified levels of emissions and at the present time—in advance of the development of streamlining methods and greater permitting authority expertise and resources—would create undue costs for sources and impossible administrative burdens for permitting authorities"). The agency's decision to take additional time to implement a regulatory program for some sources does not support a conclusion that the program is, as a whole, so unmanageable as to upend longstanding interpretations of the Clean Air Act's requirements.

Without the Tailoring Rule, PSD and Title V would have applied at statutory thresholds on January 2, 2011, "greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs." 75 Fed. Reg. at 31,514 (J.A. 268). EPA "conclude[d] that under the 'absurd results' doctrine, Congress could not have intended that the PSD or title V applicability provisions . . . apply literally to GHG sources *as of that date*." *Id.* 31,517 (J.A. 286) (emphasis added). EPA was clear to emphasize that the absurdity resulted from applying permitting programs "at the present time—in the absence of streamlining or increasing permitting authority resources and without tailoring . . . ." *Id.* 31,555 (J.A. 454). *See also* Federal Br. 15-16, 22, 48. Thus, the Tailoring Rule outlined a multi-step process for phasing in the applicability of PSD and Title V permitting to greenhouse gases over time, beginning in Steps 1 and 2 with the largest sources. 75 Fed. Reg. at 31,523-24 (J.A. 311-316). EPA made enforceable commitments in the Tailoring Rule to undertake a Step 3 rulemaking by July 1, 2012, in which EPA explored streamlining opportunities and evaluated whether to lower thresholds, and to complete by April 30, 2015 a study of the greenhouse-gas permitting process, "including progress in developing streamlining techniques . . . ." *Id.* 31,516, 31,566 (J.A. 283, 309-310). EPA also has committed to developing a Step 4 and possibly Step 5 in 2015-2016 specifically "to address the permitting of small sources." *Id.* 31,516, 31,525 (J.A. 283, 319).

EPA designed its stepwise approach to be "consistent with Congress's expectations that the programs would not impose undue costs to sources or undue administrative burdens to permitting authorities." *Id.* 31,517 (J.A. 288). In particular, EPA acknowledged Congress' dual goals to protect public health and welfare while excluding small residential and commercial sources from undue permitting burdens. *Id.* 31,558-59 (J.A. 464-469). EPA's continuing commitment to its stepwise regulatory process evidences the agency's intent to remain faithful to the statute. *See id.* 31,548 (J.A. 421-422). EPA reconciled Congress' dual goals by incorporating greenhouse gases into the PSD and Title V programs, but deferring applicability of the programs at the statutory thresholds until EPA could develop streamlining measures to reduce the number and types of small sources subject to permitting. *See id.* 31,555 (J.A. 454). For the past several years, EPA has been preparing streamlining techniques consistent with this intent. *See id.* 31,524 (J.A. 316); Streamlining Rpt. 11. In March 2012, EPA convened a greenhouse-gas permit streamlining workgroup comprised of industrial, environmental, tribal, and state and local representatives, and co-chaired by Mohsen Nazemi, SCAQMD's Deputy Executive Officer for Engineering and Compliance. 77 Fed. Reg. at 41,055; Streamlining Rpt. 2, 5. In September 2012, the workgroup submitted a report to EPA exploring and recommending streamlining methods, which corroborates the potential for streamlining measures to alleviate burdens to small sources and permitting authorities. *See generally* Streamlining Rpt.

EPA's multiyear streamlining development process reflects the fact that most streamlining techniques require novel data collection and notice-and-comment rulemaking under 42 U.S.C. § 7607(d). Streamlining Rpt. 5; 75 Fed. Reg. at 31,516 (J.A. 282). Indeed, EPA expects that the most effective streamlining measures, including measures to shrink the number and types of sources subject to permitting, would take three to four years to develop and implement, followed by actions at the state and local level to adopt the measures, which could take up to two years. 75 Fed. Reg. at 31,526, 31,586, 31,587 (J.A. 325, 589, 591). "This time frame is necessary because EPA will first need to collect and analyze small source data that [it] do[es] not currently have—because these are sources that EPA has not traditionally regulated—in order to assess which techniques are viable or effective for such sources." *Id.* 31,586 (J.A. 589). Overall, EPA estimated in 2010 that a "sustained intensive effort by EPA and states to develop, adopt and implement streamlining techniques" would take approximately six years[22]. *Id.* 31,588 (J.A. 594).

EPA's authority to proceed by stages is well established. As the administrator of the Clean Air Act, EPA has broad authority to interpret the statute, evaluate on-the-ground administrative capacity and requirements, and "prescribe such regulations as are necessary to carry out [EPA's] functions under [the Act]." 42 U.S.C. § 7601(a)(1). It is well within EPA's discretion to phase in the greenhouse-gas permitting program over time as necessary and reasonable to account for the practical reality of insufficient administrative capacity. As this Court noted in ***Massachusetts v. EPA***, "Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop" and instead may "refin[e] their preferred approach [over time] as circumstances change and as they develop a more nuanced understanding of how best to proceed." 549 U.S. 497, 524 (2007). EPA's choice here to refine its greenhouse-gas permitting program over time is not evidence of agency overreach or of any inherent absurdity in its approach; rather, it shows an agency taking the time it needs to develop workable policy consistent with Congress' intent. States Br. 22-24.

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[22] That there is no inherent absurdity in applying PSD to greenhouse-gas sources is demonstrated by a simple hypothetical: Had EPA begun collecting data and developing streamlining techniques six years before making its Endangerment Finding, regulating greenhouse gas emissions from new motor vehicles, and thereby triggering PSD permitting requirements for stationary sources of greenhouse gases, it is possible that EPA potentially could have applied the PSD and Title V programs at statutory thresholds without need for the Tailoring Rule.

Fundamentally, Petitioners ask this Court to declare a regulatory program that is working well to be impossible. As demonstrated above, Petitioners' claims of absurdity are based on imperfect estimates rather than empirical data about greenhouse-gas permitting, and EPA is still in the process of developing its regulatory program, with an as-yet uncertain scope and effect. On this record, then, it would be unwarranted to conclude that EPA's implementation of the PSD and Title V programs is unworkable for greenhouse gases.

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted,

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IN THE

Supreme Court of the United States

CHAMBER OF COMMERCE OF THE
UNITED STATES OF AMERICA, *et al.*,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY, *et al.*,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF STATE AND LOCAL CHAMBERS OF COMMERCE AND OTHER BUSINESS ASSOCIATIONS AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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INTERESTS OF *AMICI CURIAE*

Amici Curiae State and Local Chambers and Other Business Groups include 75 separate state and local business associations representing companies in 33 different states – including in the majority of the states that are *respondents* in this case.[1] Collectively, *Amici's* members include businesses of every size and in every industry, and conduct business throughout the entire United States. An important function of *Amici* is to represent the interests of their members before all branches of federal and state governments, including the courts.

Amici have an interest in the development of sound environmental regulations that are economically responsible. *Amici*'s members both produce and consume energy that results in the emission of greenhouse gases, and their emissions are now or could become subject to the PSD and Title V permitting programs for stationary sources that EPA claims are "triggered" by the regulation of greenhouse gas emissions from mobile sources. *Amici* submit this brief to the Court to explain the severe economic consequences that will flow regulating greenhouse gases under the Clean Air Act's PSD and Title V programs, which are ill-suited for limiting greenhouse gas emissions.[2]

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[1] Pursuant to Supreme Court Rule 37.6, counsel for *Amici* represents that he authored this brief in its entirety and that none of the parties or their counsel, nor any other person or entity other than *Amici*, their members, or their counsel, made a monetary contribution intended to fund the preparation or submission of this brief. Petitioners and Respondents have consented to the filing of this *Amicus Curiae* brief by blanket agreements filed with the clerk of this court.

Amici Curiae State and Local Chambers and Other Business Groups include the following organizations:

The Business Council of New York State, Inc.

Alaska Chamber of Commerce

Albany Area Chamber of Commerce

Albany-Colonie Regional Chamber of Commerce

Arctic Slope Regional Corporation

Arizona Chamber of Commerce and Industry

Arkansas State Chamber of Commerce

Associated Industries of Arkansas, Inc.

Association of Washington Business

Baltimore/Washington Corridor Chamber of Commerce

Battle Creek Area Chamber of Commerce

Beaver Dam Chamber of Commerce

Bismarck-Mandan Chamber of Commerce

Bossier Chamber of Commerce

Buckeye Valley Chamber of Commerce

Business Council of Alabama

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[2] Detailed statements of interest for each of the amici are available online at http://www.hollingsworthllp.com/news.php?NewsID=545 .

Catawba Chamber of Commerce

Chamber of Reno, Sparks and Northern Nevada

Chamber Southwest Louisiana

Charlotte Chamber of Commerce

Chicagoland Chamber of Commerce

Colorado Association of Commerce and Industry

Eau Claire Area Chamber of Commerce

Flagstaff Chamber of Commerce

Fox Cities Chamber of Commerce and Industry

Fremont Area Chamber of Commerce

Greater Fresno Area Chamber of Commerce

Gallup McKinley County Chamber of Commerce

Georgia Chamber of Commerce

Gilbert Chamber of Commerce

Greater Bakersfield Chamber of Commerce

Greater Beaumont Chamber of Commerce

Greater Burlington Partnership

Greater Irving-Las Colinas Chamber of Commerce

Greater Lehigh Valley Chamber of Commerce

Greater North Dakota Chamber

Greater Phoenix Chamber of Commerce

Greater Sandoval County Chamber of Commerce

Greater Shreveport Chamber of Commerce

Greater Springfield Chamber of Commerce (Illinois)

Greater Springfield Chamber of Commerce (Virginia)

Greater Summerville/Dorchester County Chamber

Green Bay Area Chamber of Commerce

Indiana Chamber of Commerce

Kentucky Chamber of Commerce

Las Vegas Metro Chamber

Lincoln Chamber of Commerce

Long Beach Area Chamber of Commerce

Louisiana Association of Business and Industry

Lynchburg Regional Chamber of Commerce

Manhattan Chamber of Commerce

Michigan Chamber of Commerce

Minnesota Chamber of Commerce

Missouri Chamber of Commerce

Myrtle Beach Area Chamber of Commerce

Nebraska Chamber of Commerce and Industry

North Carolina Chamber

Northern Michigan Chamber Alliance

Ohio Chamber of Commerce

Owatonna Area Chamber of Commerce and Tourism

Pennsylvania Chamber of Business and Industry

Sacramento Metro Chamber

Salt Lake Chamber

San Diego East County Chamber of Commerce

Santa Clarita Valley Chamber of Commerce

South Carolina Chamber of Commerce

State Chamber of Oklahoma

Tempe Chamber of Commerce

Texas Association of Business

Tucson Metro Chamber

Utah Valley Chamber

Virginia Chamber of Commerce

Visalia Chamber of Commerce

West Virginia Chamber of Commerce

Youngstown/Warren Regional Chamber

INTRODUCTION

Amici stand together for the interests of all businesses in America that will bear the direct economic brunt of the EPA's initial wave of economically devastating greenhouse gas regulations prompted by the Triggering Rule. In particular, *Amici* stand for smaller businesses allegedly promised "relief" from regulatory burdens by the Tailoring Rule. In this brief, they explain why they are alarmed by EPA's decision in the Triggering Rule to assume vast, new regulatory authority over some 6 million new facilities – and why they are neither relieved nor comforted by its decision to *temporarily* delay regulation of some of those GHG sources.

Amici are concerned with the severe economic consequences that will result from regulating GHGs under the prevention of significant deterioration ("PSD") and Title V permitting programs, which the EPA itself admits are "contrary to what Congress had in mind." In fact, the programs so undermine what Congress attempted to accomplish in the PSD program that the EPA chose to re-write critical and clear provisions of the Clean Air Act to fit the "square peg" of GHGs into the "round hole" of the PSD program. *See* Proposed Tailoring Rule, 74 Fed. Reg. 55,292, 55,310 (Oct. 27, 2009). Virtually all of *Amici's* members are apprehensive about future regulation. Some of *Amici's* members will be directly impacted by being swept in to the PSD/Title V programs for the first time – even at the "tailored" coverage thresholds. Moreover, nearly all of *Amici's* members face imminent higher energy costs because of the new GHG regulations for "large" GHG sources, such as power generating facilities.

Amici are additionally concerned with the EPA's remarkable failure to engage the concerns of American small business adequately in the GHG rulemaking process. From the beginning until the present day, the agency has failed to adequately study and consider the effects of its GHG regulations on small enterprises. Instead, the agency has wrongly assumed that, by regulating relatively large emitters first, and by delaying regulation of smaller sources, its GHG regulations would not "result in any increases in expenditures by any small entity." 74 Fed. Reg. 55,349 (Oct. 27, 2009).

EPA also incorrectly assumed that the its regulation of large emission sources would not increase costs of goods and services down the entire supply chain, thereby adversely forcing smaller enterprises to pay higher prices for energy and other essential goods and services. Finally, the agency erroneously assumed that its decision to defer regulation of small businesses would translate into "relief" – as opposed to trepidation and intimidation based on the agency's declaration of its power and intent to ultimately regulate *all* sources to the extent it deemed necessary.

EPA's assumptions reveal that the only "relief" achieved by the Tailoring Rule was administrative relief for the agency itself, not regulatory relief for American small business. Indeed, the Agency's refusal to forswear regulation of small business demonstrates its determination to accomplish the "absurd result" it allegedly seeks to avoid. EPA's remarkable claim that the Clean Air Act empowers its regulation of at least 6 million new sources never before regulated under the PSD/Title V programs – no matter how small the facility – is the "absurdity" – not the administrative nightmare of accomplishing that end.

To America's small enterprises, the question is not whether the nightmare will affect them – but when. As prudent businesses, they rightly foresee risks for which they must prepare and burdens for which they must account. Although EPA may disregard those risks and burdens, America's small enterprises do not share that luxury.

SUMMARY OF THE ARGUMENT

Amici's arguments address the adverse economic consequences imposed by EPA's "Triggering Rule," in which the Agency claimed authority to regulate, for the first time, greenhouse gas emissions ("GHGs") from over 6 million large and small businesses. The entities subject to regulation include large and small factories and power plants, as well as bakeries, office buildings, hospitals, multifamily residential buildings, large private homes, and other "small sources" of GHG.

Significantly for these *Amici*, the Agency has never denied or disclaimed its authority under the Clean Air Act ("CAA") to regulate under the PSD and Title V programs *all* sources of GHG emissions that meet the modest numerical coverage thresholds identified by Congress in the CAA, however diminutive they may be. Instead, by promulgating its "Tailoring Rule," EPA merely deferred the exercise of its authority over "small entities" to an undefined date that suits its administrative convenience as it takes "one step at a time" to apply the statutory thresholds to GHG emissions. Although most small businesses have never before been subject to EPA's PSD or Title V permits, they now face the prospect of heavy-handed regulation – a risk that is imminent for many and, subject to the Agency's convenience, eventual for all.

The issue before the Court in this proceeding concerns the validity of EPA's "Triggering Rule," a rulemaking that claims that the Agency's decision to regulate GHGs from mobile sources automatically "triggers" the regulation of GHGs from stationary sources. According to EPA's own projections, the "Triggering Rule" leads to "absurd results" (to use EPA's own terminology), including the devastating economic consequences from regulating 6 million new facilities.

To avoid this "absurdity," EPA's "Tailoring Rule" takes a red pen to modify the Clean Air Act to temporarily avoid the consequences associated with regulating greenhouse gas emissions from nearly every source in the United States – irrespective of the amount of their relative contribution to global climate change. When EPA first proposed the Tailoring Rule, the Agency insisted that the rule is "not expected to result in any increases in expenditures by any small entity." 74 Fed. Reg. 18909 (April 24, 2009). Despite this expectation, the administrative record, sound economic analysis, and common sense flatly contradict EPA's assurances.

In reality, numerous "small entities," such as small power generation facilities, anticipate emissions that may exceed the Tailoring Rule's thresholds. As a result, they will immediately be subject to onerous, time consuming, and expensive "Prevention of Significant Deterioration" ("PSD") and Title V permitting requirements for greenhouse gases. It can take years and hundreds of thousands of dollars in paper work costs alone for a company to obtain these permits, which is why Congress designed them to only apply to facilities emitting conventional pollutants.

Moreover, the Tailoring Rule does not provide a true "safe harbor" for "small entities" which do not qualify for immediate regulation. Instead, it provides only a *temporary* exemption from PSD and Title V requirements. EPA fully intends to consider lowering the thresholds to expand the program to small sources.

When EPA ultimately regulates all the way down to the statutory thresholds, EPA's expansion plans will inexplicably pursue the same "absurd" results that the Tailoring Rule was created to avoid.

Finally, even those "small entities" that avoid outright regulation will not escape EPA's attention. EPA has announced that it plans to reduce those enterprises' greenhouse gas emissions through alternative means, such as increasing energy efficiency – a tactic which guarantees additional compliance expenditures. EPA foresees piecemeal regulations that narrow the compliance focus to "equipment within a facility" as opposed to the overall facility itself, and even "residential sectors" are not excluded from examination.

The threat of these invasive and intrusive regulations produces a "chilling effect" that impacts plans for expanding operations, entering into new markets, and developing new products. Both large and small enterprises will reasonably hesitate if growth entails the complexities and costs of regulatory compliance. Those which move forward will surely pass their increased costs, including higher energy expenses, on to their customers. Businesses that cannot do so will suffer decreased profits in the midst of the current economic crisis – a setback that can ultimately threaten their survival.

Nothing in the Clean Air Act mandates the path of economic adversity that EPA has chosen. After this Court decided *Massachusetts v. EPA*, 549 U.S. 497 (2007), EPA had a wide variety of options available – including refusing to regulate greenhouse gases from stationary sources because such a decision would precipitate the "absurd" economic chaos the EPA admitted would flow from the regulation of GHGs for stationary sources. Nevertheless, EPA elected to pursue the "absurdity" despite its devastating economic impact on American business.

ARGUMENT

I. The Economic Impacts Of Triggering GHG Regulations Under the PSD And Title V Programs Will Be Devastating, Both At the "Tailored" Levels And At The Statutory Coverage Thresholds.

EPA's Triggering Rule represents perhaps the largest single regulatory expansion in the Agency's history. Indeed, a brief filed by Nobel economists in support of certiorari described the EPA's program as "unprecedented, sweeping, and costly" and concluded that "[i]f implemented, the regulatory choice [to pursue regulation of GHGs under the PSD and Title V programs] will impose *substantial*, yet *avoidable*, costs on society, while reducing the potential that the problem identified will be resolved." *See* Brief of Economists Thomas C. Schelling, Vernon L. Smith, and Robert W, Hahn as Amici Curiae in Support of Petitioners, at 3-4, 10 (emphasis added).

Even at the temporary "tailored" coverage thresholds adopted by the EPA in the "Tailoring Rule," the consequences for the American economy will be severe as energy facilities are forced to close, resulting in higher energy costs that are passed down the supply chain. But the EPA has claimed that the Tailoring Rule is just one "step" in its regulatory approach, and asserts authority in the Triggering Rule to regulate over 6 million facilities at the statutory threshold levels. The threat of impending regulation of those facilities, as well as the eventual regulation of those facilities, each represents distinct, additional economic costs that have been routinely underappreciated by the EPA. In particular, the economic implications for America's small enterprises will be crushing.

A. The Type And Scope Of Direct Burdens Imposed On Businesses By Regulating GHGs Under The PSD And Title V Programs.

A 2008 study regarding the potential economic impacts of regulating GHGs under the PSD and Title V programs illustrates the implications for regulating GHGs under those programs. According to the report, the GHG emission threshold of 250 tpy "is reached when a business uses about $70,000" in "stationary" energy costs (i.e., not cars, trucks and similar), assuming a modest $10 per 1000 cubic feet natural gas, or $3 per gallon oil. *See* Portia M. E. Mills and Mark P. Mills, *A Regulatory Burden: The Compliance Dimension of Regulating CO2 as a Pollutant* (U.S. Chamber of Commerce, 2008), at 3.[3] That means, according to the report, that at 250 tpy, "an operation as small as 1,000 square feet is sufficient to emit 250 tpy." *Id.*

The Triggering Rule is economically remarkable not only because of the *scope* of expanded regulatory authority – in terms of the over 6 million facilities potentially subject to regulation by the programs for the first time – but also because of the *type* of regulation (PSD and Title V permitting) that those entities would face. The PSD/Title V permitting process is extremely burdensome on the applicant. In 2004, EPA calculated that a PSD permit costs an applicant an average of $125,120 and requires 866 hours for the applicant to complete.[4] Moreover, in the Tailoring Rule, EPA admitted that "a literal application of the title V applicability provisions to all GHG sources would result in *permitting delays of some 10 years*," even though the statute requires resolution in 18 months. 75 Fed. Reg. 31563-64. (emphasis added). What's more, "citizen suits" may challenge the issuance of a Title V permit.[5] Defending permits substantially increases their costs, and the threat that a permit could be challenged will itself have a chilling effect.

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[3] Available at http://www.uschamber.com/reports/regulatory-burden-compliance-dimension-regulating-co2-pollutant (last visited Dec. 9, 2013).

The aggregate impact of the regulatory authority asserted by EPA in the Triggering Rule was well-described by the Secretaries of Agriculture, Energy, Transportation, and Commerce in the 2008 ANPR. They explained that regulating GHGs under PSD/ Title V provisions would give EPA "de facto zoning authority through control over thousands of what formerly were local or private decisions, impacting the construction of schools, hospitals, and commercial and residential development." 73 Fed. Reg. at 44360.

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[4] *See* Information Collection Request for Prevention of Significant Deterioration and Nonattainment New Source Review (40 CFR Part 51 and 52), Carrie Wheeler, Operating Permits Group, Air Quality Policy Division. Available at Docket No. EPA-HQ-OAR-2004-0081.

[5] Such actions can be used to require a facility to comply with any "standard, limitation, or schedule established under any permit issued pursuant to Title V or under any applicable State implementation plan approved by U.S. EPA, any permit term or condition, and any requirement to obtain a permit as a condition of operations." Clean Air Act § 304(f)(4).

B. Even At The Temporary "Tailored" Coverage Thresholds, The Economic Impacts Of Regulating GHGs Under the PSD And Title V Programs Will Be Devastating.

The Triggering Rule set in motion a regulatory cascade that will have tremendous direct and indirect impacts on the economy generally, but in particular for smaller entities.

1. EPA's Proposed GHG Regulations Will Force Energy Generating Facilities To Close And Drive Up Energy Prices At A Time When Other New Energy Regulations Have Imposed $290 Billion In Costs On Industry.

Examining the largest GHG sources in the nation, the American Action Forum (AAF) recently determined that the current proposals for regulating GHGs under the Clean Air Act will affect tens of thousands of jobs and a variety of industries. *See* Sam Batkins and Catrina Rorke, *Implications of Regulating Existing Greenhouse Gas Sources* (American Action Forum, June 24, 2013).[6] Natural gas generation, steel mills, refineries, and plastics manufacturing will all have to adjust to the new regulations. *Id.* According to the researchers, "any limitations on carbon output will inevitably pull coal-based facilities off the grid." *Id.* (explaining that "off-the-shelf technologies can only cut about five percent of emissions from existing facilities" and therefore the "results of regulation will either be the implementation of as-yet non-existent sequestration technology or some measure of fuel switching away from coal").

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[6] Available at http://americanactionforum.org/insights/implications-of-regulating-existing-greenhouse-gas-sources (last visited December 7, 2013).

The researchers project that "regulating carbon emissions from existing facilities will require us to generate electricity – and produce things like steel, plastics, and oil products – in some other way." *Id.* For those who can "adjust" to "some other way," the costs of modifying facilities will be substantial. Since all of the substitutes for coal, including renewable fuels, nuclear energy, and natural gas are "imperfect" replacements, the nation will face an "uncertain energy future." *Id.* As EPA moves to regulate stationary sources beyond the power generation industry, traditional manufacturers "face a much more difficult route to identifying appropriate substitutes and achieving serious reductions." *Id.*

There are serious questions regarding whether industry is prepared to absorb the additional costs associated with these mandates – particularly in light of a $290 billion wave of energy-related regulations over the last four years from EPA and the Department of Energy combined. *Id.* (combined impact of rules such as Air Toxics Rule and Cross-State Air Pollution Rule is "more than the Gross Domestic Product of Norway" and is forcing older facilities to close).

2. Smaller Power Generation Businesses Will Be Directly And Disproportionately Impacted By EPA's Proposed GHG Regulations.

Significantly, not all power generation companies are large enterprises. Within the energy generation sector itself, there are a significant number of small businesses that will be disproportionately impacted by EPA's GHG regulations. Small facilities with sparse capital reserves will be most heavily impacted by stringent GHG standards. Even though smaller producers contribute less than one-percent of U.S. emissions, they "will face the same regulatory hurdles that large utilities encounter." Sam Batkins, *Small Business Implications of Greenhouse Gas Regulation* (American Action Forum, Sept. 19, 2013).[7] EPA is fully aware of this disparate impact on these small businesses:

> In EPA's GHG reporting rule, its analysis went a step further and analyzed the "cost-to-sales ratios." With costs per entity from 14,000 to 17,000, the regressive effects were apparent. EPA found an entity with 1-20 employees would bear a cost-to-sales ratio of 1.32 percent, compared to 0.05 percent for a business with 100-499 employees. The largest entities, 1,000-1,499 employees, would bear the lowest ratio of cost-to-sales, 0.02 percent. *In other words, the smallest businesses bear a regulatory burden 65 times greater than their largest competitors do.*

Id. (emphasis added). The impact of this burden on smaller generators threatens their very existence. Many such facilities, especially those depending upon coal for fuel, will be forced to close – and a host of smaller facilities will be retired from otherwise productive service. *Id.*

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[7] Available at http://americanactionforum.org/research/small-business-implications-of-greenhouse-gas-regulation (last visited December 7, 2013).

3. Consumers, As Well As Large And Small Businesses, Will Be Indirectly Impacted As Higher Energy Costs Are Passed Along.

The retirement of facilities has economic consequences beyond the shuttered plants themselves. Recent research has confirmed that the retirement of coal-fired power plants results in higher energy prices. *See* Metin Delibi, Frank C. Graves, and Onur Aydin, *Coal Plant Retirements: Feedback Effects on Wholesale Electricity Prices* (Dec. 5, 2013).[8] According to the researchers, the resulting coal-plant retirements "will drive up market prices" and "not all of these impacts are currently reflected in public forecasts or market forward prices.[9] This new study also includes a qualitative assessment of impacts on capacity prices, concluding that forced coal retirements "*would tend to increase the capacity prices in the short to medium term.*"[10]

EPA, in its dash to regulate GHGs, failed to adequately consider the broad economic impact of removing such facilities from service. These increased energy costs are a *direct and significant impact placed on all sectors of the American economy* – a major burden that the Agency failed to consider before predicting that its GHG regulations would not "result in any increases in expenditures by any small entity." 74 Fed. Reg. 18909 (April 24, 2009).

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[8] Available at http://www.brattle.com/system/news/pdfs/000/000/584/original/Coal_Plant_Retirements_-_Feedback_Effects_on_Wholesale_Electricity_Prices.pdf?1386199719 (last visited Dec. 7, 2013).

[9] *Coal Plant Retirements Likely to Alter Future Power Prices According to Study by Brattle Economists*, The Brattle Group (December 5, 2013). Available at http://www.brattle.com/news-and-knowledge/news/584 (last visited Dec. 7, 2013).

[10] *Id.*

At the same time this suppressive force is applied, the costs of goods and services used by small entities will surely increase – spurred by the economic burdens imposed on large manufacturers who produce the materials and goods used by small businesses. Although EPA opines that large sources of GHG will not sustain "direct economic burdens" because PSD and Title V requirements are "already mandated" by the Clean Air Act, 75 Fed. Reg. at 31595, the *indirect* economic burdens present a grim picture. The burden of compliance is enhanced by the inevitable impact of increased energy costs. Since compliance costs in the power generation industry will increase dramatically, all users – large and small – will face increased costs for electrical power.

It is unrealistic to expect that large companies will not pass these increased costs down to customers by raising prices. Customers include "small entities" which must then absorb the cost of EPA's regulatory burdens. Unfortunately, it is increasingly difficult for small businesses to pass costs down to end users and consumers. As a result, small businesses will inevitably confront the risk of decreased profits – or losses – as a result of higher prices for essential goods and services.

Although EPA presumed that temporarily exempting smaller sources from permitting requirements would provide regulatory relief, the Agency does not intend to adopt a hands off approach. "[S]maller sources of GHGs will be the focus of voluntary emission reduction programs and energy efficiency measures that lead to reductions in GHGs." *Id.* at

31599. Even during the "exemption" period, the Agency reserves the right to *require* small sources to reduce emissions in an "efficient manner:"

> These approaches, which may be developed through both federal and state efforts, include *requirements*, incentives, and educational outreach to promote efficiency improvements to boilers and furnaces and energy efficient operations, including, for example, weatherization programs.

Id. at 31557 (emphasis added); *see also id.* at 31600. Trapped in an economic vise between unavoidable price increases and inescapable inhibitions on growth, America's small enterprises face an intimidating future – one which EPA has inexplicably overlooked.

C. Businesses Not Yet Directly Regulated Under PSD/Title V Due To The Tailoring Rule Are Justifiably Concerned About Eventual Regulation.

Enterprises not yet swept into the PSD and Title V programs for GHGs are justifiably concerned that the Tailoring Rule does not protect them from the burdens of eventual GHG regulation. Under EPA's regulatory scheme, "smaller entities" are only *temporarily* exempted from PSD and Title V regulations if their emissions fail to exceed the threshold levels specified in the regulations.

1. The Temporary Nature of the Tailoring Rule.

"Smaller entities" were not formally "exempted" because EPA concluded that they were not eligible for regulation. According to EPA, the delay was motivated by its own limited resources and administrative limitations:

> The tailoring proposal contemplated at least a 6-year exclusion from permitting for small sources. This proposed exclusion was based on the overwhelming numbers of permitting actions at small sources and the need for time for permitting authorities to secure resources, hire and train staff, and gain experience with GHG permitting for new types of sources and technologies. It was also based on the time needed for EPA to develop, and for states to adopt, streamlining measures to reduce the permitting burden (*e.g.*, concerning PTE, presumptive BACT, or general permits).

75 Fed. Reg. at 31524 (June 3, 2010); *see also id.* at 31525. After the Rule's small source "exemption" expires, the Agency plainly intends to pursue regulatory action:

> *We further commit to completing another round of rulemaking addressing smaller sources by April 30, 2016.* Our action in that rulemaking would address permitting requirements for smaller sources, taking into account the remaining problems concerning costs to sources and burdens to permitting authorities.

Id. at 31522 (emphasis added). "Smaller sources" are in line for regulation subject to the "streamlining" of permitting processes over the six years following the Tailoring Rule's promulgation:

> *No PSD provision explicitly imposes any limitation of PSD to large industrial sources,*

> and Congress's reasoning for focusing on large industrial sources—which was that these sources are best suited to handle the resource-intensive analyses required by the PSD program—could extend to GHG sources under certain circumstances (that is, large sources first, *and smaller sources after streamlining methods are developed*).

Id. at 31558 (emphasis added); *see also id.* at 31559 ("Taking certain actions—including streamlining PSD requirements—can render PSD more affordable and thereby allow its application to smaller sources in a more cost-effective manner.").

Nothing in the Tailoring Rule provides any assurance that small sources will not be regulated. Indeed, the Agency construed the Clean Air Act to require regulation of *all* sources:

> [W]e find nothing in the PSD provisions or legislative history that would indicate Congressional intent to exclude GHG sources. Accordingly, we believe that Congress must be said to have intended an affirmative response for whether PSD applies to sources of GHGs *as a general matter*.

Id. at 31558 (emphasis added).

This conclusion means that *every* source of GHG, no matter how inconsequential its emissions may be, is within EPA's regulatory reach and grasp. To understand why presently unregulated entities are alarmed, imagine the economic consequences if each 2,000 square foot fast food franchise in America faced a 10-year Title V permitting delay (as EPA predicted in the Tailoring Rule), an extra $125,000 in permitting costs, and an additional 866 employee hours to complete the application.

2. The Impact of EPA's Threat To Ratchet Down Coverage Thresholds.

Small businesses might count themselves fortunate to avoid *immediate* PSD and Title V requirements, but they remain at risk from coercive Agency actions regarding GHG. The Agency fully intends to use other "*regulatory and/or non-regulatory tools for reducing emissions from smaller GHG sources* because we believe that these tools will likely result in more efficient and cost-effective regulation than would case-by-case permitting." *See id.* (emphasis added). Viewed in this perspective, the Tailoring Rule's "regulatory relief" is illusory. Indeed, the regulatory sword *presently* hangs over the future of America's small enterprises. The only question is when it will fall.

The EPA's asserted ability to time its regulatory expansions gives the Agency significant leverage over the regulated community – perhaps to exact concessions from the businesses in unrelated areas in exchange for further delaying GHG regulations. This threat is not insignificant in its potential power. For example, suppose that the EPA next ratcheted down the coverage thresholds to sweep in 1% of the 6 million facilities it has claimed regulatory authority over in the Triggering Rule. Based on an average permit cost of $125,120 and an application burden of 866 hours, such a "modest" expansion of the EPA's regulatory agenda would cost at least an additional $7.5 billion and 60,000,000 employee hours, or approximately 25,000 full-time-employees. The incentives to avoid a modest $7.5 billion regulatory expansion would be great.

Indeed, smaller emitters of GHGs – those in the range of 25,000 tpy to 75,000 tpy – *already* consider themselves in the Agency's crosshairs for the next wave of regulations. Although the *final* Tailoring Rule claimed that the PSD and Title V programs would initially apply only to sources emitting more than 75,000 or 100,000 tpy (depending on source-type) of GHG emissions (as compared to the statutory coverage thresholds of 100/250 tpy, the *initial*, proposed Tailoring Rule would have regulated those same GHG sources at a 25,000 tpy threshold. *See* 74 Fed. Reg. 55292 (Oct. 27, 2009). Given the EPA's claim that it is only *temporarily* adjusting the 100/250 tpy statutory coverage threshold, companies that emit between 100 tpy and 25,000 tpy are reasonably apprehensive that they are proceeding on "borrowed time."

II. EPA wrongly failed to consider the interactive and cumulative effects and costs of its GHG regulations.

The burdens and developments discussed above were not entirely unforeseen by EPA. Indeed, they are consistent with the Agency's initial predictions. In the preface to its Advance Notice of Public Rulemaking ("ANPR"), EPA Administrator acknowledged that it was "clear" that the Agency's regulations of motor vehicle emissions could "trigger" regulation of "smaller stationary sources that also emit GHGs – such as apartment buildings, large homes, schools, and hospitals," resulting in an "unprecedented expansion" of EPA authority that would have a "profound effect on virtually every sector of the economy and touch every household in the land." 73 Fed. Reg. 44355 (July

30, 2008). Despite this early foresight into its own regulatory potential, the Agency has never considered or calculated the interactive and cumulative effects and costs of *all* of the Administration's climate change rules and regulations.

Since the EPA's ANPR was published in 2008, many other federal agencies have issued regulations regarding climate change. *See generally*, Jonathan H. Adler, *Heat Expands All Things: The Proliferation of Greenhouse Gas Regulation Under the Obama Administration*, 24 Harv. J. L. & Pub. Policy 421, 440-444 (2012). Nevertheless, neither the EPA nor any other agency has evaluated the magnitude of the regulations' overall impact on the economy – much less their cumulative impact on small enterprises. In the absence of an analysis that collectively evaluates the impact of the Administration's entire regulatory package, EPA cannot credibly claim that its GHG regulations will not "result in any increases in expenditures by any small entity." Without an accounting for the total burden, even a small additional impact may be the "straw that broke the camel's back."

The Executive Branch of our federal government seems determined to have each agency take a "tunnel vision" approach to climate change – without bothering to calculate or account for the cumulative burden its bureaucratic regime imposes on American business. For example:

- In October 2009, the President issued an executive order requiring all federal agencies to reduce their GHG emissions and improve their environmental performance. The order required all agencies to set a GHG emission reduction target for

2020, to reduce vehicle fleet petroleum use by 30 per cent by 2020, and to implement a "net-zero-energy" building requirement by 2030. *See id.*, at 442.

- The president also directed the Department of Energy to set more stringent energy efficiency standards for appliances, including both commercial and residential products, under the Energy Policy Act of 2005. *See id.*
- The Council on Environmental Quality promulgated draft guidance on the "Consideration of the Effects of Climate change and Greenhouse Gas Emissions" under the National Environmental Policy Act. The guidance describes how federal agencies must evaluate and consider the potential climate change impacts of significant federal actions subject to regulation under NEPA. *See id.*, at 442-43.
- The Interior Department launched a "coordinated strategy" to address the impact of climate change on lands and waters managed by agencies within the Department. The Department created a "Climate Change Response Council" that will require each bureau and office within the Department to incorporate climate change concerns into agency management plans and decision-making, including "major decisions regarding potential use of resources under the Department's purview." The Department also "prioritized development of renewable energy on public lands and offshore waters to reduce

our dependence on foreign oil and to reduce greenhouse gas pollution." The Forest Service is also considering how climate change concerns should alter its management of national forests. *See id.*, at 443.

- The Fish and Wildlife Service designated 187,000 square miles of "barrier islands, denning areas and offshore sea ice as critical habitat for polar bears, which are listed as a threatened species. The Endangered Species Act requires consultations with the Service when undertaking, funding, or permitting actions that could adversely affect critical habitat. *Id.* at 443.
- The SEC decided to issue critical guidance for public companies on how the SEC's disclosure requirements apply to economic and legal risks relating to climate change. The SEC concluded that public companies may have an obligation to disclose risks associated with proposed climate change legislation, regulation, and international agreements, the indirect economic consequences of such regulations and potentially material impacts of climate change on their business. *Id.* at 443-44.

The cumulative economic effect of these vast expansions of federal executive power regarding climate change has never been calculated – much less the impact on the small businesses that are potentially affected by them. Even a shorthand description of these massive initiatives vividly reveals a multi-front administrative burden imposed upon the American economy – a burden that surely impacts the largest and most sophisticated American businesses, and which surely has the potential, insofar as small business is concerned, to be frankly oppressive.

Before EPA is permitted to impose the burdens of its expansive programs "in a vacuum," EPA owes the regulated community, the American people, and this Court a candid and complete accounting of how its proposals fit into the cumulative economic impact of the Administration's climate change initiatives. Since the Administration has not provided such an accounting in its arguments here, this Court should legitimately question whether EPA's regulatory adventure is based on a sound economic foundation.

CONCLUSION

Whatever alternative approaches might be adopted to address greenhouse gases – none of which are addressed or endorsed by this brief – EPA has charted a course that damages the American economy by pursuing regulations that are as ineffective as they are oppressive. Under such circumstances, and in light of the compelling legal arguments advanced by Petitioners, this Court should return EPA's exercises to the "drawing board" – with instructions to consider the practical economic impact of its "command and control" policies before endangering the nation's economic health and welfare.

The judgment of the Court of Appeals should be reversed.

Respectfully submitted,

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UTILITY AIR REGULATORY GROUP,
Petitioner,
v.
ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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BRIEF OF TEXAS OIL & GAS ASSOCIATION, TEXAS ASSOCIATION OF BUSINESS, AND TEXAS ASSOCIATION OF MANUFACTURERS AS *AMICI CURIAE* SUPPORTING PETITIONERS

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INTERESTS OF *AMICI CURIAE*

The *amici curiae* are three trade associations that represent a variety of petroleum, manufacturing, and business interests throughout the State of Texas. The Texas Oil & Gas Association (TXOGA) is the oldest and largest petroleum trade association in the State of Texas; it represents approximately 5,000 members who, collectively, account for more than 90 percent of all crude oil and natural gas produced in Texas, operate nearly all of the State's refining capacity, and are responsible for the vast majority of the State's pipelines. The Texas Association of Business is a trade association with an over 85-year history of representing Texas businesses large and small. And the Texas Association of Manufacturers is a trade association representing over 450 large and small manufacturing companies located throughout the State of Texas. The *amici* have a substantial interest in the question presented herein, which relates to the proper regulation of Greenhouse Gas (GHG) emissions by stationary sources under the Clean Air Act.[1]

There are actually two issues fairly encompassed within the question on which this Court granted *certiorari*.[2] The first issue, addressed by a number of the Petitioners, including the Utility Air Regulatory Group (No. 12-1146), relates to whether GHG emissions qualify as "air pollutants" under Title I of the Clean Air Act, such that they may be regulated under Title I's permitting programs. The second issue, address by Petitioners American Chemistry Council, *et al.* (No. 12-1248), concerns whether, if GHG emissions do qualify as "air pollutants" under Title I, GHG emissions from a stationary source trigger those permitting requirements.

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[1] Counsel for all parties have consented to the filing of this brief, and those consents are on file with the Clerk of the Court. No counsel for a party in this case authored this brief in whole or in part. No person or entity—other than *amici*, their members, or their counsel—made a monetary contribution specifically for the preparation or submission of this brief.

[2] The Court granted *certiorari* to resolve the following question: "Whether EPA permissibly determined that its regulation

Amici submit this brief in support of the Petitioners; they do so focusing exclusively on the second issue—specifically, whether GHG emissions from a stationary source trigger permitting requirements under Title I's Prevention of Significant Deterioration (PSD) Program.[3]

The Environmental Protection Agency sought to resolve the issue of PSD applicability through a series of rulemakings that culminated in the so-called

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of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases."

[3] The Clean Air Act imposes separate permitting obligations on certain stationary sources under Title V of the Act. *See* 42 U.S.C. §§ 7661–7661c. That said, Title V "does not impose substantive new requirements." 40 C.F.R. § 70.1(b). Rather, it mandates that a source certify compliance with other requirements under the Act, including the PSD Program. *See, e.g.*, 42 U.S.C. § 7661a(a). Although this brief does not specifically address Title V, the scope of eligibility for permitting under the PSD Program would affect a stationary source's derivative obligations under Title V.

Tailoring Rule. But there was nothing routine about this administrative action. Through the Tailoring Rule, EPA invoked *tools of last resort* to rewrite perfectly clear portions of the Clean Air Act—*i.e.*, explicit numerical permitting thresholds of 100 and 250 tons per year. In this circumstance, the Agency cannot claim that it is owed deference; it instead bears the burden of demonstrating that there were *no other permissible interpretations* available to it before rewriting the Act. In other words, if there is at least one other permissible interpretation that would avoid the absurdities claimed by EPA, the Agency was *compelled to adopt such an interpretation* rather than rewrite the Act. EPA cannot meet this burden.

As *amici* explain more fully below, EPA was presented with numerous opportunities to adopt a permissible interpretation of the Clean Air Act—one that would have avoided the absurd results identified by the Agency, but without rewriting perfectly clear provisions of the Act. This alternative interpretation turns on the *pollutant-specific nature* of the PSD Program—a program that was designed to ensure that *specific areas* of the country would remain in attainment with national ambient air quality standards (NAAQS) for *specific, criteria pollutants*—currently, ozone, sulfur dioxide, particulate matter, nitrogen oxides, carbon monoxide, and lead, *but not GHGs*. *See* 40 C.F.R. §§ 50.1–50.12. Under a pollutant-specific interpretation of the PSD Program, a stationary source is required to get a PSD permit if it is in a *location* attaining a NAAQS for a criteria pollutant, and it will emit threshold quantities (100/250 tons per year) of *that criteria pollutant*.

Consistent with congressional intent, under this interpretation, EPA would continue to issue several hundred PSD permits each year. *See* Addendum A, *infra*, at 28. And under this interpretation, a stationary source that satisfies the pollutant-specific triggering requirement would have to install "best available control technology [(BACT)] for each pollutant subject to regulation under" the Act, 42 U.S.C. § 7475(a)(4). Thus, although a pollutant-specific approach would limit the number of stationary sources that are covered by the PSD Program, as intended by Congress, a source that is covered by the PSD Program might still have to install BACT for GHG emissions.

Rather than give meaning to the targeted nature of the PSD Program, EPA chose in 1980 to adopt an interpretation that would require a stationary source to apply for a PSD permit any time it emitted threshold quantities of *any* air pollutant subject to regulation anywhere under the Act, as long as the source is located in an area attaining a NAAQS for *any* pollutant, even if that source does not emit that criteria pollutant at all. For many years the absurdity inherent in EPA's approach lay dormant, but when the Agency first applied it to GHG emissions, the fallacy of this approach became patently obvious. Whereas Congress only intended for the Agency to issue *several hundred* PSD permits each year, the Agency's interpretation would mean that *tens of thousands* of sources of GHG emissions would have to apply for a permit every year, including small and nonindustrial sources like schools, hospitals, and apartment buildings.

The revelation of such an absurdity should have caused EPA to reevaluate its underlying interpretation of the PSD Program, but instead, it used the occasion to "tailor" perfectly clear provisions of the Clean Air Act. The upshot of EPA's approach is that it gets to select for itself which sources of GHG emissions are required to apply for permits under the Act, in direct contravention of the numerical thresholds mandated by Congress. And EPA has assumed for itself the authority to modify this approach, going forward, in its *unbounded discretion*.

EPA's choices can be analogized to the questions that face a traveler during a long journey. Many years ago, EPA set about to traverse the interpretative path that is the Clean Air Act. In 1980, it came to a fork in the road. From where it stood, there appeared to be two equally viable options. And as with any binary choice, the Agency was forced to select between those two options and move forward. Unfortunately, after nearly 30 years down its chosen path, EPA came to learn that it had reached an interpretative dead end; the path that it selected placed it at the precipice of absurdity. And yet, rather than return to the fork and then head down the path that would have avoided this absurdity, the Agency did the one thing it could not do; it rewrote the Clean Air Act to avoid an absurdity that was a product of its own making.

Such a misappropriation of legislative authority is unprecedented. The supporting judgment of the court of appeals should be reversed.

BACKGROUND

1. Title I of the Clean Air Act regulates emissions of air pollutants from certain stationary sources. *See* 42 U.S.C. §§ 7401–7515.

Among the programs established under Title I, Part A establishes national ambient air quality standards (NAAQS) for criteria pollutants—pollutants whose presence in the ambient air pose particular risks for public health and welfare. *See id.* § 7408(a). There are currently a very limited number of criteria pollutants: ozone, sulfur dioxide, particulate matter, nitrogen oxides, carbon monoxide, and lead. *See* 40 C.F.R. §§ 50.1–50.12. Under Section 109 of the Act, EPA must promulgate a NAAQS that sets safe levels for each criteria pollutant. *See* 42 U.S.C. § 7409. And under Section 107, EPA must designate areas of the country as either in attainment or in nonattainment with each NAAQS. *See id.* § 7407(d).

Importantly, area designations are NAAQS-specific and, therefore, "pollutant-specific" as well. *E.g., Alabama Power Co.* v. *Costle*, 636 F.2d 323, 350 (D.C. Cir. 1980); *see also* 42 U.S.C. § 7407(d). Thus, a single geographic area may be in attainment with one NAAQS while in nonattainment with another.

One of the goals of Title I was to help ensure that each area of the country is in attainment with each NAAQS. Among its means of achieving that goal, Congress established two complementary permitting programs: one for areas in nonattainment, and a second for areas in attainment with each NAAQS. Both permitting programs are run principally by the

States through implementation programs. *See* 42 U.S.C. § 7410(a)(2)(C).

For areas in nonattainment, Congress established the Nonattainment New Source Review (NNSR) Program in Part D of Title I of the Act. To help these areas achieve attainment, Congress required certain stationary sources in those areas to obtain NNSR permits that impose the "lowest achievable emissions rate" to control emissions of the criteria pollutant whose NAAQS the area is not attaining. *See id.* §§ 7501(3), 7502.

The other permitting program, the PSD Program of Part C of Title I, was enacted to ensure that areas in attainment would remain so. *See Alabama Power*, 636 F.2d at 349; *see also* 42 U.S.C. § 7470; S. REP. NO. 95-127, at 29 (1977) (stating that the PSD Program was designed to "protect national ambient air quality standards"). The first substantive provision of the PSD Program, Section 161 of the Act, links the program to attainment areas. It requires State or federal implementation plans to "contain emission limitations and such other measures as may be necessary . . . to prevent significant deterioration of air quality in each region (or portion thereof) designated . . . as attainment" pursuant to Section 107. 42 U.S.C. § 7471.

The principal means by which the PSD Program helps to achieve continued attainment with each NAAQS is a preconstruction permitting regime. Section 165 of the Act requires a permit before construction begins on any "major emitting facility . . . in any area to which this part applies." *Id.* § 7475(a).

Securing and satisfying a PSD permit are demanding obligations. To get one, a facility must demonstrate, among other things, that its emissions will not cause air quality to exceed any NAAQS—which is to say, a facility must demonstrate that its emissions will not cause an attainment area to become a nonattainment area for any criteria pollutant. *See id.* § 7475(a)(3). In addition, after a PSD permit is issued, a facility must install "best available control technology for each pollutant subject to regulation under" the Act, which may include both criteria and non-criteria pollutants. *Id.* § 7475(a)(4); *see also id.* § 7479(3) (defining "best available control technology").

All parties agree that Congress only intended for the PSD Program to apply to "facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for" air pollution. *Alabama Power*, 636 F.2d at 353. In addition, Congress recognized that "[t]he numbers of sources that meet these criteria . . . are reasonably in line with EPA's administrative capability." *Id.* at 354.

Thus, given the burdens of applying for, then implementing, PSD permits, the threshold question is which sources need them. A "major emitting facility" potentially subject to PSD permitting is defined as one with "major" emissions—more than 100 or 250 tons per year—of "any air pollutant." 42 U.S.C. § 7479(1). But not all major emitting facilities need PSD permits. Under the PSD Program's triggering provision, Section 165(a), only those "in any area to which this part applies" need obtain one. *Id.* § 7475(a).

2. At issue here are two potential interpretations of the PSD Program's triggering provision.

In interpreting the PSD Program's statutory trigger, EPA has long placed controlling weight on the phrase "major emitting facility." Ignoring the pollutant-specific nature of the PSD Program, along with the statutory phrase "in any area to which this part applies," EPA has insisted that any stationary source that exceeds the 100- or 250-tons-per-year thresholds for *any* air pollutant subject to regulation *anywhere* under the Act must obtain a PSD permit. *E.g.*, EPA, *Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans; Final Rule*, 45 Fed. Reg. 52,676, 52,711 (Aug. 7, 1980).

But there is another way to read the PSD Program's statutory trigger. Under this alternative interpretation, a major emitting facility is required to obtain a PSD permit only if it is *located* in an area attaining the NAAQS for a criteria pollutant, and it will emit threshold quantities of *that criteria pollutant*. Simply put, the PSD Program can (and should) be read to impose a pollutant-specific, situs requirement.

EPA's interpretative choice—a pollutant-indifferent approach—posed no problem for many years. That is, even under EPA's approach, the Agency only issued several hundred PSD permits each year. EPA, *Prevention of Significant Deteriora-*

tion and Title V Greenhouse Gas Tailoring Rule; Final Rule, 75 Fed. Reg. 31,514, 31,537 (June 3, 2010).

But this all changed when EPA promulgated the so-called Tailpipe Rule, which regulated GHG emissions under Title II of the Act in response to this Court's decision in *Massachusetts* v. *EPA*, 549 U.S. 497 (2007). *See* EPA, *Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule*, 75 Fed. Reg. 25,324 (May 7, 2010). Because GHG emissions were now a regulated pollutant somewhere under the Act, EPA claimed that it was required to issue permits to stationary sources that exceeded the 100- or 250-tons-per-year thresholds established in the definition of a "major emitting facility" located within the PSD Program. *See* Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,516. By so doing, EPA estimated that it would now field *more than 82,000* PSD permit applications each year, covering many sources that, heretofore, had never been subject to regulation under the Act. *Id.* at 31,538. Moreover, EPA acknowledged that the review of this crushing number of applications would exceed its administrative capability and could lead to delays in issuing permits of "a decade or longer." *Id.* at 31,557.

EPA freely admitted that such an explosion of PSD permits would be "inconsistent with Congress's expressed intent," but it claimed that such an outcome was compelled by a "literal application" of the Clean Air Act. EPA, *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Proposed Rules*, 74 Fed. Reg. 55,292, 55,304 (Oct. 27, 2009). Indeed, EPA claimed that it was precluded from reconsidering its underlying interpretation of the PSD Program's triggering provision. Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,517 (claiming that, "under *Chevron* Step 1," the Agency could not reconsider the scope of the PSD permitting program).

To remedy the absurdity imbued in its interpretation, EPA promulgated a rulemaking, the so-called Tailoring Rule, which invoked administrative tools of last resort—the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines—to rewrite and delay the application of the PSD Program's otherwise clear 100- and 250-tons-per-year thresholds. *Id.* at 31,516. EPA proposed to reduce the number of PSD permits that the Tailpipe Rule would require by "tailoring" the emissions thresholds for stationary sources of GHG emissions, raising them far, far above the statutory thresholds set out in the definition of a "major emitting facility." *See id.* at 31,560.

Commenters in this and related rulemakings, including Petitioners American Chemistry Council, *et al.* (No. 12-1248), proposed that EPA adopt the narrower, pollutant-specific interpretation of the PSD permitting trigger, which would avoid the absurdities upon which EPA relied to justify changing the statutory thresholds.[4] Indeed, because GHG emissions are not criteria pollutants, no area of the country is designated as in attainment with such a NAAQS. Thus, under this narrower interpretation, no newly constructed source with major emissions of only GHGs would have to obtain a PSD permit, and no existing major source undertaking a modification would have to get a PSD permit solely because of its increased GHG emissions.

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[4] *See infra* note 6 (citing comments to related rulemakings).

But EPA rejected these proposals, reaffirmed its interpretation of the PSD permitting trigger, and settled on 100,000 tons per year as the new, GHG-specific threshold. *Id.* at 31,560–62. Even under these super-elevated thresholds, EPA still expects the new number of annual PSD permit applications to surpass the old. *See id.* at 31,536–41; *see also* Addendum A, *infra*, at 28.

The Tailoring Rule was implemented in two phases—with more promised. During the first phase, which lasted until June 30, 2011, no construction of a major source required a PSD permit solely because of GHG emissions. *See id.* at 31,516. That said, during this phase, the PSD Program still regulated GHG emissions insofar as sources that were required to get a PSD permit were required to adopt BACT for GHG emissions. During the second phase of the Tailoring Rule, which took effect on July 1, 2011, the new GHG-specific thresholds kicked in. EPA has stated that it will propose additional phases for the Tailoring Rule in order to expand PSD permitting to "smaller sources." *Id.* at 31,566. All the same, the Agency stated that, in addressing "permitting requirements for smaller sources," it will "tak[e] into account . . . problems concerning costs to sources and burdens to permitting authorities." *Id.* Thus, it is possible that in applying this cost-benefit approach, EPA may never get around to fully implementing its interpretation of the PSD Program to sources of GHG emissions that would otherwise satisfy the 100- and 250-tons-per-year thresholds.

ARGUMENT

EPA REPEATEDLY IGNORED A PERMISSIBLE INTERPRETATION OF THE CLEAN AIR ACT AND INSTEAD RELIED ON TOOLS OF LAST RESORT TO IMPROPERLY REWRITE CLEAR STATUTORY TEXT.

EPA squandered numerous opportunities to adopt a permissible interpretation of the Clean Air Act—one that would have avoided the absurd results that EPA claimed as a justification for rewriting perfectly clear provisions of the Act. Back in 2009, the pollutant-specific approach was raised and discussed by stakeholders at the very first meeting of the Climate Change Work Group of the EPA Clean Air Act Advisory Committee (CAAAC).[5] The pollutant-specific approach was discussed further with the Agency and the Work Group, formally presented in a *White Paper*, and raised in a series of public comments to the Agency, including in comments to the rulemaking at issue here.[6]

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[5] *See* Permits, New Source Review and Toxics Subcomm. of CAAAC, *Interim Phase I Report of the Climate Change Work Group* 3–4 (Feb. 3, 2010) (*available at* http://www.epa.gov/oar/caaac/climate/2010_02_InterimPhaseIReport.pdf).

[6] *See* Charles H. Knauss, *White Paper for EPA Climate Change Workgroup: Scope of the PSD Problem to Be Addressed: Why There Is No Automatic PSD Trigger or "NAPT" Simply Because GHGs Become Regulated Under the Clean Air Act* (Jan. 8, 2010, rev. Feb. 8, 2010), *reprinted in* Joint App'x at 1495–1502, *Am. Chem. Council* v. *EPA*, No. 10-1167 (D.C. Cir. filed July 29, 2010) (Nat'l Ass'n of Mfrs., *et al.*, *Petition to Reconsider, Rescind, and/or Revise EPA's Prevention of Significant Deterioration Regulation* (July 6, 2010) (*available at*

Instead, EPA rejected the ideas of its own advisory committee and chose to invoke the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines to rewrite and delay the application of the PSD Program's otherwise clear 100- and 250-tons-per-year thresholds. Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,516. And yet, the Agency was too quick to invoke these administrative tools.

The doctrines on which EPA relies are truly tools of last resort. As this Court recently reaffirmed in a related context, instead of "reading new words into [a] statute" to avoid absurd results, the statute should be interpreted so that "no absurdity arises in the first place." *Kloeckner* v. *Solis*, 133 S. Ct. 596, 606–07 (2012). Here, as in *Kloeckner*, it is EPA's

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http://www.nam.org/~/media/08BC270F7B3A4E9498F41420848 43460/Petition_for_EPA_to_Reconsider_PSD_Regulations.pdf#page=23)); *see also* Air Permitting Forum, *et al.*, *Comments on EPA's Proposed Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas (GHG) Tailoring Rule*, EPA-HQ-OAR-2009-0517-5181 (Dec. 28, 2009) (raising the same approach discussed in the *White Paper*); Alliance of Auto. Mfrs., *Comments on EPA's Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, EPA-HQ-OAR-2009-0517-5083 (Dec. 28, 2009) (same); Air Permitting Forum, *Comments on the Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards (Motor Vehicle Rule)*, EPA-HQ-OAR-2009-0472-7253 (Nov. 27, 2009) (same); Air Permitting Forum, *Comments on the Proposed Prevention of Significant Deterioration (PSD): Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by the Federal PSD Permit Program (PSD Interpretive Memorandum) (Proposed Reconsideration)*, EPA-HQ-OAR-2009-0597-0085 (Dec. 7, 2009) (same).

"own misreading that creates the need to 'fix'" the PSD Program. *Id.* at 607.

A pollutant-specific interpretation of the PSD Program's triggering provision avoids the absurdities claimed by EPA. As explained in detail below, under this alternative interpretation, EPA will continue to field only several hundred PSD permit applications each year. *See* Addendum A, *infra*, at 28.

In rejecting this approach, EPA adopted a heightened showing of congressional intent nowhere supported by *Chevron, U.S.A., Inc.* v. *NRDC*, 467 U.S. 837 (1984), or its progeny. According to EPA, a "literal reading" of the Act supported its pollutant-indifferent approach, and because it could find no "explicit statements in the legislative history that Congress intended to limit PSD applicability to sources of NAAQS pollutants," the Agency was *precluded* from adopting the pollutant-specific approach. Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,562. But this standard turns *Chevron* on its head. It allowed EPA to reject a *permissible* interpretation of the statute, and substitute for it an interpretation that required the Agency to rewrite perfectly clear statutory provisions, all because the Agency could not say for sure that the pollutant-specific approach was compelled. As this Court explained in a different context, "'That the only cure [proposed by the Government] is worse than the disease suggests the Government is simply wrong." *Moncrieffe* v. *Holder*, 133 S. Ct. 1678, 1692 (2013); *see also Chevron*, 467 U.S. at 843 (holding that, where a statute is ambiguous, an agency does not have license to rewrite the statute any way it might deem fit; it must adopt an interpretation "based on a permissible construction of the statute").

The end result of EPA's approach is that it gets to select for itself which sources of GHG emissions are required to apply for permits under the Act. But the Clean Air Act does not grant EPA the authority to determine for itself which sources warrant regulation under the PSD Program; it includes very specific emissions thresholds that the Agency is powerless to rewrite.

A. The Agency Cannot Use Tools of Last Resort in the Face of Permissible Interpretations of the Clean Air Act.

EPA seemed to acknowledge the difficulties it would face in invoking administrative tools of last resort, but it never truly grappled with them. *See* Final Tailoring Rule, *supra*, at 75 Fed. Reg. at 31,542. For instance, while acknowledging that this Court has "held that the literal meaning of a statutory provision is not conclusive 'in the rare cases [in which] the literal application of a statute will produce a result demonstrably at odds with the intentions of the drafters,'" *id.* (quoting *United States* v. *Ron Pair Enters.*, 489 U.S. 235, 242 (1989)), EPA went on to note that the doctrine is not really "rare" because it has been discussed in "'legions of court decisions,'" *id.* (quoting *In re Nofziger*, 925 F.2d 428, 434 (D.C. Cir. 1991)).

Yet, the true import of the "absurd results," "administrative necessity," and "one-step-at-a-time" doctrines is not the frequency with which these doctrines have been discussed by the courts; it is that they are exceedingly difficult to invoke. In *Logan* v. *United States*, for example, this Court explained that statutory terms "may be interpreted against their literal meaning where the words '*could not conceivably have been intended to apply*' to the case at hand." 552 U.S. 23, 36 (2007) (emphasis added). EPA has all but admitted that it cannot satisfy that standard here.

Even if EPA's pollutant-indifferent interpretation could be said to be supported by a "literal reading" of the Act, Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,562, the same can be said about a pollutant-specific approach. But, unlike EPA's approach, the pollutant-specific approach does not produce absurd results. The Agency was required to consider the absurdity of its approach at *Chevron*'s first step. *See Chevron*, 467 U.S. at 843 n.9 (noting that an agency must "employ[] traditional tools of statutory construction," which includes the absurdity canon, at *Chevron*'s first step). Instead, EPA ruled out a *permissible* interpretation of the PSD Program's triggering provision—an interpretation that would not have worked an absurd result—*not* because it was contrary to congressional intent, but rather, because EPA could find no "explicit statements in the legislative history that" such an interpretation was *mandated* by Congress. Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,562. That was error. *See Chevron*, 467 U.S. at 843 (holding that, even if a statute can be read to support more than one permissible interpretation, the agency must select a *reasonable* interpretation of the statute); *see also Alabama Power*, 636 F.2d at 359 (explaining that, under the related doctrine of administrative necessity, an agency may be relieved of the obligation "to do an impossibility," but the agency bears the "heavy burden" of demonstrating the existence of such an impossibility); *accord Sierra Club* v. *EPA*, 719 F.2d 436, 463 (D.C. Cir. 1983).[7]

The invocation of cases like *Holy Trinity Church* v. *United States*, 143 U.S. 457 (1892), should carry a stigma. *See* Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,542 & n.25. Before an agency may rewrite perfectly clear provisions in a statute, it should be required to demonstrate that *no other permissible alternative construction* was available to the agency that would have avoided the claimed absurdity. *See Kloeckner*, 133 S. Ct. at 606–07; *see also Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982) (emphasizing that "interpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with the legislative purpose are available"). As demonstrated in the section that follows, EPA cannot make that showing here.

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[7] The EPA's approach also fails the administrative "one-step-at-a-time" doctrine developed by the D.C. Circuit. Under that doctrine, an agency may achieve a statutory mandate in a "piecemeal fashion," but it must work towards the goal of full compliance with that congressional mandate. *E.g.*, *Ctr. for Biological Diversity* v. *EPA*, 722 F.3d 401, 409–10 (D.C. Cir. 2013); *see also Grand Canyon Air Tour Coal.* v. *FAA*, 154 F.3d 455, 477 (D.C. Cir. 1998) (explaining that "it would be arbitrary and capricious for an agency simply to thumb its nose at Congress and say—without any explanation—that it simply does not intend to achieve a congressional goal on any timetable at all"). EPA has not met that burden here. By its own admission, the Agency has stated that, under its interpretation of the PSD Program's triggering provision, it is not sure that it will ever achieve full compliance with the statutory thresholds. *See* Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,566 (stating that, in addressing "permitting requirements for smaller sources," the Agency will "tak[e] into account . . . problems concerning costs to sources and burdens to permitting authorities").

B. A Pollutant-Specific Interpretation of the Triggering Provision of the PSD Program is a Permissible Interpretation of the Clean Air Act that Avoids the Absurd Results Claimed by EPA.

EPA had before it a completely permissible interpretation of the PSD Program's triggering provision that would have avoided the absurd results claimed by the Agency—a pollutant-specific approach. This approach not only maintains fidelity with the text and structure of the Act, but it also would continue to achieve Congress's overarching goal in enacting the PSD Program—to help ensure continued attainment of NAAQS for criteria pollutants.

Under Section 165 of the Act, not all newly constructed or modified "major emitting facilit[ies]" are required to get a PSD permit; rather, a PSD permit is only required of a "major emitting facility . . . in any area to which this part applies." 42 U.S.C. § 7475(a). A "major emitting facility" is one with major emissions—100 or 250 tons per year—of "any pollutant." *Id.* § 7479(1). "[T]his part [Part C] applies" to an area only with respect to specific criteria pollutants for which the area is in attainment with a governing NAAQS, *see id.* § 7471. And a criteria pollutant includes ozone, sulfur dioxide, particulate matter, nitrogen oxides, carbon monoxide, and lead, *but not GHG emissions*, 40 C.F.R. §§ 50.1–50.12. Ignoring the import of these phrases in tandem, EPA has placed exclusive emphasis on the definition of "major emitting facility," construing the permitting obligations of the PSD Program to apply to any facility emitting major amounts of "*any* air pollutant subject to regulation" *anywhere* under the Act. Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,562 (emphasis added). But there is another way to read these phrases in tandem: A stationary source is required to get a PSD permit if it is in a *location* attaining a NAAQS for a criteria pollutant, and it will emit threshold quantities (100/250 tons per year) of *that criteria pollutant*.

A pollutant-specific approach is fully consistent with the text of the PSD Program. Besides Section 165(a), Congress used the phrase "in any area to which this part applies" only three other times throughout the Clean Air Act, all in PSD Provisions: Section 163(b)(4), Section 165(a)(3)(A), and Section 165(c). *See* 42 U.S.C. §§ 7473(b)(4), 7475(a)(3)(A), 7475(c). Congress's use of this phrase in Section 163(b)(4) is particularly instructive. There, Congress provided that "[t]he maximum allowable concentration of *any air pollutant in any area to which this part applies* shall not exceed a concentration for such pollutant for each period of exposure equal to" the lowest of the concentrations permitted under the "primary" or "secondary" NAAQS for that pollutant. *Id.* § 7473(b)(4) (emphasis added). In this context, "in any area to which this part applies" plainly modifies "any air pollutant," and limits the meaning of that latter phrase to criteria pollutants. *Id.* In contrast, if the phrase "in any area to which this part applies" was pollutant indifferent, as EPA claims, then Section 163(b)(4) would apply to *non-criteria* pollutants. Yet, EPA cannot set a "maximum allowable concentration" for such pollutants, because noncriteria pollutants have no primary or secondary NAAQS. Thus, the phrase "any area to which this part applies" should be read to impose a pollutant-specific approach throughout the PSD Program, including in that program's triggering provision, Section 165(a). *See id.* § 7475(a).

A pollutant-specific approach also comports with the overall structure of Title I. Beyond the pollutant-specific nature of the NAAQS Program generally, the PSD Program was specifically designed to complement the NNSR Program. That latter program was intended to "ensur[e] attainment of the applicable national ambient air quality standard" for an area that is "designated 'nonattainment' with respect to [criteria] pollutant[s]" designated under Section 107. 42 U.S.C. § 7501(1), (2). It would make little sense if, in enacting these complementary programs, Congress provided that the trigger for the NNSR Program is pollutant-specific, but the trigger for the PSD Program is pollutant-indifferent.

And a pollutant-specific approach is fully consistent with the overarching purpose of the PSD Program as well. Congress designed the PSD Program to implement what its unabbreviated name provides—to "*prevent significant deterioration* of air quality in each region . . . designated pursuant to [Section 107] as attainment," 42 U.S.C. § 7471 (emphasis added)—and to complement and reinforce the pollutant-specific NAAQS Program, *see* S. REP. NO. 95-127, at 29 (1977) (stating that the PSD Program was designed to "protect national ambient air quality standards"). Indeed, one of the basic requirements for obtaining a PSD permit is for a qualifying facility to demonstrate that it will not cause an attainment area to become a nonattainment area for any NAAQS. *See* 42 U.S.C. § 7475(a)(3).

Critically, the pollutant-specific approach avoids the immediate absurdities claimed by EPA. Under such an approach, "not a single additional PSD permit would be required." Charles H. Knauss & Shannon S. Broome, *EPA's Missed Opportunity to Ground Its GHG Tailoring Rule in the Statute: What the* Situs *Argument Would Mean for the Future of the PSD Program*, 42 ENVTL. L. REP. 10,424, 10,430 (May 2012) (*available at* http://elr.info/sites/default/files/docs/42.ELR.10424.pdf). As the table reprinted in an addendum to this brief depicts, unlike EPA's interpretation of the PSD Program's triggering provision, which would require EPA to issue an estimated *82,173 permits* each year, a pollutant-specific approach would maintain the status quo at *688 permits* annually. *See* Addendum A, *infra*, at 28.

Moreover, because a stationary source that satisfies the pollutant-specific requirements discussed above would still have to install "best available control technology for each pollutant subject to regulation under" the Act, 42 U.S.C. § 7475(a)(4), a covered facility may have to install BACT for GHG emissions even under a pollutant-specific approach. Thus, a pollutant-specific approach would sensibly limit the number of stationary sources that are covered by the PSD Program—without doing violence to the program as a whole.

EPA did not refute any of these observations. Instead, beyond claiming that it was required to find that a pollutant-specific approach was *compelled* by the "legislative history" of the Clean Air Act Amendments of 1977, *see* Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,562, EPA argued that, because Section 165(a)(4) requires a PSD permit holder to adopt BACT for "each pollutant subject to regulation" under the Act, Congress intended for the PSD *triggering provision* to be pollutant indifferent as well, *id.* at 31,561. But EPA puts the cart before the horse. There is no logical reason why the PSD Program's permitting trigger must be coextensive with the substantive requirements of that program. Indeed, Congress adopted just such a non-coextensive approach under Section 112 of the Act. There, Congress determined that only "major sources"—those that may emit at least 10 tons per year of a hazardous air pollutant—would be subject to stringent "maximum achievable control technology" (MACT) standards, but once a source so qualifies, it is subject to MACT for all hazardous air pollutants, including pollutants for which it is not capable of emitting above the 10-ton threshold. *See* 42 U.S.C. § 7412.

In addition, EPA's approach renders superfluous Congress's inclusion of the phrase "in any area to which this part applies." Even before EPA adopted its overly-broad definition of the PSD Program's triggering provision, *every area of the country had been—and continues to be—in attainment with at least one NAAQS*. *See, e.g.*, Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,561. If EPA's broad interpretation of the trigger is the only permissible one, then Congress could have simply omitted the phrase "in any area to which this part applies." EPA's chosen path therefore violates the canon that superfluity—*i.e.*, "an interpretation of a congressional enactment which renders superfluous another portion of that same law"—should be avoided. *E.g.*, *Mackey* v. *Lanier Collection Agency & Serv., Inc.*, 486 U.S. 825, 837 (1988).

Regardless of whether a pollutant-specific approach is compelled by the text, structure, and purpose of Title I of the Clean Air Act, it is plainly a permissible approach. As a result, EPA was not free to reject it over an approach that required the Agency to rewrite other provisions of the Act.

C. The Agency's Decision to Rewrite Perfectly Clear Statutory Provisions Constitutes an Impermissible Consolidation of Legislative and Executive Functions, Warranting Instead Application of the Canon of Constitutional Avoidance.

An absurdity of the magnitude claimed by EPA—the expansion of PSD permitting from *688* to an estimated *82,173* sources annually—should have caused the Agency to reevaluate its underlying interpretation of the PSD Program. Indeed, the Agency itself recognized that the results of its interpretation were "so contrary to what Congress had in mind—and [would] in fact so undermine[] what Congress attempted to accomplish with the PSD requirements"—that they were appropriately characterized as "absurd." Proposed Tailoring Rule, *supra*, 74 Fed. Reg. at 55,310.

And yet, faced with an absurdity of its own making, the Agency instead arrogated for itself the authority to rewrite perfectly clear statutory text. It increased by over 400-fold the 100- and 250-tons-per-year thresholds, settling upon 75,000 and 100,000 tons per year. Final Tailoring Rule, *supra*, 75 Fed. Reg. at 31,516. And the Agency stated that, in addressing future "permitting requirements for smaller sources," it would "tak[e] into account . . . problems concerning costs to sources and burdens to permitting authorities." *Id.* at 31,566. Thus, the Agency claimed virtually unfettered discretion to make and implement legislative judgments about which sources should be subject to permitting for GHG emissions. Such a course is both unprecedented and unconstitutional.

To the Framers of our Constitution, separating the powers of government was a means to prevent a potentially deleterious end—the "accumulation of all powers, legislative, executive, and judicial, in the same hands." FEDERALIST NO. 47, at 244 (G. Willis ed. 1982) (J. Madison). According to Thomas Jefferson: "The concentrati[on of these powers] in the same hands[] is precisely the definition of despotic government." FEDERALIST NO. 48, at 252 (J. Madison quoting T. Jefferson). And James Madison—associating any such accumulation with "tyranny"—rejected any notion that our Constitution is "chargeable with the accumulation of power or with a mixture of powers having a dangerous tendency to such an accumulation." FEDERALIST NO. 47, at 244.

These statements might appear hyperbolic to the modern American, but the Framers undoubtedly imbued our Constitution with structural safeguards that have continued vitality to this day. For instance, this Court struck down the line-item veto as unconstitutional precisely because it gave to "the President the unilateral power to change the text of duly enacted statutes." *Clinton* v. *City of New York*, 524 U.S. 417, 447 (1998). A similar outcome is warranted here.

The traditional canon of constitutional avoidance should have compelled EPA to adopt a narrower interpretation of the PSD Program's triggering provision. Under this canon, "[i]f an otherwise acceptable construction of a statute would raise serious constitutional problems" (as does an agency's decision to unilaterally rewrite clear statutory text), "and where an alternative interpretation of the statute is 'fairly possible,'" the statute should be construed "to avoid such problems." *INS* v. *St. Cyr*, 533 U.S. 289, 299–300 (2001). Here, EPA was faced with *more than* a "fairly possible" alternative interpretation, but instead elected to cling to an interpretation that not only produced absurd results, but also served as a justification for the Agency to rewrite the Clean Air Act and assume for itself the authority to decide which stationary sources are subject to permitting for GHG emissions.

Because EPA failed to apply the canon of constitutional avoidance, this "Court is obligated to" do so. *Id.* That canon places yet another thumb on the scale against the interpretation adopted by EPA.

* * *

As Judge Kavanaugh remarked in his dissent from the denial of rehearing *en banc* in these cases: "When an agency is faced with two initially plausible readings of a statutory term, but it turns out that one reading would cause absurd results, I am aware of no precedent that suggests the agency can still choose the absurd reading and then start rewriting other perfectly clear portions of the statute to try to make it all work out." J.A. 174. Settled principles of administrative and constitutional law counsel against providing EPA with such a precedent here.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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ADDENDUM

ADDENDUM A

Table: Effects of the Interpretation of the Permitting Trigger on Annual PSD Permitting

	Pre-GHG Permitting Under the PSD Program	Post-GHG Permitting Under A Pollution-Indifferent Approach	Tailoring Rule Step-1: Existing Sources Subject to BACT	Tailoring Rule Step-2: 100,000 Major Source; 75,000 Major Modification	Pollutant-Specific Approach to PSD Permitting
Annual Number of PSD New Construction Actions	240	19,889	240	242	240
Annual Number of PSD Modification Actions	448	62,284	448	1,363	448
Facilities Potentially Subject to BACT for GHGs Annually	0	82,173	688	1,605	688

*** All columns except the last are based on estimates articulated in the Tailoring Rule, 75 Fed. Reg. at 31,540.**